OFFICIAL

Netscape
Internet Business
STARTER KIT

The Eight Essential Steps for Launching Your Business on the Net

LARRY M. EDWARDS

VENTANA
About the Author

Larry M. Edwards is a new-media consultant specializing in Web site design, content development, and Internet marketing, which he has done since 1994. He has worked with dozens of companies and organizations, helping them establish a foothold on the electronic frontier.

Edwards is an award-winning journalist and a former staff writer for the San Diego Business Journal, where he covered the high-technology beat—including the growth and commercialization of the Internet and World Wide Web. He is also a contributing editor for Internet & Java Advisor and Databased Web Advisor magazines. He was a principal in the design, development, and marketing of the highly acclaimed and award-winning America’s Cup On Line, the official Web site of the 1995 America’s Cup.
Acknowledgments

A project of this magnitude is never a solo effort. It requires the assistance of a team of people to keep it on track and moving forward. Without the help of that support team, this book would not—could not—have been completed.

First and foremost is my wife, Janis, who patiently tolerated my often reclusive and hermit-like behavior during the several months I devoted to this work. Her unflawing support—along with the fresh orange juice she squeezed most mornings—was invaluable in seeing the project through to the end.

I gratefully acknowledge the editors at Ventana Communications who offered me spirited support and assistance, ensuring this book was the best it could possibly be—Acquisitions Editor JJ Hohn, the ever cheerful Project Editor Rachel Anderson, Copy Editor Norma “Eagle Eye” Emory, Kristin Miller, Scott Hosa, Patrick Berry, Ginny Phelps, and Becky Steele.

I single out for special recognition Development Editor Paul “Coach” Cory, who dished out enthusiastic encouragement along with the honest critiques and constructive feedback that kept me focused and on target.

To Mark Burgess, president of sandiego.com, I shall be forever indebted for volunteering to be my mentor and for his sterling technical review of the pages herein. Also, cartoonist Kurt Snibbe, who added some fun to an otherwise dry subject; Martha Kaufman, my agent; Mike Emke, my script doctor; and Vince Casalaina, the vaunted viscount of video.

Finally, I would like to thank those who gave me a helping hand when I first stumbled into cyberspace to stake my claim on the electronic frontier: my former partner Bruce Gresham, as well as the guys in what was then the Internet Technology Lab at Science Applications International Corporation.

—L. M. E.
Contents

Introduction ......................................................................................................................... xxiv

STEP 1

Get Online—Today

Chapter 1  The Net in a Nutshell ......................................................................................... 1
  The Internet: What It Is .................................................................................................... 1
  Boon to Business .............................................................................................................. 2
  The Four W's .................................................................................................................. 2
  Greater Than the Sum ...................................................................................................... 3
  Virtual Communities ...................................................................................................... 5

  The Internet's Underpinnings ......................................................................................... 5
    Messaging ......................................................................................................................
    World Wide Web, or Simply, the Web .........................................................................
    Usenet ........................................................................................................................
    Mailing Lists ............................................................................................................... 7
    FTP ............................................................................................................................. 8
    Telnet ...........................................................................................................................
    IRC .............................................................................................................................. 8
    Intranets & Extranets ....................................................................................................
    Collaborative Computing ...........................................................................................
    Other Elements ........................................................................................................... 9

  Gateways to the Net ....................................................................................................... 9
    Pure ISPs ................................................................................................................... 9
    Commercial Online Services ...................................................................................... 10

  Gridlock on the Information Superhighway ...................................................................
  Client-Server & Other Technobabble .............................................................................
**Chapter 2  Get (Well) Connected** ................................................................. 13
  Getting Wired (to the Net) ................................................................. 13
    Access the Net  14
    Dial-up Account  14
    Integrated Services Digital Network  16
    Digital Subscriber Line  18
    Cable Access  18
    Network Connection  20
  Choosing an ISP ........................................................................... 21
  Finding an ISP ............................................................................. 23
  Making the Connection .................................................................
    On the Road Again  25
    Internet Software  26
  Commuting With Communicator ....................................................... 26
  Worksheet: Going Online ................................................................. 27
  Down the Road ............................................................................. 29

**Chapter 3  Select a Web Site Host** ...................................................... 31
  Needs Assessment ........................................................................... 32
    Web Host Checklist  34
    Virtual Domain  36
    Server Co-location  38
    Host Your Own Server  38
  Choosing an ISP: Part II .................................................................
    Master of Your Own Domain .........................................................
      Domain Name System  44
      McDonald's Hot Wires  44
      U.S. Registration Agencies  45
      Domain Name Registration  47
      Virtually Yours: Choosing a Domain Name  47
      Whois There?  48

**STEP 2**

**Learn the Lay of the Land**

**Chapter 4  Exploring Cyberspace** ...................................................... 53
  Cyberjungle Guided Tour: Start Here ................................................
    The Road Home  55
  Getting Down to Business  56
  People  56
  Yellow Pages  56
What’s New 57
What’s Cool 57
Valet Service 58

Net Search ........................................................................................................................ 59
Searching With Yahoo! 60
Digging Out of the Info Avalanche 60
Narrowing Your Search 61

Blaze a Trail With Bookmarks ................................................................. 63
Organize Your Bookmarks 63
File Your Bookmarks 64
Desktop Organization 64
Personal Toolbar 65

Exploring the Usenet Universe ............................................................ 65
Using the Usenet 66
Drop in on a Discussion Group 68
Subscribe to a Discussion Group 68
Search for a Discussion Group 69
Caveat Emptor 70
Hear Ye, Hear Ye: ClariNews 71
Deja News 71
Lurking in the Cybershadows 72
Etiquette & Netiquette 73

Mailing Lists ............................................................................................... 75
Subscribe to a Mailing List 75

Chapter 5 Separate Fact From Fantasy .................................................. 79
The Hype ........................................................................................................ 79
Get Rich, Quick! 81

The Reality ..................................................................................................... 82
Put it in Perspective 83
Roll Call 83
Counting Heads 84
Internet Demographics 85
Playing the Numbers Game 86
Web User Profile 87

The Cup is Half Full ..................................................................................... 89
The Big Picture 89
Patience is Paramount 90

Business Opportunities ............................................................................. 90
Saving Money vs. Making Money 92
The Virtual Organization 92
News & Information Sources 93
News Online 93
News on Paper 94
Chapter 6  Belles-Lettres

E-mail Basics ................................................. 97
Using Messenger for E-mail ................................ 98
  Composing a Message  99
  Quick Send: Blessing & Curse  101
  Create an Address Book  101
  Send a Message to Multiple Recipients  103
  Send Copies of Messages to Others  105
  Reply to a Message  105
  Create a Mailing List  106
  Create Message Folders  107
  Moving Messages Between Folders  107
  Add Your John Hancock  108
  Create a Signature Card  109
  Attach a File to a Message  109
  MIME: Your Silent Partner  110
  Viral Infections  111
  Secure Mail  112
  Experiment With Other Mail Features  113

Adopt a Formal E-mail Policy ................................ 113
  Privacy  114
  Liability  116
  Ethics  117
  Style  118

Formalizing Policy ............................................ 118

STEP 3

Devise an Internet Business Plan

Chapter 7  Defining Your Online Strategy ..................... 123
  Careful Planning Is the Cornerstone of Success ............ 124
  In the Beginning ............................................. 124
  Why the Net? .................................................. 125
    Be Cool, but Get Real  126
    I Want to Go Online Because ...  126
    Where in the Web Are You?  127
    In Self-Defense  128
    Fools Rush In  130
Get Smart ....................................................................................................................... 130
   Know Thy Competition 130
   Separate Hype From Reality 131
   Review Net & Web Demographics 131
   Identify Products & Services 132
   Keep Abreast of Emerging Technologies 133

Learn From the Trailblazers ................................................................. 134

Saving Money ........................................................................................................... 135
   Cut the Cost of Communications 135
   Extend Your Marketing Program 135
   Early Adopters Show the Way 136
   Reducing Overhead 138
   Market Research 139
   Customer Becomes Employee 140

Making Money ................................................................................................. 140
   No Antidote for a Bad Business Model 141
   E-Commerce 141
   Transactions: A Net Profit 142
   Getting Mauled at the Mall 144
   Publishing 145
   Classified Information 147

Define Your Mission & Message .............................................................. 148
   Positioning 148
   Establish Goals & Objectives 149

Chapter 8  Planning Your Online Budget ...................................................... 151

Your Budget is a Reflection of Your Goals ................................................. 152

Budget Starting Point .............................................................................. 152
   Electronic Trade Show 153

Budget Planning ...................................................................................... 154
   Internet Access 155
   Domain Name 155
   Web Site Hosting 155
   Web Site Development 156
   Promotion 159
   Human Resources 159
   Program Maintenance & Upgrades 161

Sample Budgets ...................................................................................... 161
   Company A: Economy Plan 161
   Company B: Moderate Budget 162
   Company C: High-ticket 163
Chapter 9  Selecting a Web Site Designer ................................................................. 167
   Get Expert Advice ......................................................................................... 167
      Web Design/Development Capabilities  170
      Needs Assessment  170
   Web Designer/Developer Evaluation ............................................................ 173
      Web Designer/Developer Worksheet  175
      Experience is Critical  177
      Design Philosophy  177
      Making the Selection  180

Chapter 10  Web Site Design: The Essentials ....................................................... 183
   The Essence of a Web Site ............................................................................... 185
      Well-Organized Site Layout  185
      Intuitive Navigation  185
      Quick Download: Flash vs. Dash  185
      Web Pages Optimized for a 640x480 Window  186
      Meaningful Content  186
      Good Writing  186
      Reinforcement of the Marketing Message  186
      Interactivity  186
      Search Tool  187
      Impeccable HTML  187
      Bug-Free Programming  187
   Web Site Layout & Design ............................................................................. 187
      Charting the Page Flow  188
      Web Site Components  189
      Page Layout  190
      Home Page Layout  191
      Aids to Navigation  193
      Tables vs. Frames  194
      Underlying Pages  196
      Content Presentation  197
      Content Development  200
      Effective Communication  202
      Copyright: It's Your Right  202
      It's About Marketing  204
      Right-Size Your Web Pages  206
      Strike a Balance  206
      Reality Check  208
Chapter 11 Using Netscape Composer

Introducing Composer
Composer Toolbars 226
Toolbars & Pop-up Menus 226
Setting Preferences 228
Publishing Preferences 229
Drag & Drop 230
Learning the Basics

Tabula Rasa 230
Page Properties 231
Page Building 234
Inserting Images 234
Inserting & Formatting Text 236
Seeing Is Not Always Believing 237
Create a HyperLink 239
Polish Up the Page 241
Create a Mailto Link 243
HTML in the Raw 246

Heavy Construction
Give Us Some Background 247
Table It 248
Templates ‘R’ Us 252
Home, Sweet Home Page 253
Making a Bulleted List 254
Resetting the Table 256
Underlying Pages: The Room Additions 258
Organizing Your Site 259
Sanding Off the Rough Edges & Adding Creature Comforts ........................................... 259
  Hand Coding & Editing HTML 260
  HTML Editors 261
  Forms 262
  Frames 266
  HTML Verification 268
  Mastering Web Development 268

Moving Day .................................................................................................................. 270
  Publish Using Composer 270
  Publish Using FTP 272
  Test on Multiple Platforms 273
  Common Problems 273

Chapter 12 Web Site Design: The Enhancements .......................................................... 277

  Animation ................................................................................................................... 278
    Animated GIFs 278
    Vector-Based Graphics 279
    Other Options 281
    Related Features 282

  Audio .......................................................................................................................... 283
    Conventional Sound 283
    MIDI 287
    Streaming Audio 287

  Video .......................................................................................................................... 288
    Conventional Video 288
    Streaming Video 291

  Budding Technologies ............................................................................................ 292
    Multimedia 293
    Java 295
    JavaScript 297
    ActiveX 299
    Virtual Reality 300

Chapter 13 Online Transactions & E-Commerce ......................................................... 303

  Implementing Online Transactions ........................................................................... 304
    Electronic Catalogs 304
    Taking Orders Online 305

  E-Commerce Software ............................................................................................ 309
    Evaluating E-Commerce Software 313
    E-Commerce Services 315
    Cookies 316
Contents

Methods of Payment ......................................................... ........................................... 317
  Credit Card Transactions 318
  Electronic Payment Alternatives 318
Security ................................................................. ........................................... 321
  Secure Sockets & Firewalls 322
  Certificates of Authenticity 323
  See for Yourself 323
The Price Tag ................................................................. ........................................... 325

STEP 5

Launch the Web Site & Get It on Course

Chapter 14  Hello, World! ................................................................. ........................................... 331
  Here a URL, There a URL, Everywhere a URL ................................................................. ........................................... 332
    Update MarComm Materials, Ads 332
    Submit Your URL to Search Engines & Directories 334
    Web Spiders 336
    Seek Out Specialized Directories 337
    Fine-Tune the Details 338
    Prepare for Submission 340
    Spider Software 341
    URL Submission Services 342
    Reciprocal Links 344
    Cool Sites 344
  Mix & Match the Marketing Message ................................................................. ........................................... 345
    Site Launch, Grand Opening 345
    Online Promotion: The Cyberwars 346
    I Heard it on the Grapevine 350
    Advertising 350
    The Price Tag 351

STEP 6

Maintain, Update, Move Forward

Chapter 15  Marketing Online: A Personal Matter ................................................................. ........................................... 355
  Getting to Know You ... All About You ................................................................. ........................................... 356
    How You Get the Goods 356
    From Their Browser to Your Database 361
    Making a Choice 363
Privacy: A Very Public Issue .......................................................... 363
   The Issues 363
   Full Disclosure is the Best Policy 365
   Industry Solutions 366
   Bottom Line 367
The Law ............................................................................. 368
   Where It Is Today 369
   Where It May Go 369

Chapter 16 Update, Upgrade & Promote ........................................... 371
A Culture of Constant Change .................................................. 372
   If It Can Change, It Will Change 372
   Impatience & Instant Gratification 372
   Lure Them to Your Site 373
   Combat Hyperactivity With Interactivity 374
   Consistency Required, Too 374
   Forward Ho 374
Are You Being Served? ................................................................. 374
   Keep the Stock Fresh . . . 375
   ... & the Wall Calendars Up to Date 377
   Put Out the Welcome Mat 378
   Respond to Input & Feedback 380
   Budgetary Options: Labor vs. Cold Cash Up Front 380
More Than Just a Store ................................................................. 383
   Special Features Add Value 383
   The Cost of Adding Value 386
   Timing Your Upgrades 387
   Starting Over 387
The Ongoing Campaign ............................................................. 388
   Building Traffic 388
   Proven Marketing Techniques 388
   Advertising 393

STEP 7

Evaluate Your Internet Program

Chapter 17 Web Site Monitoring & Management .................................. 403
Traffic Analysis ........................................................................ 404
   When a Hit Is Not a Hit 404
   Log File Analysis 405
   Site Visitors & Visitor Sessions 408
The future is as predictable as an oncoming locomotive. The Internet will grow. So no matter what your business, job, or particular investments, take a fresh look and consider how Internet commerce and practice will affect them. Because you can be sure it will affect them.

—James Flanigan, Los Angeles Times

Congratulations! You’ve taken the first step in exploring and capitalizing on the promise of the Internet as a way to grow your business or perhaps start a new venture online. This is an exciting time, as people like you use the Internet’s global communication infrastructure and electronic commerce to transform new business opportunities into business realities.

The Internet—Coming of Age

Less than four years ago, only a small percentage of people had even heard of the Internet, let alone had a clue what it was about. Even less had any knowledge of the fledgling World Wide Web, the newest and most vibrant component of the Internet. Today, both the Internet and World Wide Web routinely make headlines—and often are the subject of cartoons and stand-up comedy—as they become more prominent factors in our lives.
Exponential Growth

The Internet, also dubbed the Information Superhighway, continues to grow at an exponential rate, doubling in size every year by some measures. Many business folks see this electronic frontier as a new land of opportunity, a place to stake a claim and take advantage of this increasingly important digital universe known as cyberspace.

Yet, at the same time, the Internet is often intimidating to the uninitiated. That’s probably why you picked up this book. The Internet, or just plain Net, is expanding and evolving at a head-spinning rate, and you’ll likely see the acronym WWW as meaning the World “Wild” Web. You don’t want to go stumbling blindly through the cyberwilderness, an uncharted frontier with a language and culture all its own. You seek professional guidance as to which path you should take and you seek a measure of protection from the con artists, schemers, and carpetbaggers you are sure to meet along the way. You don’t want to become one of those people who succumbed to “Internet Fever” only to discover that WWW often refers to “What Went Wrong?”

Eight-Step Guide

The Official Netscape Internet Business Starter Kit: The Eight Essential Steps for Launching Your Business on the Net was written for you, a businessperson who has little or no experience with the Internet yet realizes that cyberspace offers new business opportunities and that you want a trail guide to lead the way. The book evolved from the numerous articles I’ve written and classes I’ve taught about doing business on the Net, and in response to the many questions I get asked about how to do business online.

This book is a by-the-numbers guidebook for establishing and growing a business in this still-untamed no-man’s-land and the no-holds-barred, boomtown mentality that underlies it. Best of all, you don’t need to be one of the “digiterati” to put the powerful tools in this book to use. It’s a concise, eight-step guide for migrating your business to the Internet using Netscape Communicator. Communicator is a multifaceted software program that opens the door to the Net and lets you send and receive e-mail, participate in online discussion groups, and compose your own Web pages.

The book is designed and laid out for you, the businessperson, so you can make the move to the electronic frontier a successful one, avoiding the pitfalls into which others have tumbled. It comes with a Companion CD-ROM packed with useful templates, style guides, software, checklists, worksheets, online resources, and more.
Using This Book

To keep the book focused on its ultimate purpose, I have assumed that you're familiar with the use of a desktop computer and know how to use a computer mouse. If not, you should get some instruction in basic computing techniques before tackling the exercises in this book, because it is the computer that provides your gateway to the Net, your window to the Web. That's not to say you can't get started right now if you're not well versed in computer use. You can learn computer basics while you're implementing the steps outlined in the book.

While this book introduces Netscape Communicator and explains how to use some features of the software, this is not meant to be the definitive tome on the use of Communicator. I cover only the features needed to complete the exercises and tutorials in the book. For a complete Communicator reference, see the Official Netscape Communicator 4 Book by Phil James, published by Ventana.

Conventions Used in This Book

Throughout the book you will come across symbols spotlighting critical or useful information. These symbols include:

- **Tip**: A hint on how to more easily accomplish something online or to use a shortcut to simplify the use of Netscape Communicator or other software.

- **Trap**: Something to avoid to prevent the loss of precious time or resources.

- **CD-ROM icon**: Signifies the availability of a resource or reference on the Companion CD-ROM.

Making a "Net" Profit

The Official Netscape Internet Business Starter Kit is divided into the eight essential steps you must take to ensure the success of your online venture, assuming your venture is based on a sound business model to begin with. Each step is further subdivided into relevant chapters, clearly laying out all the key elements necessary to successfully take a business to the Net and make it pay off.

The book provides detailed checklists you can use to identify the most qualified independent contractors and service providers and to evaluate their work and performance. It also includes worksheets you can use to accurately assess your technological needs, as well as the human and financial resources you may need.
Step 1: Get Online—Today

If you’re not online and haven’t explored a bit of cyberspace first hand, then you shouldn’t even think about trying to build the coolest Web site on the planet. You need to explore this new frontier before making financial and human-resource commitments. Otherwise, you’re likely to make costly mistakes.

The Net in a Nutshell

To maximize the strengths of the Net, it’s critical that you understand what it is—and what it is not. For starters, the Net is not synonymous with the World Wide Web. The Web is the newest component of the Net and the one getting the most attention, but it is not the most important in terms of Net users’ priorities: That honor goes to electronic mail, or e-mail.

Then there’s the Usenet, a chaotic array of discussion groups covering every topic under the sun (and moon and stars). You need to become acquainted with it, too, if you’re going to market your company’s products and services successfully on the Net. Because the sum of these and other elements, which together make up the Internet, offers you a cost-effective marketing-communications medium.

Get (Well) Connected

For those who are not online or who are considering an upgrade to their current Internet access system, I introduce the types of services available—Internet access, e-mail, File Transfer Protocol (FTP), Telnet, Web site hosting, discussion groups—and the costs involved. I also provide a checklist for you to use when choosing an Internet service provider, or ISP.

We’ll look at the hardware requirements for going online—the computers, modems, and various types of network connections you may need and the options you have. A worksheet will guide you through the process of identifying your hardware, software, and training needs. Last, I’ll take a peek at where the Internet technology is headed, so you can anticipate and plan for equipment and software upgrades.

Select a Web Site Host

You will need to determine whether to host the Web site yourself or hire a commercial ISP to host it for you. Compared to renting office space or opening a store, having a Web site is relatively inexpensive, but it may cost more than you’ve been led to believe.
This chapter will help you select a host for your Web site if (1) you’re not going to host it yourself, or (2) you want to use someone other than your access provider. It also covers the costs involved; a worksheet and checklist are included.

A Domain of Your Own
To make it easier for us humans to get around in cyberspace, where we’re at the mercy of computers that comprehend only the ones and zeros of binary code, aliases were created so we could use familiar words and terms to represent the numeric addresses assigned to the Internet’s computers. These aliases are known as domain names.

Having a unique domain name that clearly identifies your company is a powerful marketing tool, but the name needs to be chosen carefully. This book guides you through the process of choosing and registering a domain name and the costs involved.

Step 2: Learn the Lay of the Land
You wouldn’t open a new business across town, let alone in another city or a foreign country, without scouting the territory first. Yet, that’s what many people have done on the Internet. You need to get online and learn the lay of the land. Otherwise, you may end up flushing money down the cybertoilet.

Exploring Cyberspace
To get you started, I take you on a guided tour of cyberspace. You get a short tutorial on how to get around the Net efficiently and learn how to find business resources online. This will help you identify which of your competitors are online and how they’re positioning themselves.

During the cybertour, you’ll browse the Web, use search engines to locate sources of online information, subscribe to and peek in on some discussion groups, learn the rules of Internet etiquette—known as Netiquette—and subscribe to a mailing list.

The powerful software you’ll use to take the tour through the cyberjungle is Netscape Communicator (shown in Figure I-1), a nifty computer program that allows you to surf the Web, send and receive e-mail, read and submit messages to online discussion groups, and compose your own Web pages. Think of Communicator as a high-tech vehicle for navigating through cyberspace as
you market your wares, keep tabs on the competition, and open lines of communication with business associates, colleagues, and customers. Its key features include:

- **Navigator.** An extended Web browser.
- **Messenger Mailbox.** An e-mail program for sending and receiving messages.
- **Collabra Discussion Groups.** Online discussion forums; join and participate.
- **Composer.** A WYSIWYG (what you see is what you get) HyperText Markup Language (HTML) editor.

Figure I-1: With Netscape Communicator, you can surf the Web, send and receive e-mail, join discussion groups, and compose your own Web pages.
By following the steps I’ve outlined, you will get hands-on experience in the use of Netscape Communicator. With it, you’ll browse the Web, use search engines, and make bookmarks so you can find your way back to interesting Web sites. This includes the use of the Communicator Message Center, which is where you compose and send e-mail messages, retrieve and read e-mail sent to you, create an address book, develop mailing lists, as well as subscribe to your favorite discussion groups.

**Separate Fact From Fantasy**

If you can’t separate the hype from the reality, you can’t set realistic goals for going online. Some Internet drum beaters would have you believe there are two to three times the number of people online than found by reputable studies. This chapter illustrates how to distinguish fact from fantasy and how to obtain the best estimates of current population figures and demographics of the Net and the Web.

In addition, I introduce you to the types of businesses already proven successful on the Net, as well as new business opportunities, and show you how reducing overhead costs may be the best—and most profitable—reason for going online. I introduce you to news and information sources, online as well as offline, that you can use to stay on top of the rapid change that characterizes cyberspace.

**Belles-Lettres**

Electronic mail, or e-mail, will become an invaluable tool for you, if it isn’t already. The key is getting comfortable with it and using it effectively. Netscape Communicator simplifies the process with its Message Center and Messenger Mailbox features. You’ll quickly get the hang of e-mail basics, as well as learn how using a signature file and other forms of identification can further your marketing strategy.

Security and privacy are critical when it comes to online communication, so I’ll explain how digital identification and message encryption provide solutions for both of these issues. Within a business, these matters can ultimately affect the bottom line, so specific policies should be adopted regarding the use of e-mail for company and private correspondence. I’ll point you to online resources you can use for help in forming such a policy.
Step 3: Devise an Internet Business Plan

For business, the Internet is about marketing. However, many businesses went online early and only after the fact realized they had no clear direction for integrating this cyberventure into their existing business plan. Your purpose for being on the Net and how you position your company are critical. You need to practice due diligence and lay out a road map for leveraging this newest weapon in your marketing arsenal.

Defining Your Online Strategy

When going online, you need to be smart about it. You need to be clear on why you want your business online and what you hope to accomplish and redefine your mission and marketing message accordingly. I will help you identify the products or services you want to promote on the Internet and look at case studies of both successes and failures. A worksheet is included to help you establish your goals and identify the milestones you’ll need to reach in order to achieve those goals.

Planning Your Online Budget

The costs of building a Web site range from $300 to $3 million, depending on the size and complexity of the site. Realistically, a small business should plan on spending anywhere between $2,000 and $20,000 the first year for the development and promotion of a marketing-oriented Web site.

This section will help you establish a realistic budget by walking you through the budget-planning process. Using the accompanying worksheet and checklist, you’ll identify the requirements and associated costs of start-up and ongoing activities as they pertain to the need for equipment, services, and human resources. This way, you can avoid a major pitfall: underestimating the development costs of a Web site. This includes an introduction to the three basic, but vastly different, types of Web sites:

- **Marketing**: economy model
- **Publishing**: high overhead
- **Online sales**: costly start-up
Introduction

**Step 4: Develop a Well-Designed Web Site**

Note that this is Step 4, not Step 1, although many people have made the mistake of starting here. Building a Web site is the biggest and costliest step you'll take. Thoughtful planning and preparation are a given. At the same time, you need to weigh your options before pinching too many pennies. Otherwise, you may join the "What Went Wrong?" crowd.

**Selecting a Web Site Designer**

A common dilemma in developing a Web site is whether to do it in-house or hire outside contractors. The learning curve for developing the skills needed to create an effective Web site is steep, and neither you nor your employees are likely to have the time or expertise to do a satisfactory job within a reasonable amount of time—at least not without some outside assistance.

However, choosing a Web site design consultant or developer is one of the most important decisions you will make, so do it thoughtfully and cautiously. I provide a worksheet and checklist to help you through the often frustrating process.

**Web Site Design: The Essentials**

One of the biggest mistakes people make when designing Web sites is using too many graphic images or using graphic images and multimedia files that are so large they make the download seem interminable to visitors. The next biggest mistake is creating a Web site that makes it difficult for visitors to find the information they are looking for.

**Using Netscape Composer**

The hallmarks of an effective, user-friendly Web site are a relatively quick download and intuitive navigation throughout the site. I detail the tricks you can use to create an effective Web site and how you can implement them using Netscape Communicator's Page Composer (shown in Figure I-2). These guidelines will be useful even if the work is done by an independent contractor. Included are illustrations of effective page design, as well as links to Web sites that can be used as models.
I introduce to you to HTML (HyperText Markup Language), the lingua franca of the Web. HTML can be a bit unnerving at first, but it's really just another form of word processing or desktop publishing. However, understanding its limitations and the compromises you may have to make will smooth out the bumps in the design process.

I also show you places online where you can get clip art to quickly spruce up otherwise mundane pages. And I show you how to add interactivity to the site, which will improve its appeal. In addition, on the Companion CD-ROM you'll find Web page templates, as well as JavaScript and Common Gateway Interface (CGI) scripts you can use to add special features and interactivity to your Web site.

**Web Site Design: The Enhancements**

"Cool" gimmicks and "killer" gadgetry such as multimedia, video, animation, and gargantuan graphics are very appealing—unless you're the one who has to wait seemingly endless minutes to see them, only to discover they had little or no value and you feel your wait time was wasted time. These things are the
elixirs of the Web. They hold great promise, but often are nothing more than a disappointing dose of sugar water.

I advise my clients to resist the temptation to include such things unless they serve a truly useful purpose. For experienced Web developers, the rule of thumb is "function over form." This section introduces you to the growing variety of options for including audio, video, multimedia, Java, ActiveX, virtual reality, and animated graphics in your Web site and examines the pros and cons of each in terms of design as well as Web site security.

**Online Transactions & E-Commerce**

If you want to conduct financial transactions of some sort, particularly accepting payment for items sold directly over the Web, you have three key concerns:

- Processing the information.
- Method of payment.
- Security.

I give you the options, explain how to achieve the best results, and refer to existing Web sites illustrating the key concepts. I also discuss online shopping carts and the use of a technology known as *cookies*, which has raised a huge red flag regarding privacy.

Security and privacy issues are looming large and have become the subject of hearings conducted by the Federal Trade Commission, as well as proposed regulations at state and federal levels. I examine these issues and direct you to online information sources so you can remain apprised of these matters. They will have an impact on your online venture.

**Step 5: Launch the Web Site & Get It on Course**

Building a Web site, even if it's the best Web site ever created, is like opening a shop in an unlit back alley. If no one knows it's there, no one will come to it. It's imperative that you effectively promote and advertise your electronic storefront.

**Hello, World!**

A syndrome many online businesses suffer is the Field of Dreams delusion. That is, they believe that if they build it, people will come. But it ain't so, Joe. It doesn't work that way. You cannot base the success of your online enterprise on random acts of Web surfing.
I will show you how to combine traditional public relations, marketing, and advertising techniques with methods unique to the online world to get the word out about your scintillating Web site. Even before your Web site is ready for prime time, you can begin laying the foundation for spreading the good word. That way, when D-day arrives, the troops have been marshaled and are ready for action.

Step 6: Maintain, Update, Move Forward

A Web site, unlike a print publication or video tape, is an evolving entity. To keep it current and to keep traffic coming through the digital doorway, it needs continual care, feeding, and attention. However, the manner in which this is achieved can raise questions regarding invasion of privacy and unethical business practices. In this step, I’ll discuss market research and the serious privacy issues involved and I’ll introduce you to strategies you can use to personalize your Web site, keep it fresh, and increase interactivity.

Marketing Online: A Personal Matter

The Internet offers opportunities for marketing and market research that traditional media do not. Though the Internet is a far-flung entity, you can get up close and personal with your customers. However, this raises serious concerns about privacy.

In this chapter, I discuss the issue of privacy as it relates to the gathering and use of personal information on the Net, including the legal and ethical surrounding such activities. I also address the issue of using indiscriminate direct mail campaigns, which in the online world is called spamming. This is a controversial issue and has been at the core of major lawsuits as well as proposed legislation.

Update, Upgrade & Promote

Once your Web site is online, it needs to be nurtured and cultivated to make it blossom in the ever-changing climate of cyberspace. You need to accommodate changes within your company, technological advances, and the fickle culture of cyberspace. In short, your Web site needs to be updated, upgraded, and promoted on a continuing basis.
You can accomplish this in a number of ways, depending upon your online strategy, business model, and budget. This requires that you remain cognizant of demand for change, provide good customer service, review and update the content as needed, invite feedback, make the site interactive, incorporate new features that add value to the site, and establish an ongoing promotional program.

In this section I’ll discuss these concepts, describe steps you can take to implement site upgrades, and show you what others are doing with their Web sites instill customer loyalty and to keep people coming back.

**Step 7: Evaluate Your Internet Program**

A new program is only as good as its execution. Once you have things rolling, it’s time to begin evaluating the progress you’ve made.

**Web Site Monitoring & Management**

A critical element in evaluating your progress is the traffic at your Web site. But there are many misconceptions about how traffic is measured and what these measurements mean. For example, many people trumpet the number of “hits” their Web site is getting. But did you know that one visitor can generate dozens, if not hundreds, of hits during a single visit? I put all of this into perspective, examining the options you have and the software you can use to meter the traffic at your Web site and analyze its true significance.

**Return on Investment**

It’s imperative to the continuing success of your online venture that you know whether your investment is paying off. But determining the return on investment of your Internet presence can be problematic. I offer a number of approaches you can take to effectively evaluate the performance of your online activities.

**Step 8: Look Forward**

As you march forward into cyberspace, you need to periodically peer into your crystal ball. Internet technology changes rapidly. However, early adoption is not always the wisest course. Your decisions should be based on knowledge and thoughtful planning, not conjecture.
Successfully predicting where the Internet is headed, whether technologically or culturally, is riskier than a roll of the dice in Las Vegas. Nevertheless, it behooves anyone staking a claim on the electronic frontier to keep a weather eye on what’s coming around the next bend—and the one after that, and the one after that.

**The Potholes Ahead**

The final chapter of the book—but certainly not the final chapter of your online enterprise—examines the technological changes, social issues, and regulatory moves that are just beginning to emerge or that are being anticipated and are likely to have an effect on your business. These include push or netcasting technology, Internet phone service, video conferencing, network computing, the PC/TV, high-speed connectivity, and smart cards, as well as changes in existing areas such as consumer products and services, security, privacy, and others.

**Hardware & Software Requirements**

To perform the activities described in this book you’ll need a desktop computer with a minimum amount of horsepower, or processing speed, and you will need a CD-ROM drive to use the Companion CD-ROM. Table 1 lists minimum and recommended specifications.

<table>
<thead>
<tr>
<th>Computer</th>
<th>Minimum</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IBM-compatible PC:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPU</td>
<td>486/DX66</td>
<td>Pentium or 586-class</td>
</tr>
<tr>
<td>Operating system</td>
<td>Windows 3.1</td>
<td>Windows 95 or NT</td>
</tr>
<tr>
<td>RAM</td>
<td>16 MB</td>
<td>24-32 MB</td>
</tr>
<tr>
<td><strong>Macintosh:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPU</td>
<td>68030</td>
<td>Power PC</td>
</tr>
<tr>
<td>Operating system</td>
<td>System 7.5 or later</td>
<td>System 7.5 or later</td>
</tr>
<tr>
<td>RAM</td>
<td>16 MB</td>
<td>24-32 MB</td>
</tr>
</tbody>
</table>

*Table 1: Minimum and recommended hardware.*
Companion CD-ROM

This book comes with a Companion CD-ROM, which contains a number of items for use in conjunction with the book. It also will be a valuable resource to you. References will be made throughout the book to specific items stored on the disk:

- Checklists
- Worksheets
- Web page templates
- Forms
- CGI scripts
- JavaScripts
- Business-oriented Web links
- Software

There are both freeware and shareware products on the disk. As the term implies, freeware products may be used without paying a licensing fee but are generally restricted to noncommercial use. Shareware products are provided for your evaluation, generally for 30 days. If you decide to continue using them after the evaluation period, read the licensing agreement carefully. Some products will disable themselves automatically. See Appendix A for a detailed list.

Conclusion

What the Net represents is a powerful new medium for delivering your marketing message and building one-on-one relationships with your customers. But success doesn't happen by default. It takes a carefully planned and implemented strategy if you don't want to become roadkill on the Information Superhighway.
Consider this comment from Robert Hertzberg, editor-in-chief of Mecklermedia’s Web Week Newspaper of Web Technology and Business Strategy:

For every story of an Amazon.com—the startup that comes out of nowhere to make a business selling conventional products on the Web—there will be 30, 50, or even 100 stories about existing companies that protected or extended their franchises by transferring a portion of what they do to the Web. The losers will be those who mistake their advantage—namely, the popularity of their current set of services, or the size or presumed loyalty of their customer base—for an unassailable lead. It’s those companies alone that will find themselves with a diminishing role in a changed world.

The Official Netscape Internet Business Starter Kit guides you through the proven eight-step process you need to develop and implement a successful Internet strategy.

**Drop In & Say Hello**

Once you’re established online, drop me an e-line. I’d like to hear how you’ve done and get some feedback. You can send me e-mail at larry@larryedwards.com. I’ll even put a link from my home page (www.larryedwards.com) to your Web site.

Good luck to you in your online venture. Now roll up those sleeves and let’s get going!
If you're not online and haven't truly explored the Internet firsthand, you don't have any business thinking about building the coolest Web site in cyberspace. This is the most common mistake people make, thinking that if they simply pay someone a few bucks to throw up a Web site, it will somehow magically transform itself into a thriving profit center. You need to explore this new frontier before making financial and human-resource commitments. Otherwise, you're likely to make costly mistakes.
The Internet is not new—it's 25th anniversary was celebrated in 1994—but only in the last three to four years has the Internet really entered the collective consciousness of the public at large. Consequently, it seems new to many people; it's still cloaked in an air of mystery. And this has resulted in a lot of misconceptions about the Internet, what it is . . . and what it is not.

The following pages give you an overview of this ethereal universe, describing the Internet's primary components and opening a window on the ways a business can benefit from this cost-effective marketing-communications medium. You'll get a taste of the alphabet soup the veterans throw around on a routine basis, but not so much Netspeak that it leaves your head spinning. Definitions of some frequently used cyberwords can be found near the end of the chapter.

The Internet: What It Is

Bill Gates notwithstanding, the Internet is not a religious experience. It is, however, a cost-effective communications medium, as well as an alternate means for the distribution and sale of goods and services.
Bill’s Conversion

Mr. Bill Gates, the resourceful chairman of Microsoft Corporation, had an epiphany on the Bellevue-Redmond Road late in 1995. He saw the light, and it was the Internet with a capital I. The focus of his company changed almost overnight—and he had to rewrite his book, The Road Ahead, to reflect his inspirational rebirth. The irony was that it had taken him as long as it did to figure it out.

The Internet is revolutionizing the way people interact with one another and is having as great an impact on the dissemination of information as Johann Gutenberg’s printing press did more than 500 years ago. That’s what makes the Internet so valuable to business people such as you. Through the Internet you can reach business associates, suppliers, and customers—and they can reach you—for a fraction of the cost of traditional methods.

Used properly and methodically, the Internet has the potential to improve your bottom line. But it is not a matter of faith; it is not a “field of dreams.” It requires realistic goals and budgets, careful planning and implementation, and—perhaps most of all—patience.

Boon to Business

Businesses can benefit from the Net’s strengths in a number of ways, chief among them the broad geographical reach it offers and the high degree of interactivity it permits. This allows small businesses to compete strategically with their larger rivals. Business uses of the Net range from marketing to customer service to product distribution to retail sales. The types of businesses, products, and services now on the Net range from booksellers to banks, from software to shoes, from flowers to financial services, from potpourri to porn.

The Four W’s

Here’s a quick roundup of what the Net’s all about:

- **Who:** Millions of people worldwide, ranging from grade-school students to rocket scientists to the president of the United States to unscrupulous con artists. It’s a cross-section of humanity, currently dominated by white males, although the percentage of women and minorities using the
Internet is rising steadily. Keep in mind, too, that while these figures are accurate, the majority of those millions are in the United States. To put it into perspective, some 25 percent of the world's population doesn't even own telephones.

What: The Internet, or Net, as it is known. It's a global network of computer networks, all interconnected or internetworked—hence, its name. No single person or entity owns the Net, and it has only a loose governance that is focused primarily on coordinating its technological underpinnings and ensuring system compatibility, as opposed to overseeing social or legal arenas. This may change, however, in response to the unscrupulous operators, swindlers, and crooks trying to make a fast buck at the expense of fellow cybercitizens.

Where: Global. The Net is becoming ubiquitous, but it's going to be several more years before connections are as commonplace as telephones and television sets. While the Net has reached critical mass in terms of commercial enterprises, it is not yet a mass medium.

Why: Because it provides a big, interactive reach at a (relatively) small cost.

Greater Than the Sum

The Net is much greater than the sum of its component parts: the millions of computers, wires, cables, silicon microchips, and electrons of which it is made. It got its start, perhaps portentously, in 1969—the year of Woodstock and of the landing of men on the moon. It was, too, the height of the Cold War, which was the impetus behind the birth of the Internet. The U.S. military got together with a group of scientists to create a communications network that could continue to operate over common telephone lines following a nuclear attack on Washington and the Pentagon.

The Internet originally consisted of just two computers in California, one at the University of California—Los Angeles (UCLA), the other at Stanford University in Palo Alto. A third was added shortly thereafter, and the number's been growing ever since. Restricted to military and academic uses for the first two decades, the Internet was opened to commercial organizations in 1991, resulting in an upsurge in the rate of growth. When it became possible to view graphic images on the World Wide Web, the growth of the Internet skyrocketed (see Figure 1-1).
The Internet gradually spread throughout the United States, Canada, and then beyond, and is now in most countries of the world, if in a rather limited capacity in some. Millions of computers are connected to the Internet.

In the United States, control of the Internet backbone—a maze of high-speed fiber-optic cables criss-crossing the country—was relinquished by the National Science Foundation in April 1995 and is being turned over to private business. The process will be completed in March 1998. Today, close to a dozen companies control the Internet backbone, including MCI Communications Corporation, Sprint Corporation, and IBM (but not, ironically, AT&T), and there are thousands of Internet service providers offering Internet access to anyone willing to pay for it.
Designed originally for point-to-point data transmission, e-mail capability was added early in the 1970s and immediately became the most popular use of the Net. That was followed by the creation of the Usenet, which is based on the same messaging technology as e-mail, which has become an unregulated mass of some 25,000 to 30,000 discussion groups, where information and opinions on every subject imaginable are exchanged every hour of every day. The World Wide Web is the new kid on the block in terms of the Net's underpinnings, but it's the one commanding all the attention and Internet bandwidth, and is responsible for fueling the exponential growth of the Net.

Virtual Communities

From its humble beginnings in academia, the Net has evolved into a global congregation comprised of thousands of virtual communities formed through common interests rather than geographical proximity. To comprehend this phenomenon, you need only to visit highly interactive Web sites, such as Women's Wire, Parent Soup, Tripod, Geocities, ZDNet, or The Well, one of the oldest online communities, or take a peek at the eclectic array of discussion groups that make up the Usenet.

Developing a sense of community around your Internet business and its Web site can help you more successfully market your products and services. For example, Amazon.com, an online bookstore, not only has a colossal database of books for sale but also offers book reviews and solicits and publishes readers' comments on the books they've read. ZDNet, sponsored by magazine publisher Ziff-Davis, provides hardware and software reviews, new product information, and public forums where Web site visitors can give their own opinions on computer-related products and seek assistance in the use of these products.

The Internet's Underpinnings

Because the Net is amorphous, it is defined by the functions it provides. Think of these functions or components as the spokes of the Internet wheel (see Figure 1-2).
Messaging

Electronic mail, or e-mail for short, is the most important component of the Net in terms of user priorities. Millions of messages are exchanged each week. You identify an e-mail address by the “at” symbol (@)—e.g., yourname@bizname.com—which in Net protocols is used only in e-mail addresses. If you were to recite an e-mail address out loud, you would say “your name at biz name dot com”—the period between the elements of an Internet address is pronounced dot. E-mail will become an invaluable tool in your online business activities.

World Wide Web, or Simply, the Web

This is what everyone’s talking about. The Web was created by Tim Berners-Lee, a scientist at the CERN particle physics laboratory in Switzerland, in 1989, but was not formally instituted until 1994. It is the wunderkind of the Net and has led to the phenomenal growth in the use of the Internet. It’s now responsible for the majority of data transmissions on the Net. The Web, with its pictures, video, and multimedia presentations, allows even the most computer-phobic people to overcome their fears and get comfortable online as they use hypertext to point and click their way around cyberspace. You identify a Web address by syntax such as this: http://www.bizname.com, http://www.agency.gov, or http://www.nonprofit.org. The giveaway in a Web address—technically known as a
URL (Uniform Resource Locator)—is the http://, which is used only in Web addresses. Your Web site, or home page, will be your electronic storefront, where you will greet, meet, and interact with your customers.

**Usenet**

The Usenet is an assemblage of discussion groups or forums (known in Net lingo as newsgroups) whose subject matter ranges from astrophysics to Zen meditation and every conceivable topic in between. While it’s almost impossible to accurately count the number of discussion groups, a recent estimate pegged it at close to 40,000, although many of these have little or no regular activity.

The Usenet, or user network, began as a way for groups of people with similar interests to keep each other up to date on new developments within their respective fields of interest, hence the name newsgroups. But the groups are not organized by commercial news agencies. They are informal and often teeming with rumors and half-truths.

Messages sent, or posted, to a discussion group are added to a database passed en masse between computers, where they are organized by topic and can be retrieved by subscribers. A discussion group functions much like a bulletin board. The advantage of making it electronic is that messages of like topics are threaded together, making it easy to follow the line of discussion and contribute your own replies. You identify a discussion group address by syntax such as this: misc.business.marketing.moderated. Again, note the dot separating the elements that make up the name. Discussion groups can be an invaluable source of information and a way for you to interact with consumers. You can even start your own discussion group.

**Mailing Lists**

Mailing lists are similar to discussion groups, but instead of messages being sent to a central location, they exchange information using e-mail. They grow out of special interest groups in which information is exchanged through e-mail messages that are automatically forwarded to every subscriber on a specific list.

Mailing lists are also known as listservs, in part because one of the more popular software programs used to administer them is named ListServ. You may want to join a mailing list to keep abreast of certain areas of interest, or you may want to establish a mailing list as a form of customer service and interaction. Some mailing lists are very active, generating dozens of messages a day, so use some discretion in terms of how many you subscribe to at any given time.
FTP

FTP, or File Transfer Protocol, is a common and oft-used method of transferring files from one computer to another. If you become actively involved in creating and maintaining your Web site, you'll use FTP routinely.

Telnet

Telnet is a process that lets you control a computer from a geographically remote location. Specially tailored Telnet software (a Telnet client) is used by professionals to, among other things, set up and operate Internet servers. What it does is open up a dumb terminal session in which the operator then uses the software on the remote computer. This differs from most Internet sessions in which the operator uses software on his or her own computer to send requests and replies to a remote computer.

If you've got a hankering to get under the hood and into the nuts and bolts of Internet computing, you'll need to be able to Telnet into a computer, even if it's just in the next room. You will also need to learn a smattering of UNIX commands; UNIX is the most common operating system used for Internet servers.

IRC

IRC, or Internet Relay Chat, is used for real-time (live) discussion groups on the Internet. These tend to be a bit raunchy, although valuable information is exchanged. One group made up of residents in the United States and England use IRC to stage Shakespearean plays on an intercontinental virtual stage.

Intranets & Extranets

The Net has spawned some offspring recently, known generically as intranets and extranets. An intranet is a private network built on the open standards of Internet protocols. Many companies are establishing intranets to improve internal communications, support departmental Web sites, access legacy data, and encourage collaborative, or team, computing.

An extranet is an intranet opened to others outside the organization, such as when a company opens its intranet to its customers. For example, a wholesale distributor may link with its customers to facilitate the electronic exchange of purchase orders, status reports, invoices, the products themselves, and even payment for goods and services.
Collaborative Computing

Collaborative computing—in which people, often separated by distance . . . even by time zones . . . work together on a project—has grown hand-in-hand with intranets and extranets. This growth has been fueled by continuing improvements in groupware, the software that enables collaborative computing by allowing project team members to share information, documents, calendars, and the like. More and more, groupware is being based on Internet protocols, which reduces the cost of deployment and allows for remote access to private intranets via the Internet.

The software Netscape Communicator, which will be introduced in Chapter 4, “Exploring Cyberspace,” was designed for use in collaborative computing. When it’s used in conjunction with the Netscape SuiteSpot family of servers, it becomes a valuable communications tool within a business, allowing people in different geographical regions and different time zones—such as those on business trips—to stay in touch and to work on the same projects.

Other Elements

You may have heard or read about other facets of the Net, such as Gopher, Archie, and Veronica. These technologies have been largely displaced by the Web and are used infrequently today.

Gateways to the Net

To gain access to the Net, you need an Internet service provider (ISP), whether you’re an individual or a major corporation. These days, you can choose from two types of ISP: pure ISPs such as Earthlink and Mindspring, or commercial online services such as CompuServe or America Online (AOL).

Pure ISPs

The thousands of ISPs around the world provide the gateways—the on-ramps, if you will—to the vast network of interconnected cables and computers that together make up the Net’s infrastructure. This has come to symbolize what is euphemistically known as the Information Superhighway. These ISPs generally offer speedy access to the Web, e-mail, and Usenet newsgroups. Many also offer other services (in return for higher fees), such as Web site hosting, multiple e-mail accounts, vanity addresses, and so on. Pricing, features, and quality vary widely from ISP to ISP. In Chapter 2, “Get (Well) Connected,” I’ll explain how to locate and evaluate an ISP and procure its services.
Commercial Online Services

You’ve no doubt heard of America Online, CompuServe, Microsoft Network, Prodigy, and other online services. Maybe you even subscribe to one. These are proprietary subscriber networks that function independently of the Internet. However, since 1995 these networks have been plugged into the Net, offering varying degrees of Net access and information exchange to their subscribers.

I used to recommend that Net neophytes get their feet wet with one of these services because setting up a computer to access the Net was such a pain in the neck. But most ISPs have made the connection process relatively painless, and I now recommend you bypass the commercial online services unless you find one that offers some compelling content or special interest groups you can’t find anywhere else. You may want to subscribe to one of them, as I do, so you have a secondary gateway to the Net for times when your ISP has an outage, when you’re on the road, or for marketing your products and services directly to subscribers of online services.

Gridlock on the Information Superhighway

A note of caution: The Internet is suffering from growing pains as it attempts to absorb the ever-increasing amount of traffic flowing through its fiber-optic arteries. As a result, there can be major traffic jams and gridlock at Internet hubs—places where one backbone carrier hands off traffic to another—slowing Internet traffic to a crawl. If the traffic is sufficiently heavy and congested, it can (and does) bring parts of the system to a halt. At such times the Information Superhighway seems more like a deeply rutted wagon road with more than its fair share of potholes, and you begin to think you were secretly beamed into Snoresville, USA.

Unlike the commercial online services, which suffer the greatest congestion during the evening hours and on weekends, the Net is busiest during the business day, particularly the period between 10 A.M. and 3 P.M. in U.S. time zones. This slows all types of data transmissions—whether they are e-mail messages, Web page downloads, Telnet connections, or file transfers—and has given rise to yet another definition of WWW: World Wide Wait. What’s more, the heavy traffic within this time frame further emphasizes the fact that the majority of the Internet population resides in the United States.

This, too, shall pass, as capacity is boosted and the underlying infrastructure is upgraded with more powerful equipment, some of which has yet to be developed commercially. In the meantime, if a message pops up in your Web browser window saying that a Web server did not respond and may be offline, it may simply mean that your browser timed out because the signal was stuck in traffic at an Internet hub.
Chapter 1: The Net in a Nutshell

Client-Server & Other Technobabble

As you read more about the Internet, you will hear and see the term client-server used a lot, because the Internet is composed of two categories of computers and software: client and server. A client can be a computer as well as the software installed on that computer. Same with a server.

Simply put, an Internet client is typically Internet software, such as Netscape Communicator, installed on a desktop computer. A server, on the other hand, is typically a more powerful computer with Web server software, such as the Netscape Enterprise Server, installed on it. When a Web surfer wants to view a Web page, his or her client (the Web browser) sends a request for information to a server, which stores the Web pages and then "serves" that information back to the client.

There are a host of other often incomprehensible acronyms and jargon you will encounter as you explore cyberspace—and as you work your way through this book. The following definitions are to get you started, so the references in the book don’t leave you feeling lost and alienated. You’ll find the full list in the Glossary.

- **Domain name**—A comprehensible term, such as larry-edwards, that serves as an alias for a numeric Internet address (e.g., 199.2.50.14) that computers use to identify one another.

- **FTP**—File Transfer Protocol, a technical standard that allows dissimilar computer operating systems to send and receive files to and from one another.

- **Home page**—The entry, or top-level, page of a Web site. Sometimes used synonymously with *Web site*.

- **HTML**—HyperText Markup Language, the *lingua franca* of the Web. This text markup, similar to word processing, is what formats Web pages and creates hypertext, the *hot links* that characterize the Web. *See also Hypertext.*

- **Hypertext**—The "hot" text that makes up the hyperlinks you use to point and click your way around the Web. Hypertext is usually blue and underlined. When you move your mouse pointer over hypertext, the pointer typically changes to the shape of a hand with an up-raised finger. (No, it’s the index finger!) If you click on the link, you automatically go to that page. Later if you return to the page that contained the link, you’ll see the hypertext has changed color, by default set to violet. This tells you where you’ve been.

- **KB**—Kilobyte (1,000 bytes), a measure of data file size. One byte is equivalent to one text character and consists of eight bits.
- **Kbps**—Kilobits per second signifies data transmission speeds, or capacity, of modems, data transmission lines, and other data transmission devices.

- **MB**—Megabyte (1 million bytes or 1,000 kilobytes).

- **Modem**—Short for modulate/demodulate. An electronic device that is connected to your computer and allows you to dial into an Internet service provider (ISP) using a plain old telephone service (POTS).

- **URL**—Uniform Resource Locator. An intimidating term for what is simply an Internet address. Most often this will refer to the location of a Web site. A Web URL begins with http://. You also may hear some people pronounce the term “earl,” but it’s not recommended.

- **Web site**—A collection of HTML files, or pages—as well as programs that generate pages and multimedia displays—published to a Web server so that others may view them from remote locations.

---

**Moving On**

You’ve now been introduced to the Net, its major components, and how it provides a platform for expanding your business to the virtual world or for starting a new business online. In a nutshell, the Net is a cost-effective tool that you can use—likely will have to use—to grow your business.

But your head probably is still swimming with all the new terms and information I’ve dumped on you. Do not despair. In the next two chapters you’re going to put this new knowledge to work as you get online, if you’re not already, and take a tour of the electronic frontier, where you can experience these things firsthand.
Get (Well) Connected

If you're not online, if you're not connected to the Net (or not "wired"), or if you're considering an upgrade to your current Internet access, you're in the right place. The ensuing pages will fill you in on the various options for getting onto the Net, what they will cost you, and how to go about selecting an Internet service provider (ISP). Armed with this information, you can evaluate your needs and budget your expenses accordingly. (I'm assuming you have a personal computer of at least the 486 class that runs Windows 3.1, or at least a Macintosh 68030 with System 7.5, as detailed in the Introduction.) If you are already online and are satisfied with your current Internet service, skip ahead to Chapter 3, "Select a Web Site Host."

Getting Wired (to the Net)

Whether you are self-employed or your business is a large corporation, you will need to use an Internet service provider to connect to the Net. Internet connections range from low-speed (some would say "slow" speed) access using the copper wire of plain old telephone service (POTS), to high-speed access through fiber-optic cables which use pulses of light to transmit data at lightning speed. The low-speed access is inexpensive but may be insufficient to handle your needs. High-speed access is going first class but may be overkill, and you may not be able to justify the costs. The minimum service should include at least one e-mail account, access to the Web, File Transfer Protocol (FTP), and Usenet (discussion groups).
You will be assigned (or you can choose) a username and a password, which you will need to log on through your ISP or your company network. Your username is often the same name used in your e-mail address, but not always. For business purposes, I recommend that your e-mail address have a name that quickly identifies you. In small companies, it may be a simple as john@smallbiz.com. In a larger organization, the full name often is used: Jack.Smith@bigbiz.com. The first and last names can be separated by a dot, dash, or underscore. Capitalized names are also acceptable.

I explain how to obtain your own domain name in Chapter 3, “Select a Web Site Host.” If you’re in a big hurry, you can set up a generic account right away, and then have your mail forwarded to the new address after you obtain a domain name of your own.

## Access the Net

These days, gaining access to the Net is a fairly simple procedure. But before you just jump at the first offer that comes along, let’s examine your options, the costs involved, and the pros and cons of each.

### Dial-up Account

A dial-up account uses a standard telephone line to connect you to the Net via an *analog modem*—a device that allows your computer to dial into an ISP, which then connects you to the Net. A personal dial-up account typically costs about $20 a month. A business account will cost you a little more, depending on how often it’s used. A modem runs anywhere from $100 to $300 depending on its speed and whether it’s internal (installed inside your computer) or external (connected to your computer by a short cable).

If you fall into the SOHO (small office/home office) category, you can probably get by with a dial-up account, but those who use the Internet frequently or have multiple users should expect to pay more than the basic fee for the service. Most ISPs have local phone numbers, so there is no per-minute charge from the telephone company for residential service at this time. (The telephone companies are not happy with this and are taking steps to recoup what they believe are lost revenues, so this may change.)

A modem is rated by the amount of data (bits) it is capable of transmitting in one second. The most commonly used modem today has a capacity of 28,800 bits per second, or 28.8 kilobits per second (kbps), although a significant percentage of people still use 14.4 kbps modems. (Modem speed has a direct impact on Web page design and is discussed in detail in Chapter 10, “Web Site Design: The Essentials.”) Some common terms used to describe modem speed and capacity are defined in Table 2-1.
### Table 2-1: Data classification and rates of transfer.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bit</td>
<td>The smallest unit of binary data; b(inary + dig)it.</td>
</tr>
<tr>
<td>Byte</td>
<td>A set of eight bits; one byte is the equivalent of one text character.</td>
</tr>
<tr>
<td>Kbps</td>
<td>Kilobits per second (1,000 bps); common unit of data transmission speed.</td>
</tr>
<tr>
<td>Mbps</td>
<td>Megabits per second (1,000,000 bps).</td>
</tr>
<tr>
<td>Packet</td>
<td>A bundle of data, generally about 1,500 bytes.</td>
</tr>
</tbody>
</table>

Modems rated at 33.6 kbps are also on the market, but not all ISPs support them. In addition, 56 kbps modems have been introduced, but the manufacturers are using nonstandard and sometimes conflicting protocols at this writing, and compatibility problems may arise. Check with your ISP before buying one.

**Tip**

Buy as fast a modem as you can get, but make sure your ISP can support it before spending the extra bucks for speed you may not be able to use. Buy at least a 28.8 kbps modem, even if someone offers you a 14.4 for free. Otherwise, the slow speed will drive you up the wall.

**Trap**

A standard modem will not work with digital PBX- or Centrex-type business phone systems. If your business has such a system, you will need a dedicated analog phone line to use the modem, just like you had to provide for your fax machine.

**Shell, SLIP & PPP Accounts**

When inquiring about a dial-up account, you may be asked if you want a shell, SLIP, or PPP account. Even my eyes glaze over with this discussion, so I'll make the explanation as brief as possible. The short answer is that you want PPP, which may include a shell account.

PPP is short for Point-to-Point Protocol, and it's the more advanced technology of the three. It provides a direct connection between your computer and the Internet, allowing your computer to use Internet protocols and join the network. At one point, PPP was available only to Macintosh users, but we
Windows types can use it now too, and it has pretty much replaced SLIP. If an ISP doesn't offer PPP, which is unlikely, you may want to take your business elsewhere (unless it's the only game in town), because it's an indication the ISP is behind the times, technologically speaking.

SLIP is short for *Serial Line Internet Protocol* and it preceded PPP. Like PPP, SLIP gives you a direct connection to the Net, permitting your computer to join the network.

A *shell account* dates back to earlier times when Net users logged on to the Net through an intermediate, or host, computer. This is a text-based, menu- or command-driven system in which your computer, for all practical purposes, becomes a dumb terminal on the host computer's network. You dial in using any of a number of communications programs available, and then log on to the computer using your username and password. You work your way through a series of menus—or enter commands at the prompt—to perform various tasks, such as e-mail, FTP, Telnet, or Web surfing with (horror of horrors!) a nongraphical, text-only browser. Many ISPs no longer offer shell accounts because there's so little demand for them. But if you're willing to learn a smattering of UNIX commands, it can occasionally be useful, such as when your primary computer crashes and you have to dust off that old pre-Windows DOS machine to get to your e-mail.

**Integrated Services Digital Network**

Integrated Services Digital Network (ISDN) is not new technology, but it is being touted more heavily by service providers, particularly the telephone companies. ISDN comes in two gears—56/64 kbps (one channel) and 112/128 kbps (two channels)—the latter about 10 times as fast as a 14.4 kbps analog modem, even though it uses the same kind of telephone line. Two-channel ISDN is fast enough that you can do low-end video conferencing.

ISDN differs from a standard dial-up connection in two ways: (1) it is completely digital, and (2) rather than using an inexpensive analog modem, the connection is handled by one of two devices, depending on whether you're connecting a single computer or a computer network to the Net. A single computer requires a network terminal adapter, whereas a network of two or more computers requires a separate routing device or one of the computers to act as a router, which is more expensive to set up.

ISDN can be set up so that you have virtually instant access, without having to dial in every time you want to log on to the Net. However, the instant access and higher speed come with a higher price.
An ISDN setup will cost you from $500 to $2,000 (hardware plus installation fees). The basic monthly service fee will run you $30 to $50. And you will be charged by the minute for the time you’re online, even if it’s a local phone call. These charges are roughly three to six cents for the first minute and one to two cents per minute thereafter, depending on whether you’re using one channel or two and on the rates charged by your local telephone company. While the charges may seem insignificant at first glance, they can add up to several hundred dollars a month if you have several people in your office using the system.

An advantage of ISDN is that you can use a single line for multiple functions simultaneously—phone, fax, and Internet access. So, if you have multiple users, it could cost less than having several individual dial-up accounts and multiple dedicated phone lines, plus you get the higher speed. But to be safe, I recommend checking out all your options before choosing ISDN. An option worth investigating is Digital Subscriber Line (DSL) technology, which I discuss in a later section. Table 2-2 outlines some Internet access options and estimated costs.

**Trap**

If your office local area network (LAN) is connected to the Net via a router, the router may run up connection and line charges even when no people are using the connection. This is because routers routinely poll the network, that is, they take roll, in a manner of speaking, to see who’s present. This may include connecting to the Net and triggering a line charge. The phone company will love you for this, but your first bill may be a shocker.

<table>
<thead>
<tr>
<th>Type of Access</th>
<th>Data Transmission Rate</th>
<th>Equipment Cost</th>
<th>Setup Cost</th>
<th>Monthly Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dial-up</td>
<td>Up to 56 kbps</td>
<td>$100–$300</td>
<td>$25</td>
<td>$20–$100</td>
</tr>
<tr>
<td>ISDN</td>
<td>56–128 kbps</td>
<td>$350–$1,500</td>
<td>$200–$300</td>
<td>$50 and up</td>
</tr>
<tr>
<td>Cable</td>
<td>1.5–10 mbps</td>
<td>Included</td>
<td>$100–$150</td>
<td>$50</td>
</tr>
<tr>
<td>xDSL</td>
<td>128–768 kbps</td>
<td>$400–$2,500</td>
<td>$600–$1,000</td>
<td>$75–$200</td>
</tr>
<tr>
<td>Dedicated or Network</td>
<td>56 kbps–4 mbps</td>
<td>$400–$2,500</td>
<td>$600–$1,000</td>
<td>$250–$3,000</td>
</tr>
</tbody>
</table>

1 Estimate only. Your cost will vary with the type of hardware you need, which depends on your requirements for data transmission speed, the number of computers to be connected to the Net, and the type of network the computers are on.

2 Estimate only. Costs will vary depending on the service provider and system requirements.

3 Estimate only. Costs may increase in proportion to the number of users and the amount of connection time. An ISDN account, for example, will incur additional per-minute line charges, even for a local call.

Table: 2-2: Internet access options and estimated costs.
Digital Subscriber Line

*Digital Subscriber Line (DSL)* technology is the next step up from ISDN. Like ISDN, it’s a digital signal transmitted over a copper telephone line, but can support data transmission speeds up to 6 mbps over the largest copper telephone cables. DSL comes in several flavors, including Integrated (IDSL), High-bit-rate (HDSL), Asymmetric (ADSL), and Symmetric (SDSL), and is referred to generically as *xDSL*.

The *xDSL* services are aimed at businesses and designed to offer access to the Internet by connecting directly to an Internet service provider’s point of presence, a telephone company’s own Internet access service from a corporate LAN, or a company’s frame relay or *asynchronous transfer mode (ATM)* network.

An *xDSL Internet* connection will get you data transmission speeds up to 768 kbps, which is six times faster than ISDN and 26 times faster than a 28.8 kbps analog modem. A trade-off from ISDN is that it delivers data-only access services, no voice. However, on the plus side, you’re likely to be billed at a flat rate, and it transmits data over a data-only network bypassing the voice network, which boosts performance.

At this writing, *xDSL* service is not widely available. It’s limited to just a few metropolitan regions and is somewhat experimental. But you should keep an eye on it. Once the bugs are worked out and equipment costs come down, it could be a good alternative to cable access, discussed below.

Service costs are expected to range from around $75 a month for a 128 kbps IDSL up to $200 a month for a 768 kbps HDSL circuit. ADSL and SDSL are coming, but details are sketchy at this time. Equipment costs are higher, too. An *xDSL* modem can cost as much as $2,500, but they are expected to come down in price through economies of scale as the services come into greater use.

Cable Access

With a cable modem, you can obtain a high-speed network (*Ethernet*) connection between your computer and your ISP via a hybrid network of coaxial and fiber-optic cables. This mode of access does not use a telephone line. Rather, it uses the same cable as television signals.

Compared to dial-up or ISDN, a cable modem is fast and can handle up to a hundred times the data of an analog modem over a given period of time. An Ethernet is rated at 10 megabits per second (mbps)—almost 700 times faster than a 14.4 modem—but don’t let that figure or the marketing hype deceive you. It’s a reflection of the network’s potential, not its actual performance, particularly if hundreds of users are online at once. (Besides, it’s unlikely your computer can process information at more than half that speed.)
Moreover, your ISP may have only a T-1 connection to the Net. A T-1 is a fiber-optic cable about the diameter of a finger that has a top speed of 1.5 mbps. As the weakest link in the cable connection chain, the T-1 will limit transmission speeds to its rate, which can create a bottleneck. In addition, these transmission speeds relate to downloads (from the Net to your computer), not uploads (from your computer to the Net). Uploads max out at 768 kbps, although that's still six times the fastest ISDN speed.

Generally, this service is offered by cable television companies, as they already have a coaxial network connected to homes and businesses. But the service is in its infancy and not available in all areas. The cost typically ranges from $40 to $50 a month, and the installation charge ranges from $100 to $150 (including the cost and installation of the Ethernet card), but you don't own the modem; you're just renting it.

The high-speed access is nice, especially if you find yourself spending a lot of time online, as I do, or if you want to view Web-based videos and multimedia presentations. These often have gargantuan file sizes and can take substantial amounts of time to download with an analog modem. However, the bugs in these systems are still being worked out, and I don't think a business should rely on this type connection alone at this point. I use cable access but have two dial-up accounts as backup.

In addition, your Web access is likely to be routed through a proxy server, as it is with commercial online services and many corporate connections. This means that when you click on a hyperlink to a Web page, your request goes to the proxy server, not the server hosting the Web page. If the proxy server has cached, or stored, that particular page (what are the odds on that?), then you get it right away. But if it's not cached (the likely scenario), you have to wait until the proxy server downloads the page, then passes it along to you. If it's a relatively small page, an analog modem linked direct to a host server often can outpace the cable modem. This is not a reason to reject cable access. I explain this only to remind you that patience is required on the Web, even with high-speed systems.

One more thing: A cable television company offering Internet access may not offer Web hosting services. So if you use a cable company for access, you may also need a second ISP to host your Web site, which I discuss in Chapter 3, "Select a Web Site Host."
Network Connection

A network connection is the fastest, and most expensive, connection readily available today, and it comes in several models, depending on how much bandwidth—or data transmission capacity—you need. Capacities range from a 56 kbps frame relay account to a leased T-3 line. Unless you’re the only user, an internal network is required, and it will take a substantial investment in equipment and cabling.

For example, a fractional T-1 line (the smallest fiber-optic cable) will cost you in the neighborhood of $500 or more a month, and the setup fee is likely to exceed $1,000. A full T-1 ranges from $1,200 to $2,000 a month, depending on the provider, and the installation fee will set you back as much as $3,000, including the router. A tiered T-3 line (equivalent to 28 T-1 lines, or 45 mbps) operating at 4 mbps can be as much as $7,500 a month, with a one-time installation fee in the neighborhood of $7,500. You can get data transmission rates up to 45 mbps, but it’ll cost you a proportional amount more.

I’m not going into all the gory details here because it’s the subject of an entire book by itself. If your company already has an internal network, start by brainstorming ideas with your network administrator or the contractor who did your installation work. If your company doesn’t have an internal network, contact a local ISP and/or telephone company to establish your needs and budget.

---

When Fast is Slow

As I pointed out earlier, having a high-speed connection doesn’t guarantee it will always function at the rated speed. In fact, sometimes you will find that a network connection crawls along as slow as a 14.4 modem. It’s a matter of rated capacity versus actual throughput. Think of a network, and the Internet itself, as a system of roads and freeways. When a small number of vehicles are using the system, the traffic flow is smooth and efficient. But as the number and the size of vehicles increase, traffic slows down and can become congested, particularly at intersections. If there is an accident or a problem with a traffic signal, the traffic can come to a halt. You could be driving a Ferrari, and it wouldn’t make any difference; you’d still be stuck next to that aging VW Bug.

The same thing happens on a computer network and—because the Internet is one humongous network itself—on the Net. As the number of users increases and as the sizes of the data files (graphics, audio and video clips, multimedia) increase, traffic slows because data transmission lines can hold only so much data at a given time. When large amounts of data, or packets, are being transmitted simultaneously, traffic begins to slow. What’s more, the routers and hubs—
Chapter 2: Get (Well) Connected

the network/internet equivalent of intersections—tend to be the weakest links in the computer chain and cause data traffic to back up and come to a screeching halt. The fastest Internet connection in the world isn’t going to help you when this happens.

The Net’s infrastructure is being upgraded and technological improvements are being brought into play, so some of these problems will disappear. However, we’re also likely to see a leapfrog effect: As improvements are rolled out, we’ll see more users, larger graphics, and more video and multimedia presentations, which will slow things down again as the process repeats itself. Again, the watchword is patience. Remember, the Internet went commercial only in 1991. It’s functioning at levels not unlike our telephone system at the turn of the last century.

Choosing an ISP

As with anything else, when choosing an Internet service provider the lowest cost doesn’t necessarily mean you get the best deal. The accompanying checklist contains the questions you need to ask to evaluate how much bang you’re getting for your buck. The checklist depicted below is the condensed version, but it gives you an idea of the broad range of information you need to make an informed decision. The checklist (ISPCHECK) is included in the /Resource/Checklists directory of this book’s Companion CD-ROM. You can choose from Windows or Macintosh formats. See Appendix A for instructions on using the CD-ROM.

The ISP Checklist

What is your Internet connection?
- 768 kbps or less
- Single T-1
- Two T-1s
- T-3 or greater

How long have you been in the ISP business? ______________________

Services:
- Dial-up Yes No Highest speed? ______________________
- ISDN Yes No Highest speed? ______________________
- Cable Yes No Speed of your connection? ______________
- xDSL Yes No Highest speed? ______________________
- Network Yes No Highest speed? ______________________
Priorities and red-flag issues will vary depending on your specific needs, but here are some guidelines to follow:

- **ISP's Net connection.** This is the red flag issue. I know a woman whose first ISP offered a maximum of 56 kbps access to the Net. Granted, this was 1994, but it was unacceptable even then. However, she didn’t know the difference at the time. If you’re using the Net for business, you want an ISP with a minimum of redundant T-1 lines with multihoming capability. This means two T-1 lines are routed through separate backbones. If one backbone provider has an outage, you and your ISP will still have connectivity. If the ISP has a T-3 or greater capacity, that’s even better. If you need a T-1 or a T-3, you’ll have limited options in terms of who can provide this much bandwidth. Also, find out if the ISP has a direct connection to the Net or is going through yet a larger ISP. You want one with a direct connection to the Internet backbone.

- **Length of time in the Internet business.** This, too, is a red-flag issue. You want an ISP with at least two years under its belt. When the major telephone companies began offering Internet connections in 1996, they were flooded with complaints because they were not as experienced as, nor could they match the technical support given by, smaller operations that had been in the business for several years.

- **Services.** The more the better. Even if you need only a dial-up account to get started, you’ll want the option of upgrading later without having to switch ISPs.
Fees. You will have to weigh them against the services offered. Small ISPs aren’t always staffed 24 hours a day, seven days a week, so they can get away with charging less. But what happens if you’re trying to meet a deadline at 11 P.M. or working from home on a weekend and suddenly have no connection to the Net and no one to call? On the other hand, it’s my experience that the smaller ISPs provide more personal service and are more responsive to your technical questions than the large operations, and you can often page someone for assistance. Speaking from personal experience, even if you call one of the larger ISPs at 11 P.M., you may be on hold for a half-hour before actually getting a live body at the other end of the line, and even then the technician may be of little or no help.

Hardware. Typically, hardware is not supplied by ISPs, with the exception of cable access—where the provider generally furnishes a network card and cable modem, and some network accounts—where a router is included, as described earlier.

Software. Most ISPs make the basic software available, but you should ask how current it is. Technology on the Net changes in a matter of months, not years.

Customer-to-modem ratio. Ten to one or less is desirable, but you probably can live with 15 to one. (That leaves America Online (AOL) out.) Keep in mind, though, that the ISPs may not give you accurate figures.

800/toll-free number or broad local access. If you or your employees travel a lot, this could be a deciding factor.

Host Web sites. Most ISPs host Web sites, but not all do. You’re better off having a single ISP providing both access and Web hosting services. This will be discussed in greater detail in the next chapter.

Finding an ISP

If you’re not online, your best option is to ask a friend or business associate for a reference. Get three or four references, if you can. If you don’t know anyone who’s already online, you’ll have to scour local newspapers and magazines for advertisements for Internet access service, or obtain a copy of a printed directory, such as the one published bimonthly by Boardwatch magazine. Such directories should be available in bookstores and computer retail stores.

Also, check with a local phone company. Most of them are now offering Internet access. But remember, most of them are relatively new to this business and may not yet provide the level of service or the personalized service you may get from an established ISP.
If you’re online but want to investigate your options, a good source of information is Boardwatch magazine’s Web site (http://www.boardwatch.com/), which has a directory of Internet service providers in the United States (including Alaska and Hawaii) and Canada. Another online information source is The List, which can be found at: http://thelist.iworld.com.

**TIP**

The United Consumer Action Network (http://www.ucan.org/), a watchdog agency that keeps an eye on public utilities and telecommunication companies, sponsors an ISP rating service. It was new at this writing, with only a small number of responses, so one disgruntled subscriber can easily skew a rating. Before you select an ISP, see Chapter 3, “Select a Web Site Host,” for information on selecting a Web site host. It may make more sense for you to choose both at once.

### Making the Connection

If you obtain a dial-up or cable modem account, your ISP will provide the software you need to connect to the Internet and often will install it (for a fee) if you don’t want to fool with it yourself. Today, setting up your computer to dial into an ISP is a relatively painless process, particularly if you have Windows 95, which does most of the work for you. Then it’s just a matter of filling in some online forms so the ISP can verify your identity and establish a password to protect your account.

**TIP**

*Do not commit to a long-term access agreement at the outset if you don’t have to.* Try out the ISP for a few months first to see if you’re satisfied with the service and technical support. Once you get your computer set up, it’s not the end of the world if you decide to switch providers.

An ISDN or xDSL connection is more complicated, but if you’re handy and have a technical bent, you or your employees may be able to handle your end of it. However, depending on the age of the telephone wiring in your home or office, you may need an upgrade. Regardless, close coordination with your ISP and phone company is required to ensure your equipment is compatible with your provider’s system.

If you opt to set up a network connection, this may require the services of professionals, either your own technical people or an independent contractor.
On the Road Again

Even if you have a high-speed connection at your home or office, what happens when you travel? Unless most of your travel is to a company-owned facility where you can plug into the network, you still will need a dial-up account so you can use your laptop computer to get onto the Net when you’re on the road or attending an out-of-town business meeting, conference, or convention or (horror of horrors!) when you’re on vacation.

In this instance, your ISP selection may depend on where you travel and how often. Several ISPs, including AT&T, MCI, and Netcom, have local access in most major cities in the United States and Canada and/or a toll-free number you can call. Some large telephone companies are offering so-called toll-free international service as well. (Although you’re likely to be hit with a surcharge of $3 to $5 an hour.)

If you travel internationally, you may want to consider using a commercial online service, such as AOL or CompuServe, which offer local dial-up in many areas of the world. You can have your ISP or network administrator forward your e-mail to this address while you’re out of town.

If you have a dial-up account with an ISP and then want to add a commercial online service or a second ISP, review the installation procedure carefully before installing additional software. Conflicts can occur that could disable your original account.

For example, Windows users are subject to what are known as Winsock conflicts. (A Winsock file establishes the Internet protocols, or handshaking, necessary for your computer to link to the ISP’s router.) A secondary software installation will typically overwrite the existing Winsock file with one of its own, disabling your first (and probably primary) Internet connection. Don’t let the filename deceive you. Not all Winsock files are created equal. If you add a second access service, either move or copy the existing Winsock file to a separate directory or folder or put it on a floppy disk for safekeeping. (Make sure you label it as XYZNet’s Winsock file.)

In the case of AOL, CompuServe, or Prodigy, one way around this is to limit the installation to the basic service, which may mean you can only send and receive e-mail to and from the Internet. You may not be able to browse the Web. I use AOL as my tertiary Internet access (when I can get through, that is) simply because it has a browser (albeit a clunky one) built into its software and doesn’t conflict with my ISP’s Winsock file. Macintosh users may encounter similar problems if establishing multiple access accounts but can get around them by creating separate folders for each provider, then activating or deactivating the appropriate folder.
Internet Software

There are several types of software for using the Internet: Web browsers for browsing the Web, e-mail clients for sending and receiving messages, news readers for reading and posting messages to discussion groups, FTP for transferring files, and others.

Your ISP typically will provide you with the minimum software you need to go online, send and receive e-mail, and surf the Web. But if you want more powerful software or software that gives you greater control over your online activities and the organization of the messages and information you collect, you'll probably want to use something more sophisticated.

Commuting With Communicator

Netscape Communicator, available in standard and professional versions, combines several of these functions into one application, or software program. Working from the intuitive Communicator interface, you are just a mouse click away from the activities you're most likely to perform over the Net. These activities include:

- Browsing the Web.
- Sending and receiving e-mail.
- Participating in online discussion groups.
- Conducting online conferences.
- Composing Web pages.

Figure 2-1 shows Communicator's toolbar and menu bars.

Figure 2-1: The Netscape Communicator toolbar and menu bars.
The professional version includes a calendar, schedule planner, and collaboration tools for team projects, but their use is beyond the scope of this book.

Communicator works with any Internet-type (Transmission Control Protocol/Internet Protocol—TCP/IP) connection, so there should be no compatibility problems once you’ve established a connection to the Net, whether it’s through a dial-up account, cable modem, xDSL, or network connection.

Appendix B explains how to download Netscape Communicator and install it on your computer. Though this is a substantial program to download, the “all components” option comes with many of the plug-ins you’ll need to play back audio, video, and multimedia presentations. Getting the entire program at once will save you the time and trouble of obtaining the plug-ins one at a time and installing them yourself.

Netscape Communicator is a stand-alone program and can be used by itself. However, the software was designed for collaborative computing over a company’s intranet as well as use on the Net. To take advantage of its full power, Communicator needs to operate in conjunction with the specialized servers in Netscape’s SuiteSpot family of servers that support Web access, Web site hosting, e-mail, discussion groups, collaborative computing, group scheduling, conferencing, document sharing, and network security.

Worksheet: Going Online

The accompanying Going Online worksheet will assist you in identifying your hardware, software, and training requirements, as well as estimated cost, for going online. The worksheet depicted here is the condensed version, but it gives you an idea of the scope of preparation you need to gain the most benefit from going online.

The worksheet is included in the Worksheet subdirectory of the Resource Directory on this book’s Companion CD-ROM as a word processing file (ONLINE.DOC) formatted for both Windows and Macintosh systems. See Appendix A, “About the Companion CD-ROM,” for instructions on how to install the CD-ROM and retrieve the file. To use the checklist, open the file in a word processor, then print it.
## Worksheet: Going Online

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Minimum</th>
<th>Recommended</th>
<th>Have</th>
<th>Need</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IBM PC-computer</td>
<td>486</td>
<td>Pentium/586</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating system</td>
<td>Win3.1</td>
<td>Win95</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macintosh</td>
<td>68030</td>
<td>Power Mac</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating system</td>
<td>Mac 7.5</td>
<td>Mac 7.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>or higher</td>
<td>or higher</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RAM</td>
<td>16 MB</td>
<td>24-32 MB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hard disk</td>
<td>500 MB</td>
<td>1 GB or more</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessories</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Video card</td>
<td>1 MB</td>
<td>2 MB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sound card</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(may be included)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CD-ROM drive</td>
<td>4X</td>
<td>4X or higher</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Software</th>
<th>Have</th>
<th>Need</th>
<th>Estimated Cost</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web browser (required)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-mail (required)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussion groups (required)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTP (optional)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HTML editor (optional)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graphics editor (optional)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Netscape Communicator is an integrated program that includes a Web browser and software for e-mail, discussion groups, HyperText Markup Language (HTML) composing, and FTP for publishing your Web page. Shareware programs for the other software are included on this book's Companion CD-ROM.

## Training Needs

Assess the experience and skill levels of yourself and your staff.

<table>
<thead>
<tr>
<th>Experience With</th>
<th>Never</th>
<th>Some</th>
<th>Experienced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows-type PC</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Macintosh-type PC</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>UNIX computer/workstation</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Word processing</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Software installation</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Computer programming</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Going online through an ISP</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Online services</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Browsing the Web</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Sending/receiving e-mail</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Internet discussion groups</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Chat groups</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>FTP</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
Down the Road

The ease and speed of Internet access will continue to improve and the percentage of people wired to the Net will grow steadily for several years to come. The infrastructure is being upgraded at a furious rate. Technological breakthroughs are announced weekly. Competition has driven access costs down (although that may be short-lived—the shakeout in the ISP industry already has begun). And more and more people are not only logging onto the Net but also spending more time online as the information, products, and services available get better and better.

As a business person, this bodes well for you. But you will need to stay on top of these technological changes and sociological trends to ensure you remain competitive in the marketplace. Invest wisely and upgrade only when it makes good business sense. One way to stay on top of things is to subscribe to Internet news services and industry publications, which are discussed in Chapter 4, “Exploring Cyberspace.”

Moving On

You had to wade through a minefield of technical jargon to reach this point, but you made it. Congratulations! I hope it wasn’t too painful. Getting a handle on Internet technology and the associated jargon is not easy. Yet, it must be done. Otherwise you can’t knowledgeably evaluate the services you’re being offered and determine whether or not you’re getting a good deal.

However, that was just the first step in the process of obtaining Internet services. In Chapter 3, “Select a Web Site Host,” I’ll walk you through the process of selecting a host for your Web site. It’s likely that you’ll use the same ISP as your access provider and Web site host, so it’s best to go through the selection process for both at the same time. Still, there are valid reasons for not using the same ISP for Net access and Web site hosting, which I will explain in the upcoming chapter. Then you can evaluate your own needs and do what makes the most sense for you.
A Web site must reside on a host computer—a Web server—that’s connected to the Net, where people can get to it 24 hours a day, seven days a week, 52 weeks a year. This leaves you with three basic options:

- Have a *virtual domain*, where an Internet service provider (ISP) hosts the Web site for you on one of its servers—sort of a “share-a-server” program.
- Co-locate a server at an ISP’s facility.
- Host the Web site yourself.

Sharing a server with other Web sites—commonly known as having a virtual domain—is the most economical of the three options. This is similar to renting space in an office building, but instead of paying by the square foot, you pay by the megabyte of memory (or disk storage space) you use. However, just because it’s relatively inexpensive doesn’t mean it’s the right choice for you. Your decision will depend on the size of your Web site and how much traffic you get, among other things.

The smart thing to do is determine which of these options suits your needs best and then select an ISP before you build your Web site. (Even if you opt to host the Web site yourself, you’ll still need an ISP to link your server to the Net.) This way, you’ll be able to coordinate the project with your ISP, who should help you work through all the technical aspects of putting up your Web site. (I say “should,” because there are plenty of ISPs that are staying just one day’s ride ahead of the wagon train, and know little more about doing business on the electronic frontier than you do.) You’ll also want your ISP to register a domain name for you.
In this chapter, I explain each of the three options, the costs involved, and provide a worksheet to help you determine which is best for you. I give you guidelines and a checklist for use in selecting a hosting service as well. This chapter also examines the value of having a unique domain name and the process of obtaining one.

**Tip**

It's likely you'll use the same ISP for access to the Net, discussed in Chapter 2, "Get (Well) Connected," and as a Web site host. So it may be appropriate to go through the selection process for both at the same time. Consider it one-stop shopping. You also may want to do this in conjunction with selecting a Web site designer—many ISPs also offer Web design services—which is discussed in Chapter 10, "Web Site Design: The Essentials." However, if after completing the Web Host Worksheet you find that you're unsure of too many things to make an informed decision, go ahead and get online and make your Web hosting and design decisions later.

**Needs Assessment**

Before you begin talking to an ISP about Web hosting or decide to host the site yourself, you need to identify your needs in terms of server and connectivity requirements. Determining these needs is a bit like determining how much square footage you need for an office or store. It's based on how many products you need to display and/or how many people you may need to accommodate at a given time. You'll find a Web Host Worksheet in this chapter to assist you in this process.

Most small-business Web sites share space on an ISP's dedicated Web server, which may house several dozen Web sites at once. This is not the same as being part of a mall, however. If you have a unique domain name, such as www.gadgetsgalore.com, visitors to your site won't know whether you are sharing a server or operate your own. And as long as traffic to your site is light to moderate, performance is unlikely to become an issue. This is a very cost-effective arrangement. However, a site that gets a great deal of traffic, has a great many pages, or has multimedia presentations, may require a dedicated server, one that houses a single Web site. The server can still be co-located at an ISP and placed directly on the ISP's own network, which should have a high-speed connection to the Net.
A Web site with very heavy traffic can require a costly high-performance computer or even multiple servers dedicated to that single Web site, where page requests, or hits, are passed on to the next available server. For example, during the final weeks of the 1995 America's Cup yacht race, we were using three high-performance computers as servers—and could have used a fourth—to handle traffic that peaked at about one-half million hits a day. We had dozens of photographs, including a series depicting the Australian boat sinking, which placed an additional load on the servers because of the popularity and large file sizes of the photos. Graphic images, which include photographs, are large files and require more time to download compared to text files. If the image becomes popular, as in this example, it can snarl traffic at the Web server.

The traffic volume far exceeded the requirements anticipated by our technical advisors, so we were caught off guard. But even that volume is a pittance compared to some of the adult-oriented sites, which use banks of computers to handle sometimes a million or more hits per day received at their Web sites. (I'll explain the difference—which is huge!—between "hits" and "visitors," in Step 7: Evaluate Your Internet Program.)

Another method of handling heavy traffic is having a mirror site. This is a server situated in a separate geographical area that handles traffic from that region. Netscape Communications Corporation, for example, has mirror sites set up not just in other regions of the country but all around the world, to handle the demand for new software releases.

At the other end of the spectrum, a start-up company I worked with not only had a dedicated server co-located at its ISP but also had a backup computer to boot, in the event that there was a stampede to the Web site. In hindsight, the second computer was overkill and an unnecessary expense. Even sharing space on the ISP's Web server may have done the job, since the traffic never came close to what company officials had hoped for.

Obviously, you can't foresee the future, but you'll need to come up with a realistic guesstimate of your needs. If you're a small business with a marketing-oriented Web site, you're likely to get moderate traffic at best and will get very satisfactory performance from a shared server. On the other hand, if you're providing very specialized information regarding a sporting event, a remote-controlled rover landing on Mars, or free pictures of naked women, you may well need a dedicated server, if not several of them.

That said, there are circumstances when a large site may be better served with a shared host arrangement. For example, if the site requires multiple servers that perform different functions—as both a Web server and a database server—it may be more cost effective to share a server than bear the financial burden of operating two servers with excess capacity.
Web Host Checklist

The following Web Host Checklist will help you and your ISP identify your Web hosting needs. The first section, Purpose of the Web Site, provides the big picture. Once you have identified the primary purpose of the Web site, you can identify the technologies and services you'll need to implement it, detailed in Sections II and III. Only then can you determine what it will cost to put your plan into action.

For example, a marketing-oriented Web site composed primarily of text and accompanying graphic images will have substantially different requirements from a site designed for retail sales. And an online news service will have substantially different requirements from a site designed to distribute software.

Also, keep in mind that your Web site is likely to expand, so you may need to anticipate greater needs down the road. The checklist (HOSTCHECK) is included in the /Resource/Checklists directory of this book's Companion CD-ROM.

<table>
<thead>
<tr>
<th><strong>Web Host Checklist</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section I: Purpose of the Web Site</strong></td>
</tr>
<tr>
<td>What is the primary function of the Web site?</td>
</tr>
<tr>
<td>☐ Marketing materials detailing products and services.</td>
</tr>
<tr>
<td>☐ Online retail store for catalog-type sales.</td>
</tr>
<tr>
<td>☐ Software distribution.</td>
</tr>
<tr>
<td>☐ Newspaper or magazine.</td>
</tr>
<tr>
<td>☐ Information database.</td>
</tr>
<tr>
<td>☐ Collection of photographs or other images.</td>
</tr>
<tr>
<td>☐ Collection of video clips or multimedia.</td>
</tr>
<tr>
<td>☐ Games.</td>
</tr>
<tr>
<td>☐ Radio signal retransmission.</td>
</tr>
<tr>
<td>☐ Video signal retransmission.</td>
</tr>
<tr>
<td>☐ Webcasting.</td>
</tr>
<tr>
<td>☐ Virtual reality/3D animation.</td>
</tr>
</tbody>
</table>
### Section II: Web Site Configuration

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many separate Web pages?</td>
<td>1-50 51-100 101-499 500+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anticipate how many visitors a day?</td>
<td>Up to 500 Up to 1,000 Up to 1 million</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mostly text with a few graphics?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Many graphics, as in a catalog or photo album?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Many large graphics?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Audio/sound files?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Video files?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Multimedia files?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Virtual Reality Modeling Language (VRML) files?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Common Gateway Interface (CGI) scripts (for guest book, survey, etc.)?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>JavaScripts?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Java applets?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>ActiveX controls?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Mailing list?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Discussion group?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Chat group?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Online shopping cart?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Secure transactions for purchases?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Distribute software online?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>High volume of e-mail?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
</tbody>
</table>

### Section III: In-house Computer/Network Capabilities

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentium-class computer that could be used as a Web server?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Macintosh PowerPC-class computer that could be used as a Web server?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>UNIX-type high-performance computer that could be used as a Web server?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Internal network or intranet?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Intend to create an internal network or intranet?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>Network specialists in-house?</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
</tbody>
</table>
I realize the list is somewhat intimidating, but it illustrates the many options you have and the types of questions you need to answer. Defining the fundamental purpose of the Web site and beginning to consider what it will take to achieve that purpose gets you started up the steep Internet learning curve.

If you answered “Unsure” to a majority of the questions on the worksheet—particularly the ones in Section II—then you should put off making a decision until you have a better idea of what you want to do and what you can afford. Chapters 7 through 11 will help you answer these questions. After reading them, you can return to this worksheet and begin answering with Yes or No instead of Unsure.

**Virtual Domain**

If you answered “No” to the majority of the questions, particularly those in Section III: In-house Computer/Network Capabilities, and you rated your Web site in the lower numbers in terms of pages and visitors, your best bet is to park your Web site on an ISP’s Web server (see Table 3-1). You can examine your other options after the Web site is online and you have a clearer picture of how large it’s likely to become and how popular it is.

<table>
<thead>
<tr>
<th>Hosting Options</th>
<th>Hardware &amp; Software Costs</th>
<th>Setup Fees</th>
<th>Monthly or Recurring Costs</th>
<th>Annual Personnel/ Administrative Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtual domain</td>
<td>None</td>
<td>$25–$200</td>
<td>$10–$500</td>
<td>$500–$5,000</td>
</tr>
<tr>
<td>Co-location</td>
<td>0–$8,000</td>
<td>0–$1,000</td>
<td>$250–$6,000</td>
<td>$5,000–$50,000</td>
</tr>
<tr>
<td>Host your own</td>
<td>$8,000–$30,000</td>
<td>(refer to Chapter 2, “Get (Well) Connected”— Net access)</td>
<td>(refer to Chapter 2, “Get (Well) Connected”— Net access)</td>
<td>$25,000–$75,000</td>
</tr>
</tbody>
</table>

Table 3-1: Web site host options and range of costs.

Your recurring monthly costs can range from $35 to $500, depending on how much disk space is required, how busy the site is, and who the ISP is. The cost variations are a result not only of different fee structures between ISPs but also of how they charge. Some ISPs charge a flat rate for hosting a Web site. For example, $35 a month for the first 2 megabytes (MB) of Web files and $15 a month for each additional megabyte.

Others may charge $50 a month for the first 3MB to 5MB of file storage but tack on what’s known as a transfer rate charge. That is, you’re charged for the amount of data being transmitted over a given period of time, similar to a
long-distance telephone call or fax transmission. The busier your site, the more you pay. These charges can add anywhere from $5 to $100 to your costs per month. If you find that you’re transmitting more than a gigabyte (a billion bytes) of data each month, you should investigate other pricing options, including volume discounts.

The initial one-time setup will run you anywhere from $25 to $200, again depending on the ISP. This does not include the cost of registering a domain name, which is discussed later in this chapter. If you need additional services, such as access to a database server, access to an audio or video server, or a secure server for online transactions, you can share these resources at cost-effective rates, too, and perhaps keep your fixed costs well under $500 a month.

In the following two sections, I will discuss the options of server co-location and hosting your own server. But before you conclude what is best for you, consider these other advantages of sharing Web server resources. I mentioned earlier that if you need multiple servers, it may be more cost effective to share these resources. In addition, when you’re renting space on an ISP’s servers, you also benefit from system upgrades, data backup services, power management, and overall system administration. The costs of providing these services yourself need to be weighed against the advantages of operating your own equipment.

### Variations on the Theme

Another Web hosting option that falls under the virtual domain category are services that offer a “community” or “mall” approach. These are generally host-only services and do not include Net access, though some ISPs offer this service as well. Some online shopping malls start as low as $20 a month. There are two critical drawbacks to this approach, which are discussed in greater detail in Chapter 7, “Defining Your Online Strategy.”

The first drawback is that you typically don’t have a unique domain name, such as www.gadgetsgalore.com. Rather, you become a subset of the provider’s domain name and end up with a long path to your Web site—something along the lines of www.netmaul.com/~gadgetsgalore/home.html. In marketing terms, this is not a smart move and could be harmful.

The second drawback is that even $20 a month may not be a bargain. Your “Web site” may amount to nothing more than a business card tacked to the bulletin board in the local laundromat, plus you’re highly dependent on the service operators to do a good job of promoting their operation.
**Server Co-location**

If your answers are relatively divided between “Yes” and “No” in Section II of the worksheet, you may be able to get by with sharing space on an ISP’s Web server. However, if you (1) anticipate having a large number of Web pages and/or images, such as a catalog with product pictures, (2) anticipate having a large volume of traffic, (3) plan to include video or multimedia presentations, or (4) plan to distribute software, then you should consider having a dedicated server co-located at an ISP.

The costs of co-location can be significantly lower than hosting your own server. Your savings come in two primary areas:

- The cost of access to the Net (you’d need a high-speed connection to host your own—at minimum a fractional T-1 line, a fiber-optic cable described in Chapter 2, “Get (Well) Connected”).
- Administrative costs.

Co-location fees are all over the map. I’ve received quotes ranging from $250 a month, with you supplying your own computer and maintaining it yourself, to $15,000 a month, which includes a dedicated high-performance computer on a high-speed network that’s maintained by ISP technicians. If you supply the computer but have the ISP set it up, it will cost you anywhere from several hundred dollars to several thousand, depending on how complicated the setup is. Or you may be charged a higher monthly rate that incorporates the setup costs. You’re better off long term with the lower monthly rate and paying the setup costs up front, if that option is available to you.

You’ll also have to determine whether you want to maintain and administer the server yourself or have the ISP do it. If you do it in-house, you’ll have to budget the time of one or more employees, which could mean anything from a few hours a week to full time, depending on how sophisticated the Web site is and how often it’s updated. You also will need to ensure backup and power management systems are in place.

**Host Your Own Server**

If you answered “Yes” to the majority of the questions, particularly those in Section III: In-house Computer/Network Capabilities, you’re a strong candidate for hosting your own server. However, this is the most costly setup, especially in terms of human resources. Unless you have a computer network specialist in-house and are willing to ante up for high-speed access to the Net, I recommend that you co-locate your server with an ISP or lease a dedicated server from an ISP.
Server Farms

Some of the Internet backbone providers and large telecommunications companies are operating what are known as server farms, because even large companies realize they don’t have the human resources to host the sites themselves. For example, notables such as the Boston Globe, The Walt Disney Co., Ernst & Young LLP, Forbes Inc., J. Crew, and Nike Inc. use these services. The services are offered by AT&T Corp., BBN Planet, Digex Inc., IBM Corp., and MCI Communications Corp., among others. Fees range from $2,500 to $15,000 a month.

The cost of hosting a Web server in-house shocks most people, since they’ve heard so much hype about how inexpensive it is to be on the Net, so sit down and take a deep breath. Figure on spending upwards of $100,000 the first year. This does not include Web site development, although there will be some cost savings in areas where the two overlap.

The $100,000 includes the cost of software, a high-speed Internet connection, and a computer operator/programmer to set it up and keep it running. Webmasters in this capacity earn $50,000 to $75,000 a year. If you have someone in-house who can assume this responsibility on a part-time basis, you can reduce this cost significantly.

It also includes the cost of a new computer, for which you have several options: You can go with a Windows NT system, using a Pentium-class computer with a high-speed central processing unit (CPU), an Apple PowerPC, or a more traditional UNIX system using a Pentium-class computer or a high-performance computer from a manufacturer such as Apple Computer, Inc., Digital Equipment Corp., Hewlett-Packard Inc., Apple Computer Inc./IBM Corp., Silicon Graphics Inc., or Sun Microsystems Inc. A high-end server may cost you as much as $20,000 or more and may not include software.

Keep in mind that hosting your own Web server implies that you will also be hosting your own mail server, a messaging or newsgroup server, domain name service, database server if needed, maybe a proxy server, and perhaps a secure server for conducting online transactions. In other words, you set up your own ISP in-house. The question to be answered is: What is your core business and does this fit into it? If you’re an entertainment company or a retailer of some sort, or even a high-tech manufacturer, you’re probably better off using an ISP.
Choosing an ISP: Part II

In Chapter 2, "Get (Well) Connected," I covered several aspects of ISP selection, but there are additional considerations in terms of Web site hosting that are separate from Net access. This discussion is a follow-up to those issues and introduces the worksheet (ISPWORK), which is included in the /Resource/Worksheets directory on this book's Companion CD-ROM.

### ISP Worksheet

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the speed/capacity of your Internet connection?</td>
<td>768 kilobits per second (kbps) or less, Two T-1s, Single T-1, T-3 or greater</td>
</tr>
<tr>
<td>What is the average capacity used?</td>
<td></td>
</tr>
<tr>
<td>What percentage of capacity is used at peak hours?</td>
<td></td>
</tr>
<tr>
<td>Do you have multihoming capability?</td>
<td>Yes, No</td>
</tr>
<tr>
<td>How long have you been in the ISP business?</td>
<td></td>
</tr>
<tr>
<td>Web servers:</td>
<td></td>
</tr>
<tr>
<td>How many?</td>
<td></td>
</tr>
<tr>
<td>CPU type and speed in MHz?</td>
<td></td>
</tr>
<tr>
<td>How many Web sites are you hosting per server?</td>
<td></td>
</tr>
<tr>
<td>Cost of co-location?</td>
<td></td>
</tr>
<tr>
<td>What services are included?</td>
<td></td>
</tr>
<tr>
<td>Do you operate a database server?</td>
<td>Yes, No</td>
</tr>
<tr>
<td>What kind?</td>
<td>Oracle, Microsoft SQL, Sybase, Informix, Other:</td>
</tr>
<tr>
<td>Can you process secure transactions?</td>
<td>Yes, No</td>
</tr>
<tr>
<td>What is your level of technical support?</td>
<td>Business hours, 24 hours a day/7 days a week, Other:</td>
</tr>
<tr>
<td>What types of remote access do you support?</td>
<td></td>
</tr>
<tr>
<td>How often do you back up your servers?</td>
<td></td>
</tr>
<tr>
<td>Do you have a backup Web server?</td>
<td>Yes, No</td>
</tr>
<tr>
<td>Do you have a backup power supply?</td>
<td>Yes, No</td>
</tr>
<tr>
<td>What is your policy on domain name management?</td>
<td></td>
</tr>
</tbody>
</table>
As I said in Chapter 2, priorities and red-flag issues will vary depending on your specific needs, but here are some guidelines to follow:

- **ISP’s connection to the Net.** Again, this is the red-flag issue. You want an ISP with a minimum of redundant T-1 lines with multihoming capability, which means the two lines are routed through separate backbones. This way, if one backbone provider has an outage, you and your ISP will still have a connection to the Net. Also, determine if the ISP has a direct connection to the Net or is going through an intermediary ISP. You want one with a direct connection to the Internet backbone, if available. This reduces the number of “hops” your data must travel to reach the end user. Each hop slows the transmission down and is a potential bottleneck.

- **Connection capacity in use.** The percentage of connection capacity used, or system load, is crucial, because as the number approaches 100 percent, performance suffers and can grind to a halt. Performance begins to deteriorate when the load rises above 50 percent and rapidly goes downhill after that. There is also a distinction between average load and peak load, which for a business day tends to be the first hours in the morning and noontime.

- **Length of time in the Internet business.** I restate, you want an ISP with at least two to three years under its belt, particularly if your Web site is mission-critical.

- **Web server.** Ideally, you want a fast server all to yourself, but for many small- to moderate-sized businesses, this is a luxury you can’t justify. However, you do want a machine that processes page requests quickly and efficiently. Pentium-class computers with a clock speed of 150 megahertz (MHz) are more than adequate for use as a Web server, as are Mac OS machines with equally speedy PowerPC chips, so don’t be dismayed if an ISP is not using a 64-bit Sun SPARCcenter, Digital AlphaServer, or Silicon Graphics Indy machine, though these computers are preferable.

- **Server sharing.** Because of all the variables involved, it’s impossible to quantify how many Web sites should or should not be on the same server. A high-performance machine may be able to support hundreds of small Web sites adequately. You’ll have to trust the judgment of your ISP on this one. Performance is the key issue, and if you get complaints about your pages being slow to download, contact your ISP for help in identifying the problem. The problem could be your Web site itself, which you can correct, or it could be gridlock at an Internet hub, in which case there’s nothing either of you can do but be patient.
Database server. If you need database services to either deliver dynamic Web pages or collect and distribute data via the Web, it may be more economical for you to use an ISP's server than your own. However, if you’re working with existing or legacy data, compatibility may be a problem, and custom programming could be required to make use of the data.

Secure server. If you want to conduct online credit card transactions, you’ll need access to a secure server. Ask to see the server certificate and the fee schedule.

Technical support. Although computers can run for months at a time without a glitch, they rarely give any indication when they’re about to fail or crash. Paraphrasing Forrest Gump, “It just happens.” Your preference is round-the-clock support availability, because on the Web, the store’s always open. This is not always practical, however. And as I stated earlier, small ISPs with pagers may give you more personalized and more knowledgeable assistance than their larger counterparts.

Remote access. The type of access you have to Web and database servers will affect the type of work you can do. The most common is FTP, which allows you to add, delete, and rename files and file directories. A remote terminal setup lets you log on to the actual network and interact with the server as if it were another hard drive on your own computer, but this requires a dedicated connection. Updating a database can be achieved using a Web browser and data entry forms.

System backup. This is critical in the event of a fatal computer crash or other disasters in the ISP’s network operation center. Files should be backed up weekly, and there should be a reserve Web server sitting on the bench and ready to go into the game if needed. You also should keep a full and current copy of your entire Web site in-house.

Domain name policies. Policies will vary with regard to what an ISP will or will not do with regard to domain names. For example, some will let customers register new domain names, others will not. Some ISPs will forward mail and machine (IP) addresses, others may not. And some ISPs will charge you what is known as a “domain name maintenance fee,” others merely a one-time flat fee for domain name set-up. I find domain name maintenance fees questionable. Yes, the DNS server needs to be maintained, but there is no maintenance involved in keeping a domain name active.
Work up checklists for at least two or three ISPs before making a decision, including a face-to-face meeting with the principals. By placing a Web site with them, you’re establishing a business relationship, and you want it to be with an operation with which you’re comfortable.

You’ll also want to discuss what, if any, Web design and development services each ISP offers, as it may influence your choice. This is discussed in depth in Chapter 9, “Selecting a Web Site Designer.”

Choosing a Web host is critical to the success of your online enterprise and should not be taken lightly. Use the worksheet to carefully assess your needs and use the checklist to identify an ISP that can satisfy those needs. Remember, the ISP hosting your Web site doesn’t need to be the one next door or the one across town. It can just as easily be in a neighboring city or state—or country, for that matter. However, I recommend combining access with hosting services whenever possible—there’s one less vendor to deal with—and I recommend using a local operation so that if push comes to shove you can easily march into the office and settle things face to face.

**Tip**

If you do end up with separate ISPs for e-mail and Web-hosting services, you still can get your e-mail sent to yourname@bizname.com. Most ISPs will forward mail for about $5 a month per account.

**Master of Your Own Domain**

Technically speaking, you don’t need a unique domain name to do business on the Net. But you do need a unique domain name to establish an identity and credibility in the marketplace to ensure a successful online marketing effort.

You want something like gadgetsgalore.com, which would have the Web Uniform Resource Locator (URL) of http://www.gadgetsгалore.com. Otherwise, you’ll end up using your service provider’s domain name followed by the path to your home page, such as http://www.yourisp.com/~gadgetsгалore/home.html. This is unmanageable and not intuitive for the end user, your customer. Often people will just guess at an organization’s Web address without bothering to look it up in a directory service or search engine. Yet I still see businesses that continue to use such cumbersome Web addresses.

Choosing a domain name should be done carefully because it’s an integral part of your company’s image, not only in the virtual world but also in the physical world. I recommend using your company’s name, if possible and
practical. Some names are too long to be useful, in which case a recognizable abbreviation—such as abc.com, att.com, and ibm.com—is preferred. If neither of these options is available, you’ll have to get creative. However, you may not want to get overly creative. Monica Lopez told the Los Angeles Times that she has had regrets about choosing “hothothot” for her gourmet salsa business: She gets hate e-mail because it’s not a porno site.

Domain Name System

Here’s how this domain name stuff works. Every computer on the Internet is assigned a unique number, which is called an Internet Protocol (IP) address, and it takes the form of a multi-digit number, such as 199.2.50.14. This numbering system makes it easy for computers to locate one another. However, it makes it difficult for us flesh-and-blood humans, who are better at remembering names than long numbers.

Enter the Domain Name System (DNS), also called the Domain Name Service, which is a distributed database of names, or aliases, representing IP addresses. When you enter www.gadgetsgalore.com, the routers and domain name servers on the Net know that where you really want to go is the computer with the IP address of something like 189.5.43.143. It’s similar to hailing a cab in Washington, D.C., and telling the driver you want to go to the White House. He knows you want 198.137.241.30—oops, 1600 Pennsylvania Ave.

Because domain names are associated with specific numbers, they need to be assigned by an authorized registry so that the domain names are unique, and the DNS doesn’t get its wires crossed. No two may be the same. Which is why there has been such a furor over quick-acting individuals registering the names of well-known companies and then selling the domain names to those companies for a windfall profit. (Some have gone so far as to turn this into a business.) McDonald’s Corporation had one of the more high-profile cases.

McDonald’s Hot Wires

In 1994 HotWired columnist Joshua Quittner registered “mcdonalds.com” with the InterNetwork Information Center, or InterNIC (www.internic.net), one of the first domain name registry agencies in the United States. He published his e-mail address as “ronald@mcdonalds.com” to prove a point he was making in one of his articles. When McDonald’s Corporation protested, he offered to relinquish the name if the fast-food purveyor would agree to underwrite the donation of computer equipment to a designated public school. McDonald’s refused and demanded that InterNIC revoke Quittner’s registration.
InterNIC went back and forth, at first refusing to buckle under the mighty corporate thumb, then agreeing to assign the name to McDonald’s, then taking no action at all. McDonald’s ultimately donated $3,500 to purchase the computer equipment in exchange for the domain name.

In addition, legal disputes between companies with similar or identical names, or trademarked names, have erupted over domain name registrations. One faction argues that it's a gray area because separate corporations with identical names can legally operate in different states. Another faction is adamant that federal trademark law applies in cyberspace. InterNIC now requires documentation before it will register a trademarked name.

**U.S. Registration Agencies**

The United States has two agencies authorized to register user-nominated domain names under what are known as top-level domains. These agencies are the InterNIC, operated by Network Solutions, Inc. and under contract to the National Science Foundation, and the US Domain Registry (www.isi.edu:80/in-notes/usdnr/). However, the syntax of the domain names each organization registers are very different from each other, which directly affects your decision on which service to use.

InterNIC, which is operated by Network Solutions Inc., has the authority to assign six top-level domains:

- .com Commercial operation
- .edu Educational institution
- .gov Government agency
- .mil Military
- .net Network, generally reserved for service providers
- .org Nonprofit organization

Within this authority, InterNIC registers what are known as second-level domains, such as gadgetsgalore, resulting in the domain name gadgetsgalore.com. To complete the full URL, your ISP typically will add a machine name to the address path, generally www (although it may be something different or nothing at all), which gives you a functioning Web address of www.gadgetsgalore.com. The http:// is not necessary in most current Web browsers (see Figure 3-1).
The US Domain Registry (USDR) has authority to assign only the .us top-level domain and registers second-, third-, and fourth-level domain names based on geographic locality. All USDR domain names end with .us. For example, gadgetsgalore.silicon-valley.ca.us indicates that Gadgets Galore Inc. is located in Silicon Valley, California, USA. This is great if you're trying to identify the geographical location of an organization, but it's cumbersome when trying to locate someone in cyberspace.

However, Network Solutions' contract expires in March 1998 and domain name registration services will be offered by other groups. When this happens, it's likely that more top-level domains will be added to the mix, including .art, .food, .law, .music, .store, and so on. On the up side, this increases the number of available domain names by an order of several magnitudes. On the down side, this means there are that many more opportunities for other, and perhaps competing, businesses to have domain names similar to yours. As a defensive move, you may need to register more domain names to keep them out of the hands of competitors. As it is, it's not unusual for a company to register a half-dozen or more names now in such a defensive move.

The argument in favor of the expanded system is that by creating new top-level domains, the number of domain-name conflicts could be reduced. Companies with similar names that do not compete can be registered under their own name within their respective area of business (e.g., the hamburger maker Smith could use smith.food, and the gas station chain Smith could use smith.oil). This matter is due to be reviewed by the Internet Engineering Task Force early in 1998. You can read more about this at the AlterNIC.NET (www.alternic.net) Web site.
Domain Name Registration

Currently, to register a domain name in the United States, you must submit an application to one of the two registries. This is done online, and the approval process is typically completed in a matter of hours. However, the registration must be done in cooperation with an ISP, because a domain name is registered to a specific computer.

InterNIC charges $100 to register a domain name, which is good for two years, and charges $50 a year to retain the name, beginning with the third year. If the fee is not paid, the name expires and becomes available again. The US Domain Registry does not charge for its service, but your ISP may charge you a small fee for having to update its domain name server.

There are similar registration agencies in other regions of the world, where the top-level domain names end with a two-letter code signifying the country of origin. Canada, for example, is .ca, the United Kingdom is .uk, France is .fr, Germany is .de, Switzerland is .ch, and so on. You may have read about the two U.S. entrepreneurs who did a deal with the Kingdom of Tonga to register domain names ending in .to, with a percentage of the fee going into Tongan coffers.

Virtually Yours: Choosing a Domain Name

Choosing a domain name should not be done willy-nilly. It needs to be done with forethought and planning. As the integral component of your Web and e-mail addresses, it’s a critical element in your online marketing program. You want it to be relatively short, easily recognized, easy to remember, and/or representative of your business, product, or service.

Although the US Domain Registry is free, I don’t recommend using it. The shorter InterNIC version is much more manageable, and it’s what people have come to expect. Before submitting a name for registration, you should have one or two in reserve in case your first choice is taken. InterNIC limits your domain name to 22 characters, exclusive of the period, or “dot,” and the three-letter top-level domain.

There are services that will register a domain name for you, for a fee beyond what InterNIC charges. I don’t recommend this, because your domain name is then assigned to that service’s computer, and that’s where you’ll have to place your Web site unless you submit a change and have the name reassigned to another ISP. It’s an unnecessary complication, and there may be an additional fee involved.
Have your ISP of choice register the domain name or names for you. Technically, you can do it yourself with the approval of the ISP, but I don’t recommend it. You need specifics regarding the ISP’s domain name servers and contact information. Let the ISP do it and get it right the first time. It speeds up the process in the long run.

**Whois There?**

You can easily check the availability of a domain name yourself, although you need to have access to the Web:

1. Once online, go to the “whois” search page (shown in Figure 3-2). The URL is http://rs.internic.net/cgi-bin/whois.

2. Type your domain name of choice, including the top-level domain of .com, in the dialog box.

3. Press the Enter/Return key.
You should get a reply in a matter of seconds. If the name is taken, the reply page will disclose to whom the name is assigned. If the reply comes back stating “No match for . . . ,” you’re in the clear and can register it—unless it’s being processed and has not been entered in the database. However, the window for that happening is just a day or two, so the odds are in your favor (as shown in Figure 3-2).

If the name is taken, get out your checkbook. Seriously though, submit your backup choices and see how they fare. If you strike out, you’ll either have to make a deal with one of the registered domain-name holders or go back to the drawing board. If you have trademarked product names, you should register those, too. If someone beat you to it, you may have grounds for legal action, but the law in this area is still murky, and court cases are pending.

Once you receive confirmation that your domain-name request has been approved, you can activate an e-mail account or accounts, as well as a Web site. But before you jump the gun on a Web site, you should do a little more preparation, which is addressed in the following chapters.

**Tip**

Whois can be a good research tool. You can submit a single name or term and see what comes back. For example, if you enter interstate, you’ll get several pages of data listing dozens of companies with the word interstate in their names that have registered a wide variety of domain names representing everything from truckers to Twinkies. This can be useful in determining who’s online, including your competitors, and in deciding what your domain name or names ought to be.

**Moving On**

You’re now armed to the teeth with worksheets, checklists, and data concerning Internet service providers and their technical manifestations. It’s probably much more than you ever wanted to know. However, it’s less painful learning these things before you make a decision rather than afterward, particularly after you have a Web site online only to discover the ISP cannot deliver on its promises, or you’re paying more for the services than they’re worth, or people are having trouble finding your Web site because its address is www.joeblowisp.com/users/business/gadgetsgalore/.
Now you’re privy to the technobabble and Netspeak that let one computer talk to another—and let you communicate with a human at the other end of the line. (Presumably, it’s a human. But you’re never quite sure!) And now you’re ready to plug in, log on, and tune in the Net and get those wires uncrossed so you, too, can see what this much-ballyhooed electronic frontier is all about.

In Step 2: Learn the Lay of Land, I’ll take you deeper into cyberspace so you begin to comprehend what this medium is all about. In Chapter 4, “Exploring Cyberspace,” I’ll take you on a guided tour of the Net. We’ll browse the Web, peek in on a discussion group or two, and subscribe to a mailing list so you begin to see the possibilities for leveraging the strengths of the Net to help your business grow. In Chapter 5, “Separate Fact From Fantasy,” I separate the Internet hype from the reality, and in Chapter 6, “Belles-Lettres,” I introduce you to the world of electronic mail.
Step 2

Learn the Lay of the Land

You wouldn't open a new business across town, let alone in another city or a foreign country, without scouting the territory first. Yet, that's what many people do in terms of the Internet. You need to get on the Net and learn the lay of the land. Otherwise, you may end up flushing money down the cybertoilet.
www.snakeoil.com
Exploring Cyberspace

There are several guys online for every woman. But, like the outlook for women in Alaska, the odds are good, but the goods are odd.

—Clifford Stoll, Silicon Snake Oil

This chapter is a guided tour of the Net, but it's not just for the Net neophyte, or newbie. Some of you with a few hours of cybersurfing under your belt may learn a trick or two as well. The tour is a quick tutorial on how to get around efficiently in cyberspace, and a guide to business resources online.

It also will help you identify which of your competitors are online and how they're positioning themselves. This book's Companion CD-ROM has a hotlist of links to the online resources described here, plus many more. This list is in the /Resource/Online Resources directory.

Cyberjungle Guided Tour: Start Here

Let's get started on our exploration of the cyberjungle by going on a tour courtesy of Netscape Communications Corporation. (If you haven't installed Communicator yet, see Appendix B for instructions on how to do so.) You must also be online, because we're going surfing—we're surfin' the Net!
On the Communicator navigation toolbar, click on Guide. This will take you to the Netscape Guide by Yahoo! If you’re using an earlier version of Netscape Navigator, click on Directory and choose Netscape Destinations. If you’re using a Brand X Web browser, type `http://guide.netscape.com/guide` in the Location dialog box and press Enter/Return on the keyboard.

When the Netscape Guide home page (shown in Figure 4-1) pops up on your screen, you’ll see that you have a variety of options, from section topics to the day’s news to Site Spotlight. You also can customize the Guide so that the items most important to you appear on the screen each time you log in here. Information on customizing the Guide is in the section “Valet Service,” later in this chapter.

![Figure 4-1: The Netscape Guide home page, our cybertour headquarters.](image)
The Road Home

Before you go wandering off into cyberspace, let me show you how to return quickly to cybertour HQ. You have a number of options:

- Click on Guide, as you did before.
- Use the Back button on the navigation toolbar, which allows you to retrace your steps. This gets tedious if you’ve ventured more than two or three pages, however.
- Use the Go button on the toolbar, which lists the sites most recently visited.

The Go button, combined with the History option, is a shortcut to return to a site you visited earlier. Here’s how to use it:

1. Click on the Go menu and a list will appear. The checkmark indicates the site you’re currently visiting.
2. Choose a site title, such as Guide: Home Page.

If the site you want has scrolled off the Go list, you can still see the complete history of the Web pages you’ve visited during your current session. To do this:

1. Click on the Communicator menu.
2. Choose History (or from the keyboard press Ctrl/Cmd+H). This will open a new window with a list of all the pages you’ve visited since opening Communicator. To find a specific link in the list, click on Edit.
4. Type a search word or words in the Find What dialog box, such as Net Search.
5. Click on Search.
6. Double-click on the link to go to that page.

**Tip:**

Communicator comes with a Help component. It’s always at the right end of the menu bar. If you need an explanation of a particular feature or task, click on Help and select from the Table of Contents or search the Index.
Getting Down to Business

Now that we’re ready to get on with the tour, let’s check out the Business section first. Click on Business on the navigation bar at the top of the page, or scroll down the page to bring the Enter the Guide menu into view and click on Business.

In the Guide’s Business section, you’ll find a stunning array of links to business news, resources, and publications. I’m no mind reader, so take a few minutes to follow some links that interest you. When you want to return to tour headquarters, use one of the options described previously.

People

Do you want to track down a friend or business associate? Or see what the Net has to say about you? Scroll down the page to bring the Resources menu into view and click on People.

This presents you with an electronic version of the white pages telephone directory. You can search for a phone number or an e-mail address. For starters, click your mouse pointer in the Search Field dialog box and type in your name, city and state of residence, and then click on Look It Up. (Note: By the time you read this, the interface may have changed somewhat.) If you’re listed in a public telephone directory, the information probably appeared on screen.

You also can search for an e-mail address. It’s unlikely you’ll find a listing for yourself, unless you’ve already submitted your name and e-mail address information to one of the several databases available. If you want people to find you or your business, which undoubtedly you do, go ahead and submit that information now, or look up some friends or business associates.

The information you receive will vary with the database you choose. Some just return an e-mail address when using the default setting, others may return company name and/or whatever personal information was submitted. At some point you’ll want to try them all to see which ones your prefer. When you are finished here, return to the Guide.

Yellow Pages

You know about letting your fingers do the walking. Now, it’s time to let your mouse do the clicking. From the Resources menu, click on Yellow Pages.

Here you have a number of options for looking up information on other businesses, including your competitors. This can be an invaluable research tool for use in making strategic business decisions. To find out about other companies in your line of business, click on a region in the map or select one of the regional directories available (see Figure 4-2). The interface is different for each one, but their use is self-explanatory. After you’ve done a few searches, return to the Guide.
Chapter 4: Exploring Cyberspace

Figure 4-2: Internet yellow page directories make it possible to search for a broad range of business information.

What's New

The What's New category is a Web standard. Most Web sites have a What's New section to advise visitors of recent additions or updates. This What's New section pertains to the Web itself. From the Resources menu, click on What's New.

This page lists many of the recently launched Web sites. You'll want to check this periodically to see who the newcomers are.

What's Cool

This page is similar to What's New, but instead of just new additions to the Web, it includes older sites that are interesting, contain useful information, are entertaining, or are just plain cool. From the Resources menu, click on What's Cool.

It never hurts to take a look at this page once in a while. You may come across something you can use but for which you hadn't thought of looking.
Valet Service

The Netscape Guide can be customized so the topics that interest you the most appear onscreen when you load the page. When we've completed our tour, you can return to the Guide and take advantage of this complimentary feature.

To register, click on the Customize the Guide button and follow the instructions. You'll be asked to enter a username (you can use an alias), password, and your e-mail address. You may need these to log in when you return at a later date. You'll also be asked to provide some personal information regarding your age, sex, occupation, and approximate geographical location. While you may be reluctant to do so, this is an excellent illustration of how the Net is being used to (1) personalize and tailor a Web site's information for individual visitors and (2) conduct market research.

Tip
Netscape has set up its customized Guide so you don't have to login manually every time you return to it. To identify you, a small file known as a cookie is placed on your computer's hard drive. Your username and password are stored in this file. This is done as a convenience for you. However, if you have your cookie alert activated (click on Edit | Preferences | Advanced to confirm this) and reject the cookie when asked whether or not you want to accept it, the auto login feature will not work.

Trap
Cookies can also capture information beyond what you entered in the registration form. This includes the links on which you click, which can be used to develop a user profile. As a result, cookies have come under fire as being invasions of privacy, and along with other data-gathering technology and activities on the Net, are the subject of pending legislation at state and federal levels. This topic is discussed at length in Chapter 15, "Marketing Online: A Personal Matter."

Another option that will keep you on top of the daily news is Netscape In-Box Direct, also accessible from the Guide. Just click on the link at the bottom of the Resources menu. In-Box Direct gives you free subscriptions to some of the best information services on the Web, including the Wall Street Journal, USA Today, Sports Illustrated, ELLE International, and many more. Each publication is delivered automatically directly to your e-mail in-box in HyperText Markup Language (HTML) mail, which looks like a Web page rather than being plain text. With HTML mail, you can receive e-mail containing rich graphics, sounds, animations, formatted text, Java, JavaScript, and links to other pages.
Chapter 4: Exploring Cyberspace

Net Search

If you want to do a general search across the Internet, a great place to start is Netscape's Net Search page. It offers you access to all the top directories, or search engines, as they are commonly known. As you conduct more searches, you'll find you prefer some directories over the others, depending on what you're looking for and how you want to go about finding it.

Click on the Search button on Communicator's navigation toolbar. This takes you to Netscape's NetSearch page (shown in Figure 4-3), where you can immediately select one of four directories—Excite, Infoseek, Lycos, or Yahoo! The one with the black tab is the default selection.

Figure 4-3: The NetSearch page is an excellent starting point for information searches on any topic. You have more than a dozen directories from which to choose.

You have the option of entering a topic or name into the small dialog box or clicking on a number of subject areas. You can customize the selections by clicking on the fifth tab, Customize. Also notice that farther down the page, there are more options for directories, Web guides, white and yellow pages, and specific topics.
Searching With Yahoo!

To get started on your search, click on Yahoo! In the Yahoo! search box, click on Business. This will narrow your search to business-related topics.

From here you have a wide variety of topics from which to choose, if you want to just browse through the possibilities. Or you may type in a topic or business name. You can reduce the search time by clicking on Search Only in Business and Economy. If you want specific information on your industry or if you want to find out which, if any, of your competitors is online, type in a specific query. If you just want an overview of what's available, I suggest doing a little browsing through the topics listed on screen.

I often start my searches with Yahoo! because it lets me drill down topic by topic, but will automatically send my search request to the Alta Vista directory if it's not found in the Yahoo! database. This gives me another set of options. If you suddenly find yourself at Alta Vista's Web site, that's what happened to you. After you've done a little poking around, return to Netscape NetSearch.

Digging Out of the Info Avalanche

Searches are often time-consuming and frustrating—not because there's little or no information available but because there's too much information available. A query for information on the Internet, for example, may get you millions of links. You couldn't get through all of them during your lifetime, let alone in the few minutes you've allotted to it from your already hectic schedule. Most search engines offer tips and other options to help you improve your results. I recommend you take the time to read them. It will save you time over the long haul.

Meanwhile, I'm going to introduce you to the Infoseek directory, or search engine, which lists its results in order of relevance to the search topic as opposed to listing the results alphabetically within a given category like Yahoo! does. At NetSearch, click on Infoseek and I'll show you how it works.

The drums are beating louder for regulating the Internet, so let's see what information we can find about that. In the Seek dialog box, type: Internet regulation and click on Seek. A new page will appear on screen. If there's a match, links to the relevant Web site(s) will be in hypertext, the blue underlined text on which you can click your mouse to view the Web page to which it is linked. If there is no match, you'll be told "No Results Found."

I don't know about you, but I was presented with more than 1.5 million links. This is much too many to be useful. To get the most out of a search, the list needs to be narrowed down to a number that can be managed within a reasonable amount of time. And keep in mind that once you go to one of the
sites on the list, it’s likely you’ll be presented with a new range of options from which to choose.

There are a few tricks you can use to increase the precision of your search. One is the use of the + symbol to restrict the results to pages that contain two or more words. For example, do another search, but this time type: Internet+regulation, including the + symbol. This should reduce the list to less than 100,000. But it’s still far too many to be useful.

**Narrowing Your Search**

What I like the most about Infoseek is that it allows you to narrow your search to a few useful links very quickly. With your search results still on screen, you have a number of options. You can enter another key word, limiting the new search to the results of the previous search rather than looking through the entire Infoseek database again. You also can choose from related topics and news items that the search engine identified. See Figure 4-4.

![Figure 4-4: The Infoseek directory, or search engine, gives you several search options. It will also suggest related topics after you’ve completed a search.](image-url)
To further reduce the number of links, type: government and click on Search These Results. This whacks the list down to a few thousand. Repeat the process, this time typing Congress. If this doesn’t give you a few useful links in the top 20, keep narrowing the focus with such words as legislation, laws, privacy, copyright, pornography, or encryption. If the list becomes too short, or you receive no results, simply click on the Back button, change the word, and try again.

I also recommend reading the section on How to Search. You get to it by clicking on Help in the upper right corner. This will explain additional syntax options you can use depending on the type of information you’re seeking.

Don’t limit your searches to Infoseek and Yahoo! There are other good directories available. Here are a handful you should consider:

- Alta Vista (http://altavista.digital.com)
- Excite (www.excite.com)
- Hotbot (www.hotbot.com)
- LinkStar Business Directory (www.linkstar.com)
- Lycos (www.lycos.com)
- Open Text (http://index.opentext.net)
- Starting Point (www.stpt.com)
- WhoWhere? (www.whowhere.com)

**Tip**

Not all directories are created equal. Because each one has unique methods for gathering and indexing information, identical queries often will get you very different results. If you’re making serious queries, use several of the directories so you increase the odds of bringing to light the full spectrum of information available online for a given topic.
Blaze a Trail With Bookmarks

If you find a valuable Web site and want to come back to it later, you certainly don’t want to go through this laborious process again. This is made easy by using Communicator’s Bookmarks component. This is a file that Communicator creates on your computer so you can return quickly to the Web sites you find most useful. Here’s how it works:

1. From the search results page, click on any link you find interesting.
2. Once the page has stopped loading (the stars in the Netscape logo stop falling), click on Bookmarks Quickfile next to the Location dialog box to open the Bookmarks menu.
3. Choose Add Bookmark at the top of the list and—voila!—you have a bookmark.
4. Return to the Bookmarks menu. You’ll see that your new bookmark has been added to your list. You now can return to that Web site with a click of your mouse.

While you’re at it, select Go \Infoseek to return to the Infoseek home page. Once there, make a bookmark.

Tip

Keyboard shortcut: You can press Ctrl/Cmd+D to add a bookmark.
If you’re using an earlier version of Netscape Navigator or a Brand X browser, the Bookmarks component works much the same as the one in Communicator.
However, in some browsers, bookmarks are known as favorites.

Organize Your Bookmarks

Your bookmark file is the equivalent of a filing cabinet. Although it’s useful to place items in the drawers, if they’re not organized into labeled folders (shown in Figure 4-5), it quickly becomes the same as a chaotic stack of papers on the corner of your desk.
Figure 4-5: Placing your bookmarks into folders will make it a snap to find them later.

From the Bookmarks menu, choose Edit Bookmarks or use the keyboard shortcut Ctrl/Cmd+B. This opens the Bookmarks window and displays all your bookmarks. Here you can create folders for specific topics and arrange them alphabetically. You also can create subfolders. The more specific you are, the better. This will help you find that critical bookmark two months from now when its name has become a fading memory.

**File Your Bookmarks**

Once you get a number of folders, you'll find it more convenient to file a new bookmark directly into a folder, rather than adding it to the bottom of your list and then moving it later. To file a bookmark at the time you create it, choose File Bookmark from the Bookmarks menu, then select the designated folder.

**Desktop Organization**

When I'm surfing the Web, I like to have my bookmarks handy. I have my monitor screen resolution set to 1024x768 pixels and have Communicator sized so that it takes up about two-thirds of the width. (See your system instructions on how to change your screen resolution.) I then size the Bookmarks window so that it fits in the remaining one-third.
Personal Toolbar

Communicator gives you the further option of creating a personal toolbar, where you can put links to your most frequently visited Web sites right in front of you. Right now your Personal Toolbar is probably blank, just a narrow gray section between the Bookmarks/Location toolbar and the Navigator window. To add links to the Personal toolbar:

1. Open the Bookmarks window (Ctrl/Cmd+B).
2. Click on a bookmark and drag it to the toolbar.
3. Repeat the process to add more. Depending on how you have your computer desktop organized, you can have eight to 12 bookmarks visible on the Personal Toolbar.

Tip:
If you added bookmarks to your list with the Bookmarks window open, save your bookmarks by closing the Bookmarks window before closing Communicator, otherwise you may lose the bookmarks you just spent so much time tracking down.

Exploring the Usenet Universe

We’ve been searching the Web for information, but you will recall there’s a whole other universe out there—the Usenet—which is somewhat of a cross between bulletin boards at college student union buildings, advice columns, and letters to the editor. If you want to see what people are saying about a particular topic (including your company or industry) or are looking for feedback on some matter—or want to voice your own opinion and broadcast it to the world—this is the place to go.

The Usenet consists of tens of thousands of discussions groups, which on the Net are known as newsgroups. Here’s how to get started exploring these discussion groups:

1. Return to the Alta Vista main page using your Go button. You have the option of searching the Web or the Usenet.
2. Click on Search.
3. Choose Usenet.
4. If you still have your search string in the text entry box, submit your query. If not, you’ll have to re-enter it or type something new.
The Communicator Component Bar

Netscape Communicator has four basic components, or interfaces, which allow you to browse the Web, send and receive e-mail, participate in discussion groups, and compose Web pages. You can access any of these components at any time using the component bar (shown in Figure 4-6), which resides in the lower right corner of any Communicator window, or it can float independently on your desktop. To float the component bar on the desktop, click on the textured portion at its left end. To remove it from the desktop, click on the X in the upper right corner.

![Component Bar Diagram]

Figure 4-6: The Communicator component bar resides in the lower-right corner of any Communicator window, or it can float independently on your desktop.

Using the Usenet

Your query will give you several columns of data referencing the messages (often called articles) that have been submitted to various discussion groups. The first column is the date of the message, the second column is the name of the discussion group, the third is the e-mail address of the message author, and the final column is the subject of the message. You read the message by clicking on the subject.

Note: You are not actually on the Usenet yet. You’re still on the Web, where Usenet messages can be displayed as a Web page. We’ll actually go to the Usenet in a moment. But first, click on a message that looks promising. Once it’s open, you can read the message. You also will see, among other things, who wrote it and to what discussion group or groups the message was sent. People often send, or post, messages to multiple discussion groups.

If you want to respond directly to the author of the message, notice that the author’s e-mail address is formatted as hypertext. Clicking on the e-mail address opens the New Message window, where you can compose a message and send it directly to the author.
Chapter 4: Exploring Cyberspace

The name of the discussion group is also formatted as hypertext. If you click on it, Communicator's Collabra Discussion Group window opens (shown in Figure 4-7), with the current messages in that discussion group listed by subject in the upper frame. Clicking on a subject will display the message in the lower frame.

![Figure 4-7: The Netscape Discussion Group interface.](image)

Discussion group messages are often threaded, or strung together, so you can follow the interchange between two or more people. To view these threads, click on the small thread messages icon to the left of the Subject bar. (It has a series of horizontal black lines.) A message with a small icon and the plus symbol (+) next to it have threaded replies. You have several options for viewing and sorting the messages:

- Expand the thread by clicking on the icon or the + symbol, which becomes a minus symbol (-).
- Collapse the list by clicking on the - symbol or the Subject bar.
- Click on the Subject bar to sort the messages alphabetically by subject.
- Sort the messages by Sender, Date, or Priority, by clicking on their respective identification bars.
Drop in on a Discussion Group

By retrieving the information you have before you, you just joined, or subscribed to, that discussion group. It was painless, and, best of all, it’s free. And don’t worry, you won’t be getting any pesky renewal notices in the mail. All you’re really done is created a type of bookmark that let’s you easily retrieve new messages in the future.

The name of the group appears in the window immediately above the Subject column. Clicking on the down arrow will display the names of all the groups to which you’ve subscribed. In a later session, you can return to this or another discussion group by simply displaying your subscription list and selecting one of the groups on the list.

Note that the navigation toolbar for the Discussion Group interface is different from Communicator’s navigation toolbar. These new options allow you to send replies directly to the author, to the discussion group, or to both. You can forward the message to someone else, save it in a file for future reference, or print it. You also can create a new message and send it to the discussion group.

Discussion groups are one of the primary means of exchanging information, voicing opinions, and asking questions on the Net. Obviously, this can become a very valuable tool for you and your business.

Subscribe to a Discussion Group

If you read about a discussion group in a newspaper or magazine article and want to check it out, you begin in the Communicator Message Center:

1. Either minimize or close the Discussion Group window.
2. Click on the Communicator menu.
3. Choose Message Center (it’s in the lower half of the menu). You can also open the Message Center by clicking on the discussion groups icon on the component bar. In the Message Center, you will see two primary action areas: Local Mail, and the name of your discussion group server, something along the lines of “news-server.” (Each Internet service provider (ISP) gives it its own name.)
4. Expand the list of discussion groups by clicking on the + sign adjacent to the server name. You probably have only the one group you just visited.
5. Click on Subscribe on the toolbar. This loads the names of all the discussion groups to which your ISP provides access. This will take a minute or two, because there are more than 40,000 newsgroups in existence, although it’s unlikely your ISP provides access to all of them.
You should now have the Subscribe to Discussion Groups panel open, with the groups listed alphanumerically. Here’s how to subscribe to a specific discussion group:

6. In the Discussion Group dialog box, type the name of the group to which you want to subscribe. If it’s on the list, it will appear in the window below. If it’s not on the list, it may not be available through your service provider.

7. Click in the check box to the right of the group name. A checkmark will appear.

8. Click on OK.

The discussion group has been added to your subscription list. To read the current messages in that group, simply double-click on the name. This will open the Discussion Group interface and display the message headers. If there are a large number of messages, you may be prompted for input on how many messages you want to receive. If so, either choose to read all the messages or specify a number of them. If you run across a discussion group in which you are interested but to which your ISP does not provide access, contact customer service at your ISP and request that it be added.

**Search for a Discussion Group**

If you want to find discussion groups that address a specific topic, return to the Message Center window and click on Subscribe again. Once the list of available discussion groups appears in the Discussion Groups window:

1. Click on the Search for a Group tab.

2. Type a word in the Search For dialog box, for example, the word *business*.

3. Click on Search Now. You should get you several dozen groups, with subject matter ranging from general business topics such as insurance or import-export to very specific industries or companies.

4. Subscribe to a group or groups by clicking in the check box to the right of the discussion group name.

5. Click on OK when your selections are complete.

As an alternative, repeat the process, but type *biz* as your search word. This will give you more business-related discussion groups from which to choose. Entering the search term *marketing* will give you several additional options.
To fully grasp the breadth of discussion group topics, begin scrolling through the list in the Discussion Groups dialog box. But be forewarned: There are tens of thousands of discussion groups, so it's somewhat of an academic exercise and probably a waste of your time. Your best bet is to stick to the search routine to pare down the list and then scroll down to view your options.

Caveat Emptor

Many discussion groups, particularly the marketing groups, are saturated with promotions for multilevel or network marketing schemes promising untold riches if you JOIN NOW!!!! Look for the term “moderated” at the end of the discussion group name. A moderator often will weed out the off-topic messages.

Also, note that it's relatively easy to set up an alt newsgroup, since the approval process is very loosely governed. However, creating a newsgroup in the comp, humanities, misc, news, rec, sci, soc, or talk genre requires submitting a proposal to news.announce.newgroups, then soliciting votes from those Usenet readers who have an opinion on the proposed group. The process can take up to three months. Whether or not such groups have more credibility than alt groups as a result of the more stringent approval process is another matter.

To save you the trouble of wading through the muck to find useful ones, here are a couple of marketing-oriented discussion groups that actually may have an intelligent dialog regarding relevant issues (see the Business Resources list on the Companion CD-ROM for more):

- misc.business.marketing.moderated
- biz.marketplace.international.discussion

To unsubscribe from a discussion group, simply:

1. Highlight the discussion group name.
2. Press Delete on your keyboard.
3. You will be asked if you really want to do this. Click on Yes.

You can also unsubscribe using the Discussion Groups dialog box and reversing the subscription process.
Hear Ye, Hear Ye: ClariNews

Not all discussion groups have free subscriptions. ClariNet Communications Corporation, an online news organization, sponsors several groups which provide news coverage on a variety of topics. The cost ranges from 15 cents to $1 a day, depending on how many people have access to the information through your subscription. The news bulletins are from Reuters and/or UPI. ClariNet offers two free news feeds to give you a taste of what you get in the fee-based offerings:

- biz.clarinet.sample
- biz.clarinet.web.sample

Deja News

Although most of the Internet directories allow you to search discussion group archives as well as an index of Web sites, there is a search engine devoted entirely to discussion groups. It’s called Deja News (shown in Figure 4-8). You can get there from the hotlist on the Companion CD-ROM or by simply typing http://www.dejanews.com/ into Communicator’s Location dialog box.

Figure 4-8: Deja News is a search engine devoted entirely to the Usenet discussion groups.
Here you can do a search of the tens of thousands of discussion groups. Deja News is helpful in that it has a special section for new users. You get there by clicking on New Users! on the navigation bar. But first, bookmark Deja News. You’ll be coming back here, for sure.

Let’s search for information on paints and environmental issues. Type paint environmental regulation in the query text box. This will get you several references, which you can investigate. You never know where one of these paths will lead you. As with Alta Vista, you can narrow your search with the syntax paint "environmental regulation," but do not use the + symbol.

**Browse Deja News**

Deja News also helps you browse newsgroups. At the Deja News home page, click on the Features icon. In the top section of the next page, click on Newsgroup Browsing.

This will give you a list of the various categories of discussion groups and their basic orientation. For example, those that begin with “biz” relate to business issues; the “comp” groups focus on computers; the “rec” groups are oriented toward recreational activities and hobbies; “sci” is for science; and those in the “soc” domain revolve around social and cultural issues.

Click on biz, and you’ll see a couple of dozen discussion groups, some with several branches that represent spin-off groups. From here, you can easily spend a couple of hours looking around.

You’ve probably noticed that Deja News is self-contained and doesn’t require you to use the Communicator Discussion Group interface. This is useful for those with older, less functional Web browsers or for those who don’t have news reader software of some kind. But the beauty of the Communicator interface is that it allows you to develop a hotlist of discussion groups you can get to very quickly without having to use the Web at all. The advantage of Deja News is that if your ISP doesn’t provide access to a particular discussion group, you can probably find it in the Deja News directory.

**Lurking in the Cybershadows**

While not everyone agrees with me, I encourage people to eavesdrop on a discussion group before sending any messages, unless you need information about the group. You should read the group’s FAQ, a list of frequently asked questions, so you know what the group is about and what its policies are. If it’s not clear where to obtain the FAQ, send a message asking where you can get it. Someone will send it to you or give you a Uniform Resource Locator (URL) where you can find it online.
Once you've read the FAQ and browsed through some of the messages, you'll get a feel for what the group is about and whether you have any interest in it. At that point, go ahead and begin responding to the comments of others, answering some questions, or submitting a few questions or comments of your own. There are also some forums especially for newbies:

- news.newusers.questions, for questions about Usenet News.
- alt.test or misc.test, for test postings.
- news.announce.newusers, for hints and rules ("Netiquette").

**Etiquette & Netiquette**

Although the Net is often viewed as a chaotic, even anarchic, world, the Netizens have developed rules of etiquette that loosely govern the manner in which people communicate, to encourage civilized discourse. These rules are collectively known as *Netiquette*. Netiquette generally applies to all online messages, whether they are sent to discussion groups or as e-mail.

Not everyone adheres to Netiquette, however. Stories about the name-calling and the rude and crude rantings of one Netizen to another are the stuff of legend. Discussion group messages and the comments made on Internet Relay Chat (IRC) channels are notorious for their inflammatory verbiage.

Here are the basics of Netiquette, the essence of which is "be polite, please":

- Do not use **ALL CAPITAL LETTERS** unless they're used sparingly for emphasis. The use of all capital letters, while convenient when typing, is considered SHOUTING! and "in your face." Persistent use of all caps is likely to get you flamed (see the third item in this list). Besides, they're hard to read.

- Use emoticons or some other indication of tone of voice in informal communications (but not business correspondence). The intent of a comment meant to be humorous or a joke can be misinterpreted as a personal attack without the accompanying tone of voice and facial expressions we use in face-to-face situations, even over the telephone. To help communicate the intent of a comment, or the associated emotion, a system of symbols has evolved. These are known as *emoticons*, or *smileys*. The most common one is :-) If you tilt your head to the left, you will see a smiling face. Another is ;-), which is a wink. Sadness is indicated by :-(. An online emoticon reference guide can be found on a Web page assembled by Emoticon Limited: http://wwws.enterprise.net/fortknox/emoticon/smiley.html.
Don’t flame others. The term flame is short for inflame or inflammatory and refers to name-calling, abusive language, derogatory comments, and personal attacks. If you persistently use ALL CAPS, for example, you’re likely to get flamed and be called any number of uncomplimentary names. Another term for flaming is flame-throwing.

Don’t spam others. Spam is a reference to flooding discussion groups and mailing lists with an identical message—typically an advertisement, get-rich-quick-scheme, or political statement—that has nothing to do with the topic at hand. Spam also refers to mass mailings to individuals, or electronic “junk mail.” (Internet legend has it that the term spam came from a Monty Python skit in which a restaurant included SPAM with every item on the menu.) Some marketers use the technique to achieve wide distribution of their marketing message, just as they use surface mail for a direct-mail campaign. This can result in a backlash, with so-called “mail bombs” being sent to the sender or the sender’s service provider, which can shut down not only the sender’s e-mail system, but also the provider’s network if the attack is sufficiently large. It also has been the subject of FTC hearings and proposed regulation of direct-mail campaigns on the Net. This will be discussed in depth in Chapter 14, “Hello, World.”

When replying to a message, quote only what’s necessary to put your comments in context or to remind the sender what he or she said in the original message.

Sign your messages. It’s considered bad form to send a message without identifying yourself, particularly if you are criticizing someone or debating a point of view, unless you believe anonymity is necessary to protect your well-being.

Use abbreviations sparingly, unless you know the group’s subscribers are familiar with them. IMHO (in my humble opinion) is a common one, and often used to temper a contrary opinion. BTW (by the way) is another short form that is used often. RTFM means, in polite circles, read the fine manual.

Don’t reply with a simple “Thanks.” Say something meaningful or say nothing unless you need to explicitly acknowledge receipt of the message.

You can read more about Netiquette online at: http://home.netscape.com/menu/netet/news2.html#netiquette.
Mailing Lists

Another potentially valuable resource in the Net arena is a mailing list. As I said earlier, this type of mailing list is similar to but not necessarily the same as a conventional direct-mail list used for marketing and advertising.

This type of mailing list is another form of a discussion group, but instead of posting messages within the Usenet, where people must take the initiative to download them, the messages are sent directly to every subscriber on the list via e-mail. Some mailing lists are very active—a dozen or more messages a day—so if you don’t stay on top of it, your mailbox and/or hard drive may fill quickly with unread mail. In other words, be selective. I don’t recommend subscribing to more than two or three mailing lists at a time.

Mailing lists often are used for small groups or very narrow topics. For example, a mailing list may be started by those using a software program to ask questions and give feedback to one another about this specific topic.

Alternatively, some companies and organizations offer mailing lists to alert people with product news and announcements and Web site updates. These are generally one-way communications but, used judiciously, can be a powerful marketing tool. Many online publications—including the Los Angeles Times, Wall Street Journal, ClariNet Communications Corporation, and ZDNet—offer this feature. This will be discussed in depth in Chapter 16, “Update, Upgrade & Promote.”

Tip

You may hear the term listserv used by Net veterans. Generally, they are referring to a mailing list. The term is a derivative of list server and is also the name of a software program, Listserv, which is one of the more popular programs used for setting up and managing mailing lists.

Subscribe to a Mailing List

Subscribing to a mailing list is typically as simple as sending a message to the list’s mail server with the word subscribe and the list’s e-mail address in the message body. You unsubscribe using the same process. Some lists make it even easier; you can subscribe online using a form. For example, let’s visit the Online Advertising Discussion List:

1. Type: http://www.o-a.com/ into Communicator’s Location dialog box.
2. Press Enter/Return.
3. When the form appears on the screen, enter your e-mail address.
4. Click on the Subscribe button.

I recommend subscribing, if for no other reason than gaining some first-hand experience with the process. But it could also be of real value to you, broadening your network of business contacts and information exchange.

The focus of the discussion is online advertising strategies, results, studies, tools, and media coverage. The list also welcomes discussion on the related topics of online promotion and public relations.

**TIP**

The better mailing lists, including the Online Advertising Discussion List, give you the option of subscribing to the list in digest form, which limits the number of messages you'll receive on a given day.

To identify other useful mailing lists, the Internet Resources Database (IRD) has a list of lists that you can download and view offline. This is available at http://www.internetdatabase.com/maillist.htmBusiness Resources.

As you are discovering, the Web is now home to many business resources, organizations, and services. These include the Federal Trade Commission, U.S. Chamber of Commerce, Electronic Frontier Foundation, CommerceNet, National Small Business United, International Small Business Consortium, Small Business Advisor, the National Association for the Self-Employed, American Institute of Small Business, Home Office Association of America, and the Small Business Administration, as well as a number of Web-based directories with links to even more resources.

Links to these and other business-oriented Web sites are included in the Companion CD-ROM. Loading the Business Resources page in your Navigator window and clicking on any of the many links will take you directly to these sites. (After you log on to the Net, of course!)
Moving On

Whew! You probably feel a little bit like a modern-day Lewis or Clark after all this wandering through the cyberwilderness. This tour was to get you oriented and armed with a few road maps so you can continue your trip down the Information Superhighway and explore cyberspace on your own. The more familiar you are with the medium and the culture of the Net, the more successful your online business venture is likely to be.

The tour also no doubt got you thinking about all the possibilities for using the Net to promote and grow your own business. That's what this book is all about. The specific things you can do are discussed in the following chapters.

But before you get too carried away with visions of becoming the Net's next robber baron, I'll give you a reality check. In Chapter 5, "Separate Fact From Fantasy," I examine the hype surrounding the Net—of which you got a little taste in some of the discussion groups you peeked at—and what the realities are. I will separate fact from fantasy so you can make informed decisions on how to best position your business on the electronic frontier.
If you can’t separate fact from fantasy, the hype from the reality, you can’t set realistic goals for achieving success in an online venture. Yet, for myriad reasons, even otherwise-astute business people succumb to the fantasy that the Internet is the new Land of Milk and Honey, that electronic real estate is there for the taking, and with millions of consumers online, how could you lose?

The fact remains, however, that many Net-based businesses have failed outright, and others have failed to live up to the expectations of their operators, in part because they were panning fool’s gold.

In this chapter, I show you how to distinguish the hype from the reality, so you can develop realistic expectations, goals, and objectives. Otherwise, staking a claim in cyberspace will be disappointing at best and could be devastating financially in a worst-case scenario.

The Hype

You’ve heard the trumpeting about the millions of affluent consumers online (and doubling every 12 months), money burning holes in their collective pockets, just waiting for you to open up your cybershop and offer a full line of gadgets at deep discounts because the cost of doing business on the Net is so much less than the costs in the physical world of bricks and mortar. Some hypemeisters pegged the Internet population as high as 100 million late in 1996. Why, by the time you’re reading this, the Net’s population must be 200 million at least!
Don't believe it. At least not all of it. It must be tempered with a dose of reality. Millions on line? You bet. But 100 million in 1996? I don't think so. A growth rate of 100 percent a year? By some measures, but not in the United States. The highest growth of the Internet is in Europe and the Asia-Pacific region.

Yes, millions of new users, or newbies, are logging on to the Net each year. But millions also are logging off after giving it a look-see. But you probably didn't see that in any headlines or promotional literature, did you?

Businesses also are flocking to the Net. It seems as though every television commercial nowadays includes a Web Uniform Resource Locator (URL) for the company. But by the end of 1996 only about 300,000 (or 4.2 percent) of the seven million small businesses in the United States had set up electronic storefronts on the Web, according to Access Media International Inc., a New York research firm. However, that number is expected to double by the end of 1997.

Part of the problem is one of perception, or misperception. The Internet visionaries predict a wired world in which computer-driven appliances become a part of our everyday online lives: Our telephone becomes an e-mail terminal, we order groceries or pizza by pointing an infrared wand at our PC/TV, we monitor and adjust the environmental conditions and utilities within our homes from afar when out of town. The underlying message is, "Soon, we will all lead better, more productive, more satisfying lives." Yes, one fine day. But you also must read between the lines: This is not necessarily happening tomorrow, or the next day, or the one after that.

Some of what the visionaries have been saying is already coming to pass; some of it never will. The critical aspect to keep in mind is that these Internet visionaries—the Vincent Cerfs, the Jim Clarks, the Marc Andreessens, the Andy Groves, the Gordon Moores, the Scott McNeals of the world—are projecting two, three, five, and 10 years down the Information Superdirttrack. But this often gets lost in the breathless pitch about how the Net is transforming our lives—and the need to sell products and services to remain in business in the interim. From a historical perspective, change in the Information Age is happening very quickly. But it's not happening overnight.
Yes, the Spring ’97 CommerceNet/Nielsen Media Demographic and Electronic Commerce Study concluded that there is “vigorous growth in the number of people . . . using the Internet and World Wide Web.” But the anticipated flood of electronic commerce is still a ways off.

Concern over security issues poses the biggest roadblock to electronic commerce. Businesses and consumers alike are afraid, and rightly so, that financial transactions and account information will be looted by pirates sailing the cyberseas. Although maybe not for the reasons you expect. As a boomtown, Internet commerce suffers from boomtown ills. Lured by the fantasy of riches, unprofessionally operated sites take credit cards while lax security leaves them exposed, which leads to stories about credit card theft.

Randall Whiting, president and chief executive officer of CommerceNet, summed it up this way: “Our survey pinpoints a number of challenges and opportunities for businesses as they propel the Internet from a simple communications medium to a viable platform for consumer shopping and purchasing. While the numbers confirm that the Internet has become an established shopping vehicle, clearly changes in technology, product offerings and perceptions are needed before most people will want to buy online.”

Get Rich, Quick!

Meanwhile, there are those who are out to make a quick buck by hurrying up the process. You’ve probably seen or heard them. Beyond the predictable overstatements of the new, exciting, adrenaline-pumping phenom known as the Net are the superlative-laden television infomercials, radio commercials, books, seminars, and magazine and newspaper ads—not to mention Web sites—touting the Net as the latest, greatest place to make your fortune without lifting a finger. In virtually all cases, they’re also selling you something—anything from a gold-plated business plan to an instant Web site to an overpriced computer.

You’ll hear claims that those who discover the power of the Internet are making tens of thousands of dollars per week. Hmmm. If I knew I could make that kind of money on the Internet, why would I want to share this secret with you? And where would I get the time? Any time I wasn’t online, I’d be standing in line at my bank with another wheelbarrow filled with cash.

Yet, such pitches fill hotel meeting rooms, and people are paying anywhere from $1,500 to $3,000 to join these programs. (Now we know who’s making the tens of thousands of dollars a week.)

Or consider this pitch: You don’t need an office, you don’t need a desk, you don’t need stationery, you don’t need business cards—you don’t even need to own a computer!
Now, I ask you, how are you going to do business on the Net without a computer? If I understand the process correctly, you are dependent upon someone else doing the technical work for you, of putting you online. Which in and of itself is not a bad thing. But how are you going to be able to verify the work was ever done?

Question: Even assuming everything is aboveboard and the work is done, how are you going to get your orders? (It was never clear to me what I'd be selling, either.) How are you going to answer e-mail queries without a computer? How are you going to stay in touch with your newfound online customers without a computer?

Answer: You're not.

Does that sound like the foundation of a successful business model? Not to me.

The next time you run across a testimonial-laden promotion that promises overnight success on the Net, consider the source: Are the pitchmen making the bold claims about how you can strike it rich in the gold fields of cyberspace also selling tickets to the boat that will take you there? If so, keep your hand on your wallet.

The Reality

Please, don't get me wrong. I believe in the promise of the Internet as a platform for successful business enterprise. If I didn't, I wouldn't have left a perfectly good job with a regular paycheck to join the wagon train headed for the Promised Land way back in 1994.

I have participated in successful online ventures—and some not-so-successful ones—and I am aware of many Internet success stories. But very few are striking it rich, and there have been plenty of high-profile ventures that started with a big splash but which quietly closed their doors a short time later.

The Internet shopping mall phenomenon is a good example. While the concept of the shopping mall has taken over retailing in the physical world in this country, malls have been lackluster at best in cyberspace. IBM, for instance, threw in the towel and closed its World Avenue mall as I was writing this chapter. It wasn't the first and surely won't be the last.
Put it in Perspective

Before you get visions of sugarplums dancing in your head, bite into the bluster with a large dose of salt. My daddy always said, "If it sounds too good to be true, it probably is." That sage advice applies equally to the snake oil being packaged as "can't fail" Internet opportunities.

While it's true there are millions of people online, that must be put in perspective:

- What percentage of the overall population is online?
- Who are these people who are online?
- Why are these people online?
- What do these people want while they're online?

Recall that during the California Gold Rush few of the 49ers struck it rich. The ones that made the money were the ones selling the picks and shovels—and in the case of Levi Strauss, clothing—to the miners. Much the same applies to cyberspace today—although this is changing and will continue to change. Just as California ultimately assimilated all facets of our society (and initiated a few of its own), the virtual world is becoming a reflection of the physical world. But it ain't there yet. Yes, technology is advancing at a head-spinning rate, but the acculturation process, the human adaptation to this new frontier, takes longer. Meanwhile, hedge your bets.

Roll Call

At this writing, the latest "census" revealed an estimated 57 million people using the Internet worldwide—this according to John Quarterman, the original Net head counter, who released this figure in February 1997. Just prior to that, I had seen figures as high as 100 million quoted—without attribution—in respected newspapers. While at first glance even 57 million seems like a lot of cybernauts, what does it really mean? Does it mean there are 57 million Americans surfing the Web every day looking for gadgets to buy? Not even close.

Let's put it in perspective. Remember, the Internet is an amorphous, global network of computer networks, public as well as private. Remember, too, that the Internet includes a vast e-mail system, as well as the Web. The 57-million figure represents the people worldwide who use e-mail but who may have no access to the Web, or even if they do, may rarely, if ever, venture into that realm. Assuming that roughly 70 percent of all Net users are in the United States, that translates to 40 million Americans, by Quarterman's count, who use the Net.
When we narrow it to just the use of the Web in the United States, which is where the bulk of electronic commerce is taking place, the 57-million figure gets whacked almost in half, by one measure. And when you consider just those who use the Web regularly, we’re down to about 20 million in the United States, according to one survey released in May 1992. That’s the starting point you need to keep in mind when calculating the size of your online market.

Yep, that’s still a lot of people. But it’s only a little more than 10 percent of the people over the age of 16 in the United States. Why the wide range of numbers? It’s due, in part, to some folks—either consciously or unconsciously—interchanging inflated figures for the Net as a whole with the data that pertain only to the Web. The numbers are not interchangeable.

For example, all America Online subscribers have access to the Web. However, a significant percentage never venture beyond the familiarity and handholding of the AOL cocoon. When you add CompuServe, Prodigy, and other online services, as well as the millions behind corporate, government, and military firewalls, the number balloons. But it’s tempting, when it’s in one’s self-interest, to use the largest figure available, whether it’s accurate or not.

Counting Heads

Where do these numbers come from? A variety of sources. More and better demographic information on the Net has become available, and as more businesses and advertisers use the Net, the data will only get more accurate.

The sources that, IMHO (in my humble opinion) offer the most reliable data include:

- Business Week/Harris Poll Internet Survey (http://www.businessweek.com/)
- CommerceNet/Nielsen Internet Demographics Survey (http://www.nielsenmedia.com/)
- FIND/SVP American Internet User Survey (http://etrg.findsvp.com)
- Graphic, Visualization & Usability Center WWW User Survey (http://www.cc.gatech.edu/gvu/user_surveys/)
- Matrix Information and Directory Services (http://www.mids.org/)
- Price Waterhouse Consumer Technology Survey (http://www.pw.com/us/2d96.htm)

Links to these and other sources of demographic information are included in the Business Resources links page on this book’s Companion CD-ROM. The report by the Georgia Tech Research Corp./Graphic, Visualization & Usability Center (GVU) is free and available online, and the Business Week survey was
published in the May 5, 1997, edition, which is also online. The other Net surveyors charge for their full reports, but you can obtain overviews, press releases, and ordering information online.

**Internet Demographics**

The user surveys by the organizations listed in the previous section have helped clarify the demography of the Net and the Web. The results of these surveys are not always in agreement, however, so it's best to consider them together, then give more weight to one or another depending on which ones you have the most confidence in.

As I said, the 57-million figure is from John Quarterman, who heads Matrix Information and Directory Services (MIDS) in Austin, Texas. Quarterman is considered by many to be the guru of Internet head counters, if for no other reason than the fact that he's been at it the longest. He gets his estimates from counting the number of computers that form the Internet infrastructure, then multiplying by his best guess of the number of people each computer serves (see Figure 5-2).

![Figure 5-2: Internet users (millions). (Source: MIDS)](image-url)
However, in some circles his estimates are considered quite conservative (i.e., low). But when your hard-earned capital is at stake, it doesn’t hurt to take a somewhat conservative approach. And regardless of how you feel about his estimates, they are a benchmark against which the other figures are compared.

The danger of overstated numbers is the impact they have on expectation management. If the base numbers are elevated, then the calculations for market yield and projected revenue will be exponentially out of whack, leading to unwarranted financial risk.

**Playing the Numbers Game**

The FIND/SVP 1997 American Internet User Survey entitled “Realities Beyond the Hype,” found that 40.6 million people in the United States used the Net during the preceding 12 months. This is in line with Quarterman’s figure.

What’s more revealing, however, is that the FIND/SVP survey concluded that 3.6 million of these people use only e-mail or restrict their usage to commercial online services such as America Online and CompuServe. In addition, FIND/SVP reported that 9.3 million others had tried the Net during the previous 12 months but no longer considered themselves current users (see Figure 5-3).

![Figure 5-3: More than nine million Americans have given the Net a look-see but no longer consider themselves current users. (American Internet User Survey—MAY 1997. Source: FIND/SVP)](image-url)
By the FIND/SVP count, that leaves 31.3 million current Web users in the United States, an increase of roughly nine million from 1996. But of that number, only about 20 million, or two-thirds, considered the Web "indispensable."

The CommerceNet/Nielsen Study, released in April 1997, had slightly higher numbers, although the figures included Canada. Of the 220 million people over the age of 16 in the United States and Canada, the study found that 23 percent, or 50.6 million, are using the Internet, and 17 percent, or 37.4 million, use the Web. These numbers are higher than Quarterman's, even taking additional growth into consideration.

The Business Week/Harris Poll survey, released in May 1997, had the rosiest figures, citing 40 million Web users in the United States, double the figure from September 1995. However, unlike the FIND/SVP study, the survey made no distinction between regular users and casual users. Still, 40 million is a far cry from the 100 million figure some people have used to hype the growth and popularity of the Net.

The 1997 Price Waterhouse Consumer Technology Survey, released in June, found that 25 percent of U.S. households have access to the Internet. Interestingly, 46 percent of those surveyed said they would never get Internet access, but three out of four of them were age 35 and over.

Web User Profile

Who is the prototypical Netizen? He is white, 35 years old, college educated, married, and has a household income of $58,000 a year (see Figure 5-4). This is the profile developed from the seventh user survey conducted by GVU, in association with Georgia Tech University and endorsed by the World Wide Web Consortium (W3C).

The first GVU survey was conducted in January 1994; the current one was done during March and April 1997. The survey was conducted online, which is considered less reliable than surveys conducted by random telephone calls, but the findings fell within the margin of error of the FIND/SVP survey.

The Business Week/Harris Poll survey came up with a similar profile. In terms of age, the largest group (26 percent) were baby boomers, aged 40 to 49, with 45 percent of those surveyed over the age of 40. Forty-two percent reported annual household incomes of $50,000 or more.

In the GVU, FIND/SVP, and Business Week surveys, men continued to outnumber women, but the gap had narrowed. However, the Business Week poll showed a significantly higher percentage of women online: 41 percent compared to the GVU's 33 percent and the FIND/SVP's 36 percent.
By anybody's measure, the majority of those online are Caucasian/white, with the range varying from 85 to 89 percent. There is also agreement on what the people do while online; the broadest use of the Internet as a whole is for the exchange of e-mail.

In terms of the Web, however, most people are looking for information, primarily for research and education. They're also seeking news; entertainment, except for the under-30 crowd, is low on the list. Communicating by e-mail is by far the preference when it comes to interacting with others, as opposed to using chat groups, online conferences, or forums.

In the Business Week poll, only one percent said they shop often while online, and 64 percent said they never shop online. Only a small percentage have actually purchased anything online; the figure is from 15 to 27 percent, depending on whose numbers you choose to believe.

And Internet advertising? In terms of overall spending, it's not even a blip on the radar screen. Total U.S. advertising revenue was predicted to reach $186 billion in 1997, according to the McCann-Erickson Worldwide Advertising Outlook Report 1997 Midyear Update. But Internet advertising, estimated at $300 million to $500 million for 1997, is still so comparatively minuscule it doesn't even rate a category of its own.

And here's another revealing statistic: The GVU survey found that Web surfers preferred David Letterman to Jay Leno as a late night talk show host by more than a two-to-one margin.
Now that I've tossed a wet blanket on the Internet hype, let's say "abracadabra," wave the magic wand, and whip that soggy thing off. Behold! A glass that's half full instead of half empty. The fact is, the Net/Web population is growing at a remarkable rate and, in most observers' eyes, has reached critical mass, although it's premature to call it a mass medium. It's no longer a CB radio craze or a passing fad, as it has been described by the more cynical critics—words written, no doubt, with a perfectly good manual typewriter.

The Big Picture

The key is putting this information in perspective and looking at the big picture. If John Quarterman is to be believed, there will be 707 million people in cyberspace by 2001, compared to the 57 million Netizens he counted in 1997. And remember, he's the conservative one! Remember, too, that the highest growth on a percentage basis will be outside the United States and Canada.

We are in the midst of a communications revolution; a global marketplace has emerged and new business opportunities are surfacing. Will this Information Revolution surpass the 19th century's Industrial Revolution in terms of its impact on our lives and the world economy? We'll know only in retrospect, but there are knowledgeable, respected business leaders who believe so.

As a practical matter, surveys show that the percentage of people making online purchases has increased significantly: 27 percent compared to 19 percent in 1995, according to the FIND/SVP survey. The Business Week survey found that 24 percent, or 10 million people, have purchased something online, while the CommerceNet/Nielsen survey found that 15 percent, or 5.6 million, have purchased online. Not huge numbers, but improving.

CommerceNet, a business consortium dedicated to accelerating the growth of the Internet, offered this comment: "The survey . . . shows a lack of trust in the security of electronic payments as the leading inhibitor preventing people from actually purchasing goods and services online. But in spite of the roadblocks, the survey indicates that the Internet has clearly moved beyond the question of who will use it to questions about who will buy and sell products and services."
The amount of money spent on advertising is another growth indicator. Web advertising revenue, albeit tiny compared to the industry overall, was an estimated $40 million for the month of May 1997, more than a 200-percent increase over the previous year, according to the Electronic Advertising & Marketplace Report, a newsletter published by Simba Information, Inc. The report also said that more advertisers are going beyond the standard banner ad campaign in favor of the more costly content sponsorships.

The FIND/SVP survey found that 39 percent of those who made purchases online clicked on ads prior to purchasing. The Business Week poll found that 83 percent of those surveyed had seen or noticed online advertising.

**Patience is Paramount**

All these figures point to the Net/WWW evolving from the trailhead boomtown it is today to a thriving consumer-oriented economy. Does this guarantee a successful online venture? Of course not. But it certainly improves the odds. The deciding factors in success and failure, however, will still reflect what we already know about business in general: Success requires a sound business plan, a well-founded business model, sufficient capitalization, and effective marketing.

In terms of the Net, the key is patience. The tide is rising and the ship has come in, but it hasn’t finished unloading its cargo yet.

**Business Opportunities**

The unique thing about the Net is that, to a degree, it levels the playing field for a small business, which can set up shop in cyberspace and compete strategically with the big boys and girls. Granted, the little guys still have to contend with the marketing muscle of the established companies. But the Net opens the door to opportunities for outsourcing, for networking, for forming strategic alliances with companies located on the opposite coast or in a foreign country, and for bypassing middlemen to market products and services directly to the customer. It also offers opportunities for new middlemen.

CommerceNet predicts that one million businesses and 100 million consumers in the United States and Canada will be on the Web by the year 2000. Annual revenue from retail transactions is expected to exceed $50 billion. This will include 50 percent of all software sales and 25 percent of all music CDs. Twenty-five percent of all business-to-business transactions will take place online, according to CommerceNet projections.
General business uses of the Net and Web include:

- Communications
- Marketing/market research
- Public and media relations
- Advertising
- Extended product and brand awareness
- In-depth product information
- Product promotions
- Building and enhancing company image
- Business-to-business networking
- Expanded reach regionally, nationally, and internationally
- Markets of new products and services
- New product distribution methods and channels
- Wholesale and retail sales
- Customer/consumer interaction and relationships
- Customer service
- Technical support

Where is the money currently being made online? Jupiter Communications (www.jup.com), a New York–based market research firm, ranks it this way:

1. Travel-related services
2. Computer hardware
3. Books
4. Music CDs
5. Video tapes
6. Computer software

The historically strong seller is adult-oriented material. But because industry analysts generally stick to mainstream goods and services, numbers for the adult sector are not easy to come by. However, Inter@ctive Week magazine pegged 1997 online sales of adult material at $1 billion, equaling Jupiter’s estimate for travel-related services. This spotlights an important element of electronic commerce. Adult materials sell because of the roadblocks thrown up in real-world sectors. And the fact that it’s easier to remain anonymous in the virtual world.
That's not to say other products and services are not selling. Fine arts to flowers to formulated nutrition products are being sold successfully online. But going online can be profitable without selling a thing.

**Saving Money vs. Making Money**

Savvy businesses realize that taking an enterprise online is risky and that there may not be any black ink on the bottom line for 18 months to three years, if not longer. The smartest move for an existing business may be to look at ways of saving money by going online, rather than trying to turn a profit right out of the starting gate.

Companies are saving tens of thousands of dollars and more, by distributing their marketing materials, financial reports, and product information online. This reduces printing and distribution costs. For example, Sun Microsystems estimated it saved in excess of $1 million in one year by doing this. Others are providing customer service and technical support through their Web sites, reducing the requirements for labor-intensive telephone support.

It doesn't take a particle physicist to figure out that if you can reduce your overhead by more than what you're spending to be online, then the move is a qualified success; it's improving the bottom line without one cent of revenue being generated. Such a move gives you an opportunity to test the cyberwaters before diving in headfirst. This online strategy will be discussed in detail in Chapter 7, "Defining Your Online Strategy."

Obviously, for a business that is conducted solely online, revenue is imperative. But the gross revenue needed to support the business may be much less than what would be required for the so-called brick-and-mortar approach of opening a store on Main Street. Amazon.com, the online bookseller, and Virtual Vineyards, the online wine merchant, are just two examples. They are able to offer their goods at reduced prices, while reaching a much broader market than they could with a traditional storefront. Being first to market didn't hurt them either.

**The Virtual Organization**

The virtual organization is also a burgeoning reality. This is a business that has no central office in the traditional sense. The owners and their employees—or, more likely, their freelancers and independent contractors—all work at home and may be in very separate geographical locations that may span not only a continent but also the globe. While this may be problematic if manufacturing a physical product, it makes perfect economic sense if the product is information based and doesn't require the workers to be in the same place.
When I made the move to the Net, my partner and I worked from offices in our respective homes. We communicated several times a day by e-mail, phone, and fax, but we often went days at a time without actually meeting face to face. There was no need to. Having an outside office to which we commuted every day would have been an unnecessary expense. All our support services—computer programming, Web page construction, and graphic design—were outsourced, provided by independent contractors who also worked from their homes. These savings put more money directly into all our pockets. And in a new business such as ours, every penny was counted.

**News & Information Sources**

If you're going to succeed online, you need to be informed. And because technological change happens quickly, you need to stay on top of the trends and advances. Being ahead of the curve will be critical in timing your next move.

Information on some of the best news sources follows. Most of them can be found online, but if you're still more comfortable with a paper product, I've included some of those sources, too. A more complete listing, along with direct links, is contained in the Business Resources links page on the Companion CD-ROM.

**News Online**

Here's a sampler of news and information sources online:

- **Boardwatch.** News and views regarding the Net and WWW. (http://www.boardwatch.com/)
- **CINet/News.Com.** News coverage of the online world. (http://www.news.com/)
- **HotWired.** Slick, hip, in-your-face "zine" catering to the digiterati of the online world; the electronic counterpart to *Wired* magazine. (http://www.hotwired.com/)
- **InternetNews.com.** News on and about the Internet. (http://www.internetnews.com/)
- **Los Angeles Times.** Daily news. (http://www.latimes.com)
- **Netscape News.** Headlines, Web news, links to other news sources. (http://netscape.yahoo.com/guide/news.html)
- **NewsHub.** Internet news, with updates every 15 minutes. (http://www.newshub.com/tech/bytime.html)


You also may subscribe to services that push information to you in the form of news bulletins—something akin to having CNN on your desktop. These services update the news regularly and can be customized so you limit the news to topics that interest you. These services include:

- Netscape In-Box Direct. Delivers daily news from the top online news publications via e-mail in HyperText Markup Language (HTML) format. (http://form.netscape.com/ibd/html/ibd_frameset.html)
- PointCast. One of the first and most popular; includes a variety of news sources, including a number of U.S. newspapers, CNN, and Wired News. (http://www.pointcast.com/)

Note: PointCast and similar Webcasting services generally require additional software to be installed. These also can be a drain on system resources, both on your desktop and while online. That is, things tend to slow down while they are running.

News on Paper

Here's a sampler of news and information sources in print and available by subscription and at newsstands:

- Boardwatch. News and views regarding the Net and WWW; also available online.
- Information Week. Timely news coverage of the high-tech industry; product reviews and analysis; fairly technical; one of my personal favorites; also available online.
- Inter@ctive Week. In-depth coverage of high-tech issues, relatively jargon free; another of my personal favorites; also available online.
- NetGuide. Monthly consumer-oriented magazine; does a good job of explaining technical terms and issues; manages to stay fairly current in terms of broad online issues.
- Wired. Monthly slick, hip, in-your-face rag catering to the digiterati of the online world; if nothing else, it will give you a perspective on the mindset of the folks cruising the Information Superhighway's fast lane; also available online.
Moving On

It's always difficult knocking down something you work hard every day at building up. But it's important that we, as business people with our financial well-being at stake, take calculated risks that are weighed against the hardest numbers we can get our hands on, rather than being deluded by wishful, or even deceitful, thinking.

The hype surrounding the Net is likely to intensify before it moderates. So, it behooves us to pay close attention to the few demographic numbers and sales figures we have to work with.

Now that you've been given a sobering dose of "cybereality"—and perhaps made a course correction yourself—you're on track toward developing realistic expectations and goals for your online enterprise. Being honest with yourself about the potential market for your products and services improves your odds of success. You may even decide the time is not yet right to move your business into cyberspace.

I believe most, if not all, businesses will need some sort of Internet presence to be competitive in the 21st century. But time is on your side. By biding your time, you'll learn from the mistakes of others.

However, the head-in-the-sand approach—ignoring the Net and hoping it will go away or deriding it as a passing fad—will only be doing yourself and your company a disservice. The Internet is not going away. With each passing day, it is playing a greater role in each of our lives. If nothing else, you need to get smart about the Net and make informed decisions on how best to approach it and time your moves.

In Chapter 6, "Belles-Lettres," we'll put the magnifying glass on one of the Internet's pillars of strength: e-mail. We'll examine what it is and how you can harness its power to improve your communications while reducing your overhead. E-mail is not without its warts, however. So, we'll look at the potential for public embarrassment, or worse, litigation, that could materialize if certain precautions are not taken.
Electronic mail, or e-mail, is becoming an integral part of business communications, as did the fax machine in the 1980s. I predict it will become an invaluable tool for you, if it hasn't already. E-mail is quick, convenient, and cheap. The key is getting comfortable with it, then using it effectively. But e-mail's expedience comes with pitfalls and raises issues of privacy, confidentiality, liability, ethics, and protocol. E-mail can pose problems for you and your company if standards of etiquette are disregarded and specific policies not established.

This chapter addresses (Oops, sorry about that pun!) a number of topics pertaining to e-mail, including:

- E-mail basics.
- Using the Netscape Communicator Message Center.
- Message signatures.
- Message format and style.
- Adopting a company e-mail policy.
- Privacy, liability, and security issues.
E-mail Basics

E-mail has several things going for it as a business communication tool. Speed of delivery is incalculably faster than its physical world namesake, often referred to as snail mail. There is no envelope to address, no stamp to lick, and it's typically delivered to your recipient's mailbox in a matter of seconds.

E-mail is much less intrusive than a telephone call, and you can respond to it at your convenience, as with traditional correspondence or a fax. But e-mail provides privacy and, if encrypted, security that a fax cannot.

E-mail may be more practical than a phone call in some situations, such as when you need to communicate with someone in a different time zone. No more early-morning or after-hours phone calls to the opposite coast, Asia, or Europe. You send a message before leaving the office for home and when you log on the next morning, you have a reply in your inbox, without having incurred a long-distance charge.

At other times, e-mail can be almost like having a conversation with someone because of its expediency. It's not uncommon to receive a response in a matter of minutes, if not seconds, but that requires the person on the other end to monitor his or her inbox on a regular basis.

Tip

Just because e-mail is so expedient to use, it doesn't mean you must employ that same haste in composing and sending your messages.

What's more, you can send the same message at the same time to as many people as you want by creating a mailing list. A mailing list can be as small as two or three people or as large as hundreds, thousands, or hundreds of thousands. (More on the hundreds of thousands in Chapter 14, “Hello, World,” when I discuss what is known as spamming and the technical, as well as the legal and ethical, considerations involved in doing mass mailings.)

Using Messenger for E-mail

Netscape Communicator has an integrated e-mail software program, the Messenger Mailbox, in its Message Center (see Figure 6-1). If you're unfamiliar with it, here's how to get started. (I'm assuming you set up your mail preferences, identity, and mail server information as part of the installation process. If not, refer to Appendix B, and do it now.)
Figure 6-1: The Communicator Messenger Mailbox is your electronic post office, where you compose, send, receive, and sort your electronic mail.

To open your mailbox, click on Communicator | Message Mailbox. Alternatively, you can use the keyboard shortcut—Ctrl+2—or click on the Mailbox icon on the component bar.

From here, you can compose and send messages, retrieve messages, create separate folders to sort and store your messages, and create an address book, among other things. We'll start by composing a message.

**Composing a Message**

You compose a new message by opening the Message Composition window. To do this:

1. Click on New Msg (keyboard shortcut: Ctrl+M).
2. Type the recipient's e-mail address in the To: line. For our purposes, use your own address.
3. Click in the Subject box and type **Meeting Reminder**. The subject should be as concise and to the point as possible, which will help busy people prioritize the time they spend reading their e-mail, especially if they receive a great deal of it every day.

4. If you want to make sure the recipients pay attention to the message, set a higher priority. To set your mail priority, click on the Message Sending Options icon in the header (address) section of the Message Composition window. You have five choices, ranging from Lowest to Highest. The default setting is Normal. Select Highest. Note, however, that not all e-mail software recognizes priority settings, so it’s possible some recipients would not notice any difference.

5. Now, to the message itself. In the message box, type **Reminder: meeting Tuesday, 8 a.m., in the conference room**. While it’s not likely you need to check your spelling for such a simple message, Message Composer will do it for you if you click on Tools | Check Spelling. When you’re done, you’re ready to send the message.

At this point, you have two immediate options: Send now or send later. Clicking on Send does just what it says. The message is gone. If you’re composing messages offline, you’ll obviously have to send them later, after you log on. To do this, select File | Send Later. This places your message in the outbox, where it will stay until you send it. To send the message, click on File | Send Unsent Messages.

---

**TIP:**

Now retrieve your message by clicking on Get Msg on the menu bar (keyboard shortcut: Ctrl+T). Your high-priority message jumps out at you: Highest is highlighted in red in the priority column. Use the High and Highest priority selections only when they are truly meaningful. To do otherwise will result in the “cry wolf” syndrome, and the messages will be ignored.

---

**TIP:**

If you have a dial-up account, you can set up Communicator to auto-dial for you. This way, when you click on Get Msg or Send, Netscape Messenger tells your modem software to dial your Internet service provider (ISP) account and connect you to the network, if a connection isn’t currently established.
Quick Send: Blessing & Curse

There are good reasons for not immediately sending a message besides merely being offline. The expediency of e-mail is both a blessing and a curse. It is very easy, in a moment of anger or frustration, to fire off a message that says exactly what you feel (with the accompanying expletives), which you later regret. Or worse, you may be punished or suffer unfortunate consequences if the message lands in the wrong hands.

I make it a policy to always put my e-mail in the outbox, even if it’s just for a moment or two, unless it’s critical that I respond to someone immediately. (If it’s that important, maybe the telephone is a better choice.) This way, even if the message contains no inflammatory language, I have a chance to review and edit it. Or if I forgot to mention something, I can easily add it to the message. The same holds true for messages sent to discussion groups.

Better yet, Communicator has a draft message feature, which is very useful if you have begun a message but are interrupted before completing it, or you want to sit on a message to let your thoughts gel before committing to a final draft. It also prevents you from accidentally sending it prematurely. When you’re ready to send it, select File | Send Later to place it in the outbox, or click on Send to send it immediately.

When sending a business message that touches on a sensitive or controversial issue, I suggest having an associate read the message before sending it. Just because e-mail is so expedient to use, it doesn’t mean you must employ that same haste in composing and sending your messages.

TIP

Use a word processor: If I’m sending important business correspondence or a lengthy message, I generally compose the message in a word processor, as if preparing traditional written correspondence. I may even print out hard copy for proofreading and review, then copy and paste the message into the Message Composition window for transmission or send it as an attached file.

Create an Address Book

Creating and maintaining an electronic address book will simplify things for you. With it, you can quickly address a message to one or a thousand recipients with a few mouse clicks. The Message Center Address Book (shown in Figure 6-2) functions similarly to contact management software. That’s where you create a database of e-mail addresses and other pertinent information regarding your business contacts.
There are two basic methods for adding an e-mail address to your address book: Insert it electronically or type it in manually. The quickest method is letting Communicator do the work for you:

1. Click on the Subject of the message you just sent yourself. The message appears in the Message window. Notice that both the From: and To: addresses are hypertext.

2. Click on the address in the From: line. This opens a dialog box, where the name and address have been automatically inserted for you. You can do this with any message you receive, making it very easy to add new addresses to your address book. You also can add information about an individual’s organization, create a nickname, and include notes about the individual or organization he or she represents.

3. Click on the Contact tab to open the Contact dialog box. Here you can include street addresses, as well as telephone and fax numbers. And if your organization has set up the SuiteSpot conference server, you can add that electronic address in the Netscape Conference dialog box.

4. Click on OK and you have a new entry in your address book.

5. To edit an entry, double-click on the name, or click on the Properties menu button.
When you receive e-mail addresses on business cards or voice messages, you'll have to enter them manually. To open the address book:

1. Click on the Communicator menu button.
2. Choose Address Book.
3. Click on New Card. This opens the New Card dialog box and lets you complete a new entry.

**TRAP**

At the bottom of the dialog box is a check box labeled Prefers to Receive Rich Text (HTML) Mail. Unless you know for certain that a person is using e-mail software capable of receiving rich text—such as text formatted with HyperText Markup Language (HTML), do not check this box. Once you get to know your way around Communicator and all its capabilities, you will be tempted to embellish your e-mail with rich text. While this has its advantages from a marketing standpoint, it also has its pitfalls. If the recipient is not using Communicator, Netscape Navigator, or some other software capable of reading rich-text messages, your message could become garbled or so cluttered with HTML tags that it is rendered unreadable. Not only is your message lost, in all likelihood you've also angered the recipient, who is left trying to decipher your message.

Here's an example of what I'm talking about. The character strings sandwiched by the angle brackets (<>) are HTML tags.

```html
<TD COLSPAN="2"><SPACER TYPE="vertical" SIZE="10">
<IMG SRC="http://www.gadgetsgalore.com/misc/inbox/images/producthighlights.gif" WIDTH="182" HEIGHT="57" ALT="Product Highlights">Product Highlights

</TD></TR>
```

**Send a Message to Multiple Recipients**

The power of e-mail really shines when you need to send a message to several people at once, such as sending meeting reminders to the members of a project team or company-wide announcements. Netscape Communicator makes it a breeze:

1. Click on New Msg.
2. Click on Address. This opens the Select Address dialog box (see Figure 6-3).
3. To select multiple entries, hold down the Ctrl key and click on each address to which you want to send the message. They become highlighted when you click on them.

4. Click on To.

5. Click on OK.

6. Click in the Subject box and type Meeting Reminder.

7. Click in the message box and type Reminder: meeting Tuesday, 8 a.m., in the conference room.

8. Click on Send.

This is a very quick method of sending a single message to multiple recipients. However, it's best to restrict this method to a handful of people, rather than an entire mailing list. Otherwise, the To: line in the header can take up several screens as it lists the names and addresses of all the recipients, and it can make the message file size unnecessarily large.

The alternative is to send copies to multiple recipients, using carbon copy (CC) or blind carbon copy (BCC). This is best accomplished by using a mailing list, which I'll discuss later in this chapter.
Send Copies of Messages to Others

To send copies of a message to one or more people, select the names in the Select Address dialog box, then click on CC: (carbon copy). This places the names and addresses on the CC: line. This is often done as a courtesy to let each person on the list know who else received the message. This may be done for reasons of protocol or to ensure that every recipient is aware that others are informed on a specific matter.

However, if the list becomes large, you will have the same problem described earlier with multiple recipients: The address list may be much larger than the message itself. To get around this, use the blind carbon copy (BCC) option. This lets you suppress, or hide, the address list so that only the recipient’s name and address appear in the message header. This is the preferred method for sending a message to a large group of people, such as a company-wide announcement or a newsletter to the members of a professional organization. In addition, there may be people on the list who don’t want their addresses publicized, which is another reason for using the BCC option.

To suppress the names of people receiving a copy of the message, select the names in the Select Address dialog box, then click on BCC.

Reply to a Message

Often you will want to reply to a message you receive. Instead of beginning at ground zero, you can get a head start by letting Communicator pre-address your reply, refer to the subject, and quote the original message.

Reply to a message in your inbox by selecting the message, then clicking on Reply on the toolbar. You have two options: Reply to Sender (keyboard shortcut: Ctrl+R), or Reply to Sender and All Recipients (Ctrl+Shift+R).

Select Reply to Sender. This opens the Message Composition window, but notice that the address and subject boxes are already filled in, with the subject preceded by Re:. This alerts the recipient that it’s a reply to a previous message and not a new one. Notice, too, that the original message is included, with angle brackets in the left margin. This distinguishes the original message from your reply.

You have the option of including the entire original message or merely the salient points. It’s a good idea to quote some of the original message to give context to your reply, particularly if you’ve answered a question with a cryptic “yes” or “no.” However, e-mail etiquette suggests you delete the portions of the original message that aren’t needed to clarify your answer or to remind the recipient what he or she originally wrote. To delete a portion of the message, highlight it, then press the Delete key. Complete your reply by clicking on Send or File I Send Later.
Create a Mailing List

A very powerful communications and marketing tool is a mailing list, which allows you, with a couple mouse clicks, to send one message to multiple recipients, such as a group of employees, business associates, customers, or consumers.

To create a mailing list:

1. Open your Address Book by clicking on Communicator | Address Book (Ctrl./Cmd+Shift+2).
2. Click on New List.
3. In the Mailing List dialog box (see Figure 6-4), give the list a name.

4. You also have the option of giving the list a nickname and a description.
5. In the lower box, enter the names and e-mail addresses of the people or organizations you want on the list.
6. When you’re finished, click on OK.

Once the mailing list has been created, the list’s name is placed in your address book automatically. Sending a message to everyone on the list becomes simply a matter of composing a message and naming the list as the recipient. Communicator does the rest. If you wish to add more names later, reopen the list by double-clicking on the list name and enter the new information.
Create Message Folders

You’ll want to retain many of the messages you send and receive for future reference, but leaving them all in the Sent or Inbox folders quickly becomes chaotic. You can organize them by topic, recipient, sender, or any other category, by creating new folders. To create a new folder:

1. Click on File.
2. Choose New Folder.
3. In the Name box, enter a name for the folder.
4. You also have the option of placing the folder on the main Folder list or making it a subfolder of an existing folder. Make your choice using the drop-down menu in the Create as Sub-folder of box and clicking on your choice.
5. Click on OK.

Moving Messages Between Folders

To move messages from one folder to another, select the messages you wish to move, then click on File on the Messenger toolbar and select the target folder. Communicator does the rest. Please note, however, that this File button is the one at the center of the Messenger toolbar, not the File button at the left end of the menu bar.

When you want to move more than one message at once, you have two options for selecting the targeted messages. You can select an entire block of messages or you can select them randomly one at a time. To select a block of messages:

1. Select the first message of the message block.
2. Press and hold down the Shift key.
3. Select the last message of the message block. This will highlight all the messages in between and you can move the entire block at once.

To select multiple messages that are not adjacent to one another:

1. Select a message.
2. Press and hold down the Ctrl/Cmd key.
3. Select the other messages one at a time until you have highlighted all the ones to be moved. You now can move the entire group at once.
Add Your John Hancock

A great feature of e-mail is that you can easily append your messages with a **signature**—a few lines of text that are added automatically to the end of each message. A signature typically includes your name and some information about you or your company. Some signatures get quite elaborate, and may include ASCII art. My signature file looks like this:

Larry M. Edwards - Author  
The Official Netscape Internet Business Starter Kit  
Netscape Press - November 1997  
http://www.larry-edwards.com - 777-555-3241  

The opposite of talking isn't listening.  
The opposite of talking is waiting.  
--Fran Lebowitz

This signature tells the recipient not only who I am but also something about me, the Uniform Resource Locator (URL) of my Web site, and my phone number. It also includes one of my favorite quotes. And with the capability of sending messages formatted with HTML, I can also include a colorful graphic image, such as a logo or other piece of artwork, perhaps the cover of the book. However, as I stated earlier, not all e-mail software supports embedded HTML or rich text, and the signature could become garbled.

As you've no doubt already deduced, the signature functions as an electronic business card and can be used as an effective marketing device. More on this topic in Chapter 13, "Online Transactions & E-Commerce."

You need to create a signature file in a word processor or a text editor of some sort, such as Notepad or Simple Text, and save it. If you use a word processor, save it as a text-only file.  

To set up Communicator to include your signature file:

1. Click on Edit | Preferences.  
2. Click on Mailbox & Groups.  
3. Click on Identity.  
4. Click on Choose and browse for the file.  
5. Click on the file and then on Open, and the path name is placed in the Signature File box.  
6. Click on OK.  

Your signature file will now be inserted automatically in the message window when you compose or reply to a message.
Create a Signature Card

If you don’t want to go to the trouble of creating a signature file, you can attach a Signature Card to your outgoing messages (PC and UNIX users only). A signature card contains personal information about you. To create a card:

1. Open the Identity section of the Preferences window.
2. Click on Edit Card and fill in the appropriate boxes.
3. Click on OK.

To attach your signature card to a message, click on Attach on the menu bar. You have the choice of sending a file, a Web page, or your signature card. Click on My Address Book Card.

**TRAP**

Although this is the easier of the two methods of including a signature in your messages, it may not be the best choice. You may have a problem similar to one described earlier regarding rich text. If the recipient’s software is not capable of reading the card, it will be saved as an attachment and have to be viewed separately. In such cases, it’s unlikely to be read, defeating its purpose. So, until rich-text-capable e-mail clients become more ubiquitous, I suggest using the text-based signature file.

Attach a File to a Message

E-mail can be used for more than exchanging messages. It also can be used as a courier service when you attach a file to the message. The file can be of any type on your computer, including a word processing file, an image file, or a small software program. This is very handy when you want to retain the formatting in a word processing document or if you’re working on Web page development and you want to send or receive graphic images.

Technically, you can attach as large a file as you want, but it’s neither practical nor polite. People expect e-mail to download quickly, not take 10, 20, or even 60 minutes to arrive in the inbox. (A guy in Mauritius once sent me two large photographs without warning me in advance. With the poky little 14.4-kilobits-per-second modem I was using at the time, it took a half-hour to download them.) Some e-mail servers are set up to block very large messages (partly as a defense against what are known as mail bombs), and some e-mail client software can also be set to block large messages and files.
To attach a file to a message:
1. Compose a short message telling the recipient what the attachment is.
2. Click on Attach on the toolbar.
3. Select File . . . to open a directory window.
4. Choose a file—any word processing file will do for this exercise.
5. Click on Open. The file is attached, and the directory path is displayed in the header section of the Message Composition window.
6. Click on Mailbox to display the address information again to confirm it is accurate and complete.
7. Click on Send.
8. After waiting a moment or two, get the message and open it. To the right of the header is a paper-clip icon, indicating there is an attachment. If Communicator can read the file, it will appear in the message window. Otherwise, when you click on the icon, you will be asked if you want to save the file to disk. If so, click on OK and select a folder in which to save it.

Compress Large Files

If you're going to send a large file as an attachment, you should reduce its size by compressing it. This will speed up the delivery, particularly if either you or the recipient is using an analog modem.

There are a number of file compression software programs available. One of my favorites is WinZip, a Windows program that creates ZIP files. For Macintosh users, Stuff It is a popular program. Both of these are in the Software Directory of this book's Companion CD-ROM.

By using file compression, you can reduce a file's size by 80 percent or more, depending upon the type of file (text files compress better than graphics files, for example). This is also a convenient way of sending multiple files at once. For example, you can compress several files into a single ZIP file to send as an e-mail attachment.

MIME: Your Silent Partner

The technology, or protocol, that allows you to send and receive attached files so that the files retain their original formatting is Multipurpose Internet Mail Extensions (MIME). MIME is a standardized method for organizing different file formats, including HTML, word processing, graphics, audio, and video
formats. The MIME identity, or type, is specified in the mail message header when it is sent, based on the file name's extension, or suffix. An HTML file, for example, has a suffix of either .htm or .html, and its MIME type is text/html. A Microsoft Word file has an extension of .doc and a MIME type of application/msword. A graphics file would be identified as an image, followed by its format extension, such as image/gif or image/jpg.

Communicator uses the MIME type to determine whether it can read the file format, or, if not, if a suitable helper application is available to read the file. For example, if an HTML or a specific type of image file (.gif and .jpg files only) is attached to the message, it will be displayed in the message body. If it's an audio file, however, a helper application, or program, may be launched to play the file. If Communicator can't read the file and no helper application is specified, that's when you will be asked whether or not you want to save the file.

Where you will run into problems is when the person sending a file is using software that is not MIME compatible. Your software may not recognize it and subsequently decode it as indecipherable gibberish. When you send messages with Communicator, the MIME type of an attached file is included automatically.

You can specify MIME types and helper applications using the Preferences panel. Click on Edit | Preferences, then select Navigator | Applications. From there you can add a New Type or Edit an existing MIME type. For example, if you want to read a word processing document upon receipt, specify the word processor and the file extension it uses. If not, you can select Save to Disk and read it later. For reasons of security, I recommend the latter.

**Viral Infections**

You've probably heard of computer viruses, which can infect a computer's software and wreak havoc on one's system. Viruses can be transmitted from one computer to another using the e-mail system. However, they're not transferred in the mail messages themselves, which actually offer a layer of protection. The notorious Good Times virus, said to be activated when opening a mail message with the subject Good Times, was a hoax to scare people new to the online world.

Nevertheless, a virus can be attached to an e-mail message or be embedded in an attached file, such as a word processing document. Some security experts believe the next Morris Worm will be transmitted via e-mail. The infamous Morris Worm literally brought the Internet to its knees a decade ago when the virus replicated and retransmitted itself to thousands of computers on the Internet.
With the increasing interactivity afforded by e-mail software, the historical protection e-mail has provided against the dissemination of viruses and rogue code is gone. Some e-mail readers, including Communicator, can contain hypertext. Add to that an attached file containing executable code and one click on the link could invoke the virus.

New viruses surface regularly. Most of them are from pranksters and are more annoying than harmful. But that's not to say there aren't harmful viruses out there. The first level of protection comes from using common sense. If you receive an attached file from someone you don't know, delete it.

Also, because viruses are often self-executing files, most mail systems have filters to intercept such files. However, if the virus is embedded in a file—the irksome Lunch B virus infects Word documents, for example—it will slip through. The only way to detect it is with anti-virus software, which scans all incoming files for viruses.

There are several vendors selling anti-virus software. Among them are McAfee Associates (www.macafee.com), the maker of VirusScan for Windows 95, and Symantec Corp (www.symantec.com), which sells Norton AntiVirus for Windows 95 and Symantec AntiVirus for Macintosh 3.5 and 4.5. The price of such software is roughly $60 to $80.

Secure Mail

Netscape Communicator supports several security features, including Secure Multipurpose Internet Mail Extensions (S/MIME) for sending and receiving encrypted e-mail. You have two basic levels of security available to you regarding e-mail.

The first is a digital signature—identification issued by a third party such as VeriSign Inc. (www.verisign.com)—which comes with a certificate of authenticity. It's akin to obtaining a driver's license for the Information Superhighway. This digital ID is confirmation that you are who you say you are and that a correspondent is who he or she claims to be.

The second security feature is encryption, the scrambling of information. Encryption and the subsequent decryption requires two keys, a public key, or encryption certificate, and a private key. These keys are software, not bits of metal like your front door key. The public key, which you obtain from your intended recipient, is used to encrypt a message and the private key, held only by the recipient, is used to decrypt it.

You obtain the certificates of others by opening an e-mail message from them, then accessing their Web page to allow a Java applet access to your computer. The applets are what you use to encrypt the messages. Once the messages are sent, the recipients will use their private keys to unscramble, or decrypt, them.
A correspondent uses your public key in the same manner when encrypting messages to you. However, you cannot decrypt messages on any computer but the one to which your certificate was issued.

If you want to send an encrypted message to people on a mailing list, you must have a valid certificate, or public key, from every recipient on the list. You cannot encrypt the message for only selected recipients. A popular source of encryption software is Pretty Good Privacy, Inc. (www.pgpg.com), founded by encryption guru Phil Zimmerman.

To set Messenger preferences for encrypting and digitally signing e-mail messages, use the Security Advisor window (click on Security on the menu bar).

**Experiment With Other Mail Features**

Communicator’s Messenger Mailbox has many other excellent features, which are too numerous to cover in the limited space I have here. I encourage you to experiment on your own by browsing through the drop-down menus and see where they take you. If you find yourself at an apparent dead end, click on Help for some roadside assistance.

Some of the more useful features include:

- **Print.** Make a hard copy for reference or editing.
- **Edit | Find in Message.** Search for a word or phrase within a selected message.
- **Edit | Search.** Search within a mailbox by subject, sender, or date priority, or within a message body by word or phrase.
- **View | Sort.** Sort messages within a mailbox by one of several categories.
- **Forward.** Forward a message to one or more people.

**Adopt a Formal E-mail Policy**

The always-conservative legal profession believes that it’s imperative for a company using e-mail, whether for internal or external communications, to have a formal policy regarding its use. I concur, as do all the business owners with whom I’ve spoken regarding this issue, even when it’s a small business with just a half-dozen employees. Adopting a formal e-mail policy early on could eliminate bothersome problems later. It’s also a good idea to consult your attorney before committing a policy to the employee manual.

Why the strong position on this issue? Because it has been argued successfully in court that any electronic correspondence sent using a company-owned computer and e-mail system is business related, including personal messages.
that have no bearing on company business. Moreover, anyone sending e-mail with the company's domain name in the address is by default representing the company to one degree or another.

While the rules of Netiquette discussed in Chapter 4, "Exploring Cyberspace," are all well and good, a formal policy makes more sense in terms of protecting a company's good name and image. It could be a big step toward preventing embarrassing, if not libelous, situations from erupting.

The Cyberspace Law Institute (www.cli.org) is an excellent online resource regarding the development and adoption of an e-mail policy. It was developed by a group of attorneys specializing in electronic communications and commerce. They contend that just having a formal policy is a valuable tool in defending after-the-fact attacks on company practices.

The Electronic Messaging Association (EMA, at www.ema.org), a nonprofit group that champions the development and use of secure global electronic commerce, has published its guidelines online as well.

Even if your company has an established e-mail policy, you may want to review it. Here are the primary elements you should incorporate into your e-mail policy:

- Privacy
- Liability
- Ethics
- Style

**Privacy**

The push-pull between a company's right to review documents produced within the workplace and an employee's right to privacy is a sensitive issue. Most companies own the computer equipment used to send and receive e-mail, just as they own the desks and file cabinets their employees use. This limits employee confidentiality and privacy. Both Epson Inc. and Nissan Motor Co. were sued by employees alleging privacy violations, but the courts ruled in favor of the employers.

Under the 1986 Electronic Communications Privacy Act, companies and organizations operating e-mail systems can deem the e-mail sent or received using these systems to be company property. That is, e-mail messages are not afforded the same protection as first-class mail sent through the U.S. Postal Service.
Furthermore, if your e-mail services are obtained through an ISP, and you don’t have a privacy agreement with the system operator, the operator generally can review all e-mail stored within the system, including unread messages. This raises concerns in terms of not only employee privacy but also the confidentiality of all of a company’s electronic correspondence.

This matter is addressed in the article “Easy Access: Legal Protection for E-Mail Lags Behind the Law Covering Its Nontechnical Counterparts,” written by attorney Stuart Biegel, which appeared in the “The Cyberlaw Practitioner” column he writes for the Los Angeles Daily Journal (http://www.gse.ucla.edu/iclp/apr96.html).

Easy Access
Where privacy, or the lack thereof, is concerned, there are both technical and practical issues involved. Network system administrators and operators can easily read spooled or stored mail, and may be required to do so to solve technical problems, such as undeliverable mail. It’s also very easy to forward e-mail. A message intended for one person could end up in several dozen, if not several hundred, mailboxes, in a matter of minutes.

It’s Not First-class Mail
Under the law, e-mail is not afforded the same right to privacy as first-class surface mail. Plus, there may be quite valid reasons for business owners or managers to read an employee’s e-mail, such as when:

- A person is absent or otherwise unavailable.
- There is an emergency of some sort.
- National security is at risk.

That said, the EMA, in its white paper “Formulating an Electronic Mail Privacy Policy,” suggests that a company analyze its policy choices by considering the likely reactions to these roughly analogous situations:

- Inspecting an employee’s desk drawer.
- Intercepting or monitoring employee phone calls.
- Regularly reviewing files kept in file cabinets by employees.

As a practical matter, however, the likelihood that others would intercept and read someone else’s e-mail, unless it was forwarded directly to their mailboxes, is small, if for no other reason than the sheer volume of it. There generally needs to be a compelling reason to do so.
Encrypting one's messages provides a high degree of privacy, but most companies restrict the use of encryption by their employees. This is because encrypted messages can be decrypted only by the recipient holding a valid certificate. What happens if it’s important business correspondence and that person is suddenly unavailable? There is also the question of whether an employee can legally hide correspondence from his or her employer without authorization.

Don’t adopt policies or procedures that you would be embarrassed to describe fully to your employees—or to see described in the morning newspaper.

—Cyberspace Law Institute

As you can see, it’s critical that these issues are clearly identified and spelled out in a company’s e-mail policy and that this policy is shared readily with all employees. While some companies prohibit employees from using e-mail for personal purposes, most place little or no restriction on personal use as long as no laws or company policies, such as nondisclosure agreements, are violated.

**Liability**

E-mail is often used in lieu of phone calls and typically assumes the informality of a conversation. But this can be problematic in business settings in which, with a click of a mouse, it becomes written correspondence submissible in court. Remember, just because you or someone else deletes a potentially damaging message, it doesn’t mean other copies don’t exist. Some e-mail systems copy the messages as they pass through the system, others automatically create backup copies when new mail arrives, and most corporate network administrators and ISP operators routinely back up stored data, often including e-mail files.

Even so, deleting an e-mail message doesn’t mean it’s gone. Most computers don’t actually delete files. They just unlock that sector of memory and will allow it to be overwritten. But until that sector is overwritten, the data still exists and can be retrieved with the right tools. You may recall that electronic messages became pivotal evidence in a lawsuit over the theft of intellectual property rights from a Silicon Valley manufacturer. An employee, using e-mail, had disclosed trade secrets to a rival company, where he was later employed. The e-mail, which the employee believed to have been deleted, surfaced during the discovery phase of the litigation. This led to a judgment against the former employee and his new employer.
A formal policy regarding the style and tone of business-related e-mail messages should be established so everyone within an organization is clear on what is acceptable and what is unacceptable. The EMA suggests requiring the use of e-mail signatures, as discussed earlier, or text of some sort that identifies the extent of an employee's authority in representing the company.

It's often necessary, due to contractual obligations or the potential for litigation—or even pending litigation—for a company to maintain and archive certain records. This can apply to electronic messages, as well. This, in turn, gives rise to the need for specific policies and procedures, and the dedication of system resources to ensure the e-mail is not destroyed and that it is properly archived and periodically backed up.

Ethics

Virginia White, in her paper “Ethical Implications of Privacy in Electronic Mail” (http://www.inetcon.com/priv.html), points out that there is a difference between what an individual has a right to do and doing the right thing. She urges e-mail correspondents to follow the Ten Commandments of Computer Ethics as they apply to e-mail. This includes several tenets of Netiquette, which were discussed in Chapter 4, “Exploring Cyberspace”:

- Respect confidentiality.
- Don’t "flame" others.
- Don’t use anonymous re-mailers.
- Don’t look at others’ messages.
- Don’t misrepresent yourself or lie.
- Consider the presentation, or tone, of the message.

Formal e-mail policies typically include rules against the use of defamatory, inflammatory, or, in legal argot, "wrongful" remarks in business correspondence. At best, such language could be an embarrassment to the company.

Milt Burgess, the owner of the Burgess Group—which provides investigative and expert witness services to trial lawyers—suggests handling it like this: "When sending e-mail to others outside the company, use the same protocol you would if writing a letter. Keep it brief, stick to the facts, keep emotion out of it, and keep it formal."

Every business has unique characteristics, so every company's e-mail policy must be tailored to address specific issues. Such policies should not be taken lightly, and they should be established only after receiving input from all the parties involved.
Style

You should also establish what we in the publishing world call "style" guidelines. These guidelines define what is and what is not acceptable in terms of grammar, spelling, punctuation, subject matter, special formatting, how people should be addressed, how the correspondence should be signed—the standard fare in secretarial handbooks and references on business correspondence.

For example, formal—and often informal—written correspondence begins with the salutation "Dear." This is rarely seen in e-mail, however, so it may be something you’d want to clarify in your e-mail policy. The use of Mr. or Ms. should also be addressed.

You may want to refer to a specific publication as the accepted guide or reference in your policy. This can be critical in formal business communications.

Formalizing Policy

Because much of this is so new, there are not many reference materials on the subject. However, the Cyberspace Law Institute (CLI) Web site has a slick feature shown in Figure 6-5. Using an online form, you can select the policy statements that you believe are important, click on the submit button and—voila!—you have an e-mail policy. While this is not intended to be a final product, it provides an excellent first draft that can be refined and tailored to your needs.

When formalizing an e-mail policy, everyone affected by it should be included in the process—employees as well as management, technical experts, and attorneys. This is a show of respect to employees and their expectations of privacy, as well as a means of explaining why some invasion of their privacy may be warranted. Moreover, they may identify issues you hadn’t thought of, and they are more likely to accept and respect the policy if they’re involved in developing it in the first place.

Your e-mail policy should be consistent with and incorporated into other company policies, such as those concerning attendance, pay, sick leave, vacation, retirement, and use of company facilities.
Company Email Policy -- Assemble a Policy

You may use the following form to assemble a draft policy for your company. But you should first browse through the alternatives and evaluate them in light of the background considerations and your specific circumstances.

- **Purposes for which Company Email May be Used**
  - □ Email may be used only for Company Business
  - □ Email may be used for incidental personal purposes
  - □ Email may be used for personal purposes without restriction

- **Encryption and Labeling**
  - □ Encryption of any kind is permitted
  - □ Only specified forms of encryption are permitted
  - □ Personal Email must be labelled as such
  - □ Signature files or message text must disclose limitations of employee's authority

- **Systematic Monitoring**
  - □ No Systematic Monitoring
  - □ Monitoring allowed for business purposes

---

**Figure 6-5:** The Cyberspace Law Institute provides an online resource for the development and adoption of a company e-mail policy.

---

**Moving On**

At the risk of being repetitious, I want to emphasize once more that e-mail is an extremely valuable communications tool because of its expediency and low overhead. It will open channels of communication you previously didn’t know existed simply because people are more willing to take a moment to type in a quick message and click on the send button than they are to use the telephone or—dread the thought—actually write a traditional letter on paper, unless a business formality demands it. This can lead to business associations and networks forming that ultimately improve the bottom line.

The key element, however, is that you now have firsthand experience in the use of e-mail and can begin exploring new ways to capitalize on its strengths to broaden and improve your own as well as your company’s communications. Instead of e-mail being an afterthought, or perhaps even overlooked, it will become an integral part of your business.
In the ensuing chapters, we will look at the role e-mail and other messaging technologies can play in your company's sales and marketing programs and in the strategic business decisions you make. In moving on to Step 3: Devise an Internet Business Plan, I'll help you put together a master plan for integrating the Internet into your existing business activities and then leveraging the strengths of both to meet the challenges of doing business on the electronic frontier. In Chapter 7, "Defining Your Online Strategy," I'll walk you through the process of developing a strategy for taking your business online.
For a business, the Internet is all about marketing—unless you’re one of those who simply wants e-mail and Web addresses on your business card to be hip. But many businesses that went online early on realized only after the fact that they had no clear direction for integrating this cyberventure into their existing marketing and sales programs, let alone their business models.

By moving into cyberspace, you’re effectively opening a satellite office or an electronic storefront. This mandates not only an outlay of capital to cover start-up costs, but ongoing expenses as well. Thus, a critical first step in going online is the development of a specific Internet business plan. This defines your online strategy and lays out a road map for leveraging the newest weapon in your marketing arsenal. Your purpose for being on the Net, how you position your company, what you hope to achieve, and a realistic budget are crucial. These elements will make up your Internet business plan.

Step 3 walks you through the development of the two fundamental components of your Internet business plan:

- Chapter 7, “Defining Your Online Strategy.”
- Chapter 8, “Planning Your Online Budget.”
Defining Your Online Strategy

I'm sure that this [Internet] is important. I'm sure that something is happening. But I'll be goddamned if I know what it is.

—Andrew Barnes, president/CEO, St. Petersburg Times, as quoted in the Los Angeles Times

The biggest stumbling block to success on the Net is poor planning and haphazard implementation. Case in point: a major manufacturer made its move to the Net by having its information systems (IS) department (the computer wizards) build a corporate Web site. Which it did without bothering to consult the marketing department or a group of division sales managers who at the time were battling a rash of bad publicity—on the Net as well as in the real world—and facing a significant loss of credibility in the marketplace.

Subsequently, a group of outside sales representatives, dissatisfied with the lack of support and a relatively useless Web site, put up their own money to pay for a separate Web site designed to rebut the public thrashing their products were getting online. This maverick move didn’t sit well with the string-pullers at HQ, so management sat on both projects until the warring factions could be brought to the table, peace restored, and the underlying rationale for having a presence on the Net could be reconciled. Meanwhile, another year had gone by—and the bad publicity, generated by competitors, continued without rebuttal.

The fundamental problem? Lack of a clear vision for going online, exacerbated by a failure to involve all concerned parties in the process and to integrate it into the company’s overall business plan. Admittedly, this is an extreme case, but it’s not an isolated one. The point is that when it comes to the Internet, too often I have seen standard business practices tossed out the window. I’ve concluded that the word Internet, like adrenaline, immobilizes
the cerebral cortex, resulting in knee-jerk behavior from otherwise thoughtful business people. The problem is that the Internet is perceived as a separate universe where normal business practices are suspended. This is a mistake. To be successful, online activities must be fully integrated into an organization's business plan and business model.

**Careful Planning Is the Cornerstone of Success**

When it comes to going online, due diligence is required, just as it is when writing any business plan or developing any business model. But when it comes to the electronic frontier, expectations are often unrealistic—based on the misconception that it's dirt cheap to go online and easy to succeed once you're there. The most obvious steps are often overlooked. In short, people fail to take the most fundamental step toward achieving success: developing a thorough business plan targeted specifically at the Net.

Your Internet business plan is your cornerstone of success, and its individual elements the building blocks toward achieving that success. This chapter will help you start developing such a plan. You will determine why you want your business online and what you hope to accomplish once you're online, and define your mission and your message.

In this chapter, I will introduce you to some of the Internet trailblazers, so you can learn from their experiences and avoid the proverbial reinvention of the wheel. I will also assist you in identifying products and services you may be able to successfully take to the Net. From there, you can establish your online strategy, the chief component of your Internet business plan.

**In the Beginning**

The need for an Internet business plan should be self-evident. But because the Internet is so new and so foreign to many people, they often simply don't know where to begin. They hear how thousands of new Web sites are going online each week and conclude that that's the place to start: build a Web site, and the rest will take care of itself. It won't. What's more likely is that when the "field of dreams" venture fails to prosper, the blame will fall on the medium and not where it belongs—on the lack of planning and unrealistic expectations. That's not to say thorough planning guarantees success on the Net. It doesn't. But it certainly will make the odds more favorable.
For instance, because the Internet typically is seen as the domain of computer jockeys, implementation of a company’s Internet presence often is dumped into the laps of (or commandeered by) the engineers and information systems people. However well-intentioned these people may be, they generally have little or no expertise in marketing, one of the fundamentals of business, whether you’re using the Net or any other medium.

The Gartner Group (www.gartner.com) said in its report Electronic Marketplace Strategies: Vision vs. Reality (July 1997) that “while tens of thousands of firms were building Web sites, few had any hard plans for using them to do business, and even fewer—if any—had any knowledge of just how much such sites cost.” Although most of the companies surveyed had high expectations for electronic commerce, these “high expectations are not being supported by solid business strategies.” As a result, the report concluded that “the majority of electronic marketplace efforts will fail through 2000,” because of the “lack of understanding, the lack of budgets, the lack of organizational support, and other factors . . .”

You and your business can avoid many potholes on the road through cyberspace by involving representatives from all areas of your company in the process. But it must be driven by marketing, because what you’re doing is presenting your organization to the world via the Net. This must be done in a manner that enhances your image and furthers your organization’s goals and objectives. The following guidelines will help you devise and implement a successful online strategy.

**Why the Net?**

Before you can establish goals and objectives for your online enterprise, you need to know where you’re headed and why. I suggest you begin with a little introspection. Truthfully answer this question: Why do I want to be online? What is my motivation? Is it an aggressive move because I see value in expanding my business into cyberspace? Is it a defensive move because my chief competitors are already there and I’m afraid of being left in the cyberdust?

Or is it, as it is for some, the fashionable thing to do? If the latter, you’d better scrutinize what being fashionable is worth to you and your business. The answer may be that you don’t belong on the Net, at least not yet. The Internet, first and foremost, is still a marketing tool, not a sales tool.
Be Cool, but Get Real

One businessman inquiring about the cost of a Web site with my associates at sandiego.com Inc., an Internet service provider, was very candid. He owned a gourmet pizza restaurant, and when asked how he thought being on the Net would increase his sales, he replied, “I don’t. I just think it would be cool to have a Web address on my business card.” There is absolutely nothing wrong with that, as long as his expectations are realistic. (Ironically, having a Web site could increase his sales. More on that later.)

Such a scenario is rare, however. More often, it’s a matter of an underling being told to “get the company on the Web. You have 30 days and I can give you a couple of thousand bucks from the slush fund. I want three or four bids on my desk next week.” Why the rush? Someone at that morning’s breakfast meeting had chided him for not having a Web site. Or worse, the executive hierarchy very deliberately decides to go online for what appear to be obvious reasons, only to discover that their cloudy vision did not deserve the hundreds of thousands of dollars they threw at it. The result: A bad Web site, which cost more money than should have been allocated in the first place and requires a complete makeover.

I Want to Go Online Because . . .

The Internet Strategy Worksheet contains some ideas to get you started identifying the benefits you can achieve from doing business on the Net. The worksheet (NETSTRAT) is included in the/Resource/Worksheets directory of this book’s Companion CD-ROM. To use the worksheet, open the file in a word processor, then print it.

Internet Strategy Worksheet

Here are some ideas to get you started with identifying the benefits you can achieve by doing business on the Net.
   I want to go online to:
   • Be cool.
   • Gain a competitive advantage in the marketplace.
   • Keep pace with my competitors, who are already online.
   • Outpace my competitors by preceding them online.
   • Build a bigger and better online presence than my competitors.
Add to the list as you come up with other reasons for going online. The key is identifying advantages to being online that you can implement quickly and cost-effectively, then using them as your starting point. You can always expand your online operations after you’ve tested the waters and learned more about the realities of doing business on the electronic frontier.

Moreover, at some point, you will have to justify the money you’ve spent in moving to the Net, either to yourself or to your investors. Determining your return on investment will not be as simple as comparing the costs of goods sold to gross sales receipts. Having a clear vision of how you intend to use the Net and what you hope to accomplish will assist you in evaluating your return on investment, which is discussed in detail in Chapter 17, “Web Site Monitoring & Management.”

**Where in the Web Are You?**

Many businesses are being asked by customers if they have a Web site. It’s a convenience issue, but new enough that it’s not taken for granted like the Yellow Pages. The customers, whether other businesses or consumers, want a painless method of obtaining information from you. And they want it on their terms—i.e., when it’s convenient for them, not for you—without leaving their
offices or homes and without having to work their way through a multitiered
menu of voice commands only to be subjected to your choice of canned music
after they’re put on hold for what invariably seems to be an interminable
length of time.

A Web site or an automated e-mail response system can provide the imme­
diate gratification customers seek. (Assuming the Web site has a quick down­
load. If not, it could backfire on you. More on this in Chapter 10, “Web Site
Design: The Essentials.”) A Web site also benefits you in that it can free up
human resources for more productive tasks, such as closing sales to other
customers.

For example, in 1994–95 I co-produced America’s Cup On Line, the official
Web site for the 1995 America’s Cup (www.ac95.org), sailboat racing’s equiva­
lent of the World Cup soccer tournament. Cadillac (www.cadillac.com) was
one of our major sponsors. Dealers told us how prospective buyers were
walking into their showrooms with printouts of the Web pages detailing the
specifications of various models. These people were not tire-kickers with
nothing better to do on a Sunday afternoon. These were serious prospects who
had educated themselves before contacting a dealer for a test drive. The Web
site had helped Cadillac prequalify its sales leads and reduce the amount of
time its salesforce spent with poor prospects. And that was early in 1995. Since
then all of the automobile manufacturers have discovered the value of using
the Net to market their wares.

In Self-Defense

It’s not uncommon to see a company move to the Net as a defensive maneuver
to counter a previous move by a major competitor. United Parcel Service really
had no choice after Federal Express began offering its Web-based package­
tracking service. Similarly, Barnes & Noble made its move to the Net after the
seemingly overnight success of upstart Amazon.com, a bookstore that oper­
ates solely online. The scenario applies to all industries and market sectors.

Are these wise moves? Yes. I spoke earlier about the acculturation process
that all new technologies go through. Television shopping took seven or eight
years to really catch on, but now these companies are moving their business
model to the Net. Similarly, the use of automatic teller machines did not enjoy
instant success, but now banks are restructuring their business models around
the use of the electronic devices. The early adopters come first, then there is a
leveling-off or plateau period—some prefer to call it a chasm—before wide­
spread acceptance occurs and a new medium becomes a mass medium. The
Net is on the adoption plateau, poised to really take off. Establishing a foot­
hold in cyberspace now, even a small one, puts you in position to make a
bolder move when the adoption curve begins its ascent.
Another defensive strategy for going online is to combat what the folks at Open Market Inc. describe as “death by termites, not tornadoes.” That is, businesses going online to counteract the gradual undermining of traditional business models. The online distribution and sale of books and recorded music, for example, is eating away at the core business of traditional retailers; the ability to quickly and cost-effectively place classified ads on Web pages is eating away at one of the main revenue streams of newspapers, which get a third or more of their income from classified ads. Travel services are a hit on the Net, leaving traditional travel agencies scratching their heads; textbook distribution may be revolutionized by offering books online a chapter at a time. Extending this thesis, businesses are going online to grab cybermarket share, to stake the biggest claim possible so their competitors are playing catch-up.

### History Lesson

History can teach us a lesson through comments and decisions that are now the stuff of legend:

- A Western Union executive declared in an internal memo that “the telephone has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us.”
- Inventor Thomas Edison, along with many of his contemporaries, viewed the “wireless music box” (radio) as a passing fad.
- Radio pioneer Mary Somerville asserted, “Television won’t last. It’s a flash in the pan.”
- The railroads failed to recognize they were in the transportation business.
- The typewriter manufacturers failed to recognize they were in the word processing business.
- Xerox Corp. failed to see any value in the personal computer and unwittingly gave birth to Apple Computer Inc., which in turn provided a benchmark (not to mention a target) for Bill Gates and Microsoft.

What does this bode for blinder-wearing businesses that continue to operate solely within their traditional business models? In the “Darwinian school of business,” it means adapt or face extinction.
Fools Rush In

However, just because a customer demands it, just because you want to beat your competitors to the punch, just because your competitors have beaten you to the punch, just because the “termites” are digesting your core business model, there is no compelling reason for rushing headlong into cyberspace and pouring vast sums of money into a poorly planned and conceived venture. Proceed only after a thorough analysis of not only what you hope to achieve but also what can realistically be achieved. It’s easy to be seduced by the Web and heed its siren call, only to learn a lesson or two in the school of hard knocks.

Get Smart

Once you’ve established why you want to be online, you must be smart about going online. This means knowing which, if any, of your competitors are online, separating the hype from reality in terms of what’s possible, and reviewing the Net demographics to determine how many, if any, of your customers are online. These will all be factors in deciding how big your first step into cyberspace will be.

Know Thy Competition

Get smart with regard to which of your competitors are online and how they’re positioning themselves. If your competitors are not online, think about why not. Was it a conscious decision? Or are they just slow out of the gate?

Bear in mind that the Net has no geographic boundaries. Competitors thousands of miles away in the physical world are right next door in cyberspace. Whether that offers them a competitive advantage depends on the products or services they have to offer and how they hawk their wares. If you operate a commercial painting business, having a similar business that’s located on the opposite coast suddenly move in next door in cyberspace may not offer that company any advantage at all because of the logistics and practicalities involved. But if you distribute paint or industrial coatings, it could be a genuine threat.

Use the tools presented in Chapter 4, “Exploring Cyberspace,” to locate competitive businesses and analyze how they are approaching the marketing and sales of their products and services. Browse through their Web sites. Determine if they are active in any relevant discussion groups.
Separate Hype From Reality

I covered this ad nauseam in Chapter 5, “Separate Fact From Fantasy,” but it bears repeating: If you can’t separate the hype from the reality, you can’t set realistic goals and objectives for achieving success on the Net.

The reality is that in terms of business, the Internet, first and foremost, is still a marketing tool, not a sales tool. Your Web site is an electronic brochure, a billboard, an advertisement. You use it, e-mail, and discussion groups to interact with others. This can be a very cost-effective method of reaching many more people, developing a one-to-one relationship with your customers, and obtaining valuable feedback from your customers on how to proceed with your online venture.

If you want to go a step further and publish news and information, provide entertainment, or conduct transactions of one type or another, don’t expect an immediate return on investment. Start-up and ongoing expenses are often double the anticipated costs, and it could be one to three years or more before you begin to show a profit.

Review Net & Web Demographics

Review the latest demographics for the Net and the Web to determine if you have a large enough market to justify your move, and to determine the scope of your move. Several major corporations made aggressive moves to the electronic frontier only to learn a very expensive lesson: The market was not yet mature enough to support their ambitious efforts. You need to determine if your customers are online, and if so, in what numbers.

As detailed in Chapter 5, “Separate Fact From Fantasy,” the global Internet population fell somewhere between 50 million and 70 million people early in 1997 and was expected to double in the following 12 to 18 months. These figures include all those with access to the Internet, but it doesn’t mean that they all venture into the Internet with any regularity, if at all. These numbers certainly don’t represent those who frequent the World Wide Web, which is where you’re likely to gain the most benefit from being online. That number ranges from 20 million to 30 million in the United States and Canada, depending on who’s doing the counting—and why. For planning purposes, use conservative numbers.

In defining Netizen demographics, we know that men outnumber women two to one and that minorities are on the Net in smaller proportions than in the real world. Most Netizens have some college education, if not a postgraduate degree, and have above-average household incomes. Recent surveys indi-
cate that cybernauts use the Web most often for research on products and services, but they still have a reluctance to making purchases online. Review the demographics section of Chapter 5 for more specifics and sources of current information.

**Identify Products & Services**

To fully leverage your Internet presence, identify the products or services you want to promote on the Internet. The following questions and comments will assist you in the process:

- Can you include more information on your Web site than you currently put in your printed literature and advertisements? Many businesses publish detailed information about their products and services that would be cost-prohibitive to distribute as printed matter. What’s more, static information can be animated on the Web.

- Can customer service become more efficient by going online? Businesses are finding that by publishing online answers to frequently asked questions and company policies, they can reduce the amount of time employees spend on the telephone.

- Can technical support become more efficient by going online? Similar to putting answers to frequently asked questions online, businesses can publish step-by-step procedures for resolving common problems or stumbling blocks associated with their products.

- Do you produce or distribute a niche item? Or is it a commodity for the mass market? You’ll probably have greater success marketing or selling an item that’s not available at the local supermarket or shopping mall. On the Net, you can reach people thousands of miles away as easily as someone who lives up the street. If it’s something for the mass market, such as books or personal computers, they need to be offered at a substantial discount or convenience as an incentive for people to buy online.

- Can your product be distributed online, or will it require shipment by traditional means? Software and information-type products can be distributed online, reducing overhead costs.

- Does your customer need to “kick the tires?” With software, it’s achievable, but with real tires, it’s not.

- Are your products consumer-oriented or are they targeted at computer users and, more specifically, Net users, who are largely mid- to upper-income white males? You’re likely to do better at this point by targeting specific markets rather than chasing the mass market online.
Can you eliminate a middleman from your distribution channel? One of the much-ballyhooed opportunities of the Net is a process known as *disintermediation*, the ability to deliver a product or service directly to the end user at a reduced cost.

Can you become a middleman and open a new distribution channel for a product or service? Some entrepreneurs are starting new businesses distributing products online, particularly software and specialized information such as that relating to investing and financial markets. The number of specialized Net and Web directory services is also growing as the sheer volume of digitized information increases exponentially, and the demand grows for guideposts, road maps, and information filters.

In electronic commerce, the items selling best in terms of dollar volume are travel services, adult materials, personal computers, books, music CDs, videos, and computer software. Concert tickets and financial services are also making inroads in cyberspace. Some products or services may not be suitable for the Net, at least not right away. For example, clothing is a distant last place, but market analyst Jupiter Communications Inc. (www.jup.com) predicts this will turn around in the long term, as younger generations assume greater control of their buying decisions. Clothing leads the market for remote purchases, items bought through mail-order catalogs, TV shopping, and similar outlets. If you don't have something suitable for the Net or you're not sure, maybe your resources would be better utilized researching and developing such a product or service before moving into cyberspace.

**Keep Abreast of Emerging Technologies**

Like a good red wine, the human side of the Net will take time to mature, but the technical underpinnings of the Net change almost monthly, either through improvements to existing hardware and software or through the emergence of new capabilities. It's important to stay on top of these changes. They may improve what you're already doing or open the door to new opportunities. For example, the introduction of streaming audio and then streaming video has made it possible for radio and TV stations to offer programming over the Net, as both live and delayed broadcasts. The same technology can be used by any business to enhance the way it markets itself on the Net. This topic will be addressed in greater detail in Chapters 12, 16, and 19.
Learn From the Trailblazers

You're in a position to benefit from the experiences and missteps of those who have gone before you, the Internet trailblazers who went online two and three years ago to carve out a homestead on the electronic frontier.

When pressed, these trailblazers can come up with dozens of business opportunities afforded by the Net. But when it's all said and done, the way they are profiting from going online falls into one of two fundamental categories, which in turn are umbrellas for four basic business strategies:

- **Saving money**: Reduce overhead while amplifying services in:
  - communications, internally as well as business-to-business and business-to-customer; plus communications dealing with customer service, technical support, public relations, media relations, and investor relations; and
  - marketing, through product promotion, better brand awareness, and market research.

- **Making money**: Generate revenue through:
  - transactions, either financial transactions or sales of products and services; and
  - publishing content and then selling subscriptions and/or advertising.

If you can't figure out a way to, at a minimum, justify the costs of going online, then maybe you should bide your time while you learn more about the Net. But most business people I know who are online can easily cover the cost of Net access, if not a Web site, with a reduction in their phone bills and costs of printing and postage. Placing a value on the increased exposure is harder to pin down, but that will be addressed in depth in Step 7, "Evaluate Your Internet Program."

While reducing the ways businesses profit from going online to two fundamental categories may seem to be an oversimplification, it gives you a starting point for formulating your own online strategy. Most businesses use a combination, if not all four, of these strategies, depending on the particular characteristics of their organizations and how deep their pockets are.

You need to evaluate how you can best leverage the strengths of the Net to define and implement a strategy for your own business. Begin with identifying ways you can cut costs. Secondarily, identify areas where you can generate revenue.
Saving Money

Savvy business people realize that being a pioneer, an early adopter, is risky. They realize that going online must be approached as a long-term investment, that they should be looking for ways to save money, rather than expecting overnight profitability.

Cut the Cost of Communications

The place to start cutting costs is through the use of e-mail, particularly if paying your long-distance phone bill each month requires the approval of your banker. Even small businesses are saving hundreds of dollars a month by using e-mail instead of the telephone and fax machine.

Using e-mail can save you time as well, which may be an even more valuable commodity for you. It can save you time directly because it’s often quicker to compose and send e-mail than pick up the phone and call someone—and then wait on hold while the person is paged. Moreover, e-mail can improve communication by giving you a direct line to someone, rather than leaving messages that can lose their meaning in the translation.

And how many times are you interrupted during the day with a phone call over a matter that could have waited, or you had to make a call at an inconvenient time because of a difference in time zones? Disruptions can exact a heavy toll in the long run because of the time it takes to reorient yourself to the tasks at hand.

Cutting communications costs is tied directly with marketing, as well. What’s marketing if it’s not communication? Which is where having a Web site comes in—improving the effectiveness of your communications while reducing the cost of delivery.

Don’t overlook emerging technologies, either. The Net is becoming a vehicle for telephone, fax, and video conferencing. These services are still in development in terms quality and relative cost, but they hold the promise of reducing overall business costs.

Extend Your Marketing Program

In its simplest manifestation, going online and building a Web site is an extension of your marketing communications and advertising programs. This not only provides a broader geographical reach but also means that your business is open 24 hours a day, seven days a week.
For example, the Net provided the 1995 America's Cup with an avenue for publicity and sponsor fulfillment it had never had before. Because it is not considered a top-draw sporting event, general media coverage of the monthslong regatta was limited, if it got any coverage at all. But with the global reach of the Net, sports fans from all over the world received full coverage of the event through America's Cup On Line, including real-time updates during the final races. What's more, the event and Web site sponsors received exposure they typically are denied in general news coverage of such events.

**Early Adopters Show the Way**

West Marine Products Inc. (www.westmarine.com), headquartered south of San Francisco, operates a chain of more than 150 retail stores that cater to recreational boaters, and the company has a thriving international mail-order business. In terms of the Net, West Marine was an early adopter, going online in mid-1994. Even though shoppers may purchase some of the company's 30,000 items online, the Web site is primarily a vehicle for marketing and advertising because most customers still prefer ordering goods from a printed catalog by phone. See Figure 7-1.

![West Marine Homepage](image)

**Figure 7-1:** West Marine, an early adopter that went online in mid-1994, uses its Web site primarily as a vehicle for marketing and advertising its mail-order business.
“It allowed us to test the waters of electronic commerce way before other companies had even thought of it,” said Chuck Hawley, assistant vice president in charge of technical information. He estimates that West Marine, which had sales of $323 million in 1996, has spent less than $50,000 on its Web site over three years. “We have never put much money into it but have gotten good value from it. It captures people who might not otherwise know about us.”

Similarly, Rhonda Karayan put her business—Denver, Colorado–based Naturelle Cosmetics Corp. (www.naturalbeauty.com)—online in 1994. Her attitude was “just try it” and experiment with different approaches to marketing, because no one really knew what would work. What she’s found is that the greatest value is in promoting her products, not selling them, because people are not yet comfortable ordering online. “You can’t afford not to be on the Web in terms of marketing,” she said, adding that she has limited her spending to what she calls her “gambling money.”

**Tip**

Go online through an industry or trade association. Many industry and trade associations are going online or are already there, providing an inexpensive gateway to the Net for their members. This can be a very cost-effective means of leveraging the economies of scale a large group can achieve, as well as obtaining a promotional boost through the higher profile of the group as a whole. Moreover, it can be a catalyst for establishing a new network of business contacts. Trade and industry associations already online range from CommerceNet to the Direct Marketing Association to the Embroidery Trade Association to the National Frozen Food Association.

Silicon Valley–based CommerceNet (www.commerce.net), launched in April 1994, was formed to accelerate the growth of Net commerce and create business opportunities. It now boasts nearly 500 members. The business association has pioneered electronic commerce by being involved in the development of key elements of the Net’s infrastructure, such as security and payment, and by fielding pilot demonstrations.

The San Diego Convention & Visitors Bureau (www.sandiego.org) first began examining the Net as a new marketing strategy late in 1994. Although a few of its 1,600 members were already online, the vast majority were not. After close to a year of review and analysis, the organization made the move with a substantial Web site and integrated marketing effort.

This gave the organization’s members an instant presence on the Net. Since then, individual businesses have been developing their own Web sites—with direct links from the ConVis site to their own—where meeting planners, busi-
ness travelers, and tourists can obtain specifics on accommodations, restaurants, entertainment, amusement and theme parks, special events, and other services. Which brings us back to the gourmet pizza restaurant. Having a marketing-oriented Web site linked from the ConVis site could generate sales from business travelers and tourists alike.

**Reducing Overhead**

Many companies are reducing overhead by distributing their marketing materials, financial reports, and product information online, either through their Web sites or by e-mail. This reduces printing and distribution costs. They also reduce their advertising expenses. A common trick is to run smaller (read: less expensive) ads with the Web address in the ad. This points customers to the Web site, where they can learn all about the products and services, initiate contact for prices or additional information—and thus become a qualified sales lead or even make a purchase while there.

Texas businessman Paul Oman of Progressive Products, which distributes industrial coatings, told me that once he was established online, he stopped going to trade shows, and he either stopped advertising in certain trade publications or significantly reduced the size and frequency of his ads. Not only did the savings more than cover his online costs, he also achieved a greater response from being online than he had with the trade show/advertising combination. He has a marketing-oriented Web site, which prompts his prospects to contact him either by e-mail or telephone to obtain more information regarding prices and delivery.

Sun Microsystems Inc. at one point calculated that its Web site had saved the company well over $1 million in external marketing costs by providing an alternative for satisfying product literature requests, delivering software, and providing answers to its customers’ most frequently asked questions. A major producer of consumer goods with whom I worked determined that even with a budget in the $50,000 to $75,000 range, the company would cut the total cost of one facet of its marketing program by more than half.

Similarly, Fruit of the Loom Inc.’s Web site began saving the clothing manufacturer money immediately. By making its quarterly and annual financial reports available to researchers and financial analysts online, the traditional printing and postage costs were reduced substantially. The clothing manufacturer subsequently set up a Web-based extranet for its key distributors so that the sales channel from manufacturer to distributor to business consumer is electronic, reducing phone charges and eliminating associated paperwork.
Fruit of the Loom executives say this has given them a competitive advantage over archrivals Hanes and Russell Corp. Hanes has an extranet, but it's not as well developed as Fruit of the Loom's, and Russell has no extranet.

Granted, most of these are large corporations, but smaller businesses—exemplified by Progressive Products—can achieve results proportional to their spending. The same lesson can be applied to other facets of your business. Using e-mail can reduce the costs of telephone and fax, and increase the speed of communications.

**Market Research**

Using the Net for market research is a no-brainer—provided your target audience can be reached online. It also can be viewed as a cost-effective form of outsourcing. The Web site plays host to a survey or feedback form, requiring an investment that's only a fraction of the cost of a traditional survey, and the visitors to the site do the data entry themselves. Upon submission, the data are fed directly into a database file, from which reports can be generated immediately. This information can then be used not only for marketing but also to improve the Web site and fully integrate it into the company's overall marketing program.

As part of America's Cup On Line, we conducted a survey for the New Zealand Trade Development Board, asking visitors to the Web site to answer a series of questions regarding New Zealand and its products, as well as provide personal information, including level of education, income, profession, and age. As an incentive to get cybernauts to complete the survey, the trade group gave away five sets of coffee table-style books about New Zealand. Roughly 2,500 responses were received in less than a week, providing valuable information to New Zealand businesses looking to bolster tourism and increase exports.

New Zealand officials figured that had they conducted the survey in a more traditional manner, such as an insert in a daily newspaper, it would have cost them in excess of $200,000. The online survey, which cost them less than 2 percent of that figure, not only saved a significant sum of money, but the data could be analyzed immediately.

Similarly, American Express used an online survey to solicit customer feedback in an effort to improve its service, both online and off. A common model for newspapers and magazines going online is to offer online subscriptions at no charge but require subscribers to complete a demographic survey to gain access to the news. Many software distributors do the same.
Customer Becomes Employee

Federal Express and United Parcel Service have improved customer service and achieved a public relations coup by offering package-tracking services online. I put this in the customer-as-employee category. That is, the customer, with the aid of computer technology, performs tasks previously performed with less efficiency by employees. Everybody wins.

Similarly, product distributors and retailers may be able to reduce overhead by allowing customers to place orders online. Forms are filled in and the information immediately goes into a database file. If connected to a back-office system, invoices can be generated, credit cards can be authorized, inventory records can be updated, shipping labels can be generated, and an order confirmation can be sent automatically by e-mail.

Making Money

It's stating the obvious, but I'll do it anyway: The point of being in business is to make money. Achieving that goal is another matter. Achieving that goal online is yet another issue. The two fundamental strategies for making money online are (1) conducting transactions—i.e., the sale of products or services; and (2) publishing content of some kind, whether information or entertainment, and selling advertising and/or subscriptions to support it. While there are genuine success stories in this arena—adult-oriented materials and access to specialized databases, for example—across-the-board profitability is still a ways off.

For online retail operations, the ultimate objective is to make a net profit from the sale of goods and services through electronic storefronts. However, it's a big step going from saving money to making money, because there is a significant increase in the cost of doing business. Conducting transactions online typically requires a major up-front investment, not only to build a Web site but also to provide back-office support. This typically requires custom programming, particularly for database applications, which can get expensive very quickly.

Similarly, even on a small scale, electronic publishing has significant recurring costs that are difficult to reduce with economies of scale. For a large operation, start-up costs can be as high or exceed those of a transaction-type operation. Moreover, of all the types of businesses going online, publishing is the least likely to return a profit in the near term because production costs remain the same.
There is also the issue of extending an existing business to the Net versus starting a new business focused solely on the Net. Bookseller Amazon.com (www.amazon.com) and wine merchant Virtual Vineyards (www.virtualvin.com) are examples of companies that conduct all their business online. These businesses were founded solely to do electronic commerce. This is risky under the best of circumstances. Virtually all the veterans I've spoken with say the safest bet is to expand an existing business to include the Net as part of the overall marketing strategy and offer products and services online only when the move appears warranted. (In the case of Amazon.com and Virtual Vineyards, the principals were veterans in their respective lines of business.)

**No Antidote for a Bad Business Model**

The Web is not a magical antidote for unsound business practices or ill-conceived sales and marketing campaigns. A pair of San Diego-area entrepreneurs learned this the hard way. They established an online beauty contest featuring pictures of buxom, scantily clad women. Their intent was to get rich selling apparel and videotapes associated with the contest. The site was heavily trafficked as visitors voted for their favorite contestants, but after several months, not a single sale was made and the plug was pulled.

The lesson here is that the same principles of marketing a product in the physical world apply to the virtual world. The Internet/Web is merely another medium, or tool, for conducting business. Successful operations carefully integrate the two worlds.

**E-Commerce**

The Net is still immature in terms of providing a firm foundation for electronic commerce, but the winners are beginning to outpace the losers as businesses discover what works, business-to-business dealings increase, and consumers become more comfortable shopping online. E-commerce is still just a blip on the screen compared to its real-world big brother, but growth is steady and shows the promise of being a major player, perhaps before the turn of the century.

Nonetheless, in the business world the losers always get the biggest headlines. MCI and IBM closed their electronic malls; Auto-by-Tel and the Realtor Information Network have failed to live up to their expectations; Infoseek and The McKinley Group face mounting losses; American Cybercast dropped $6 million before turning off the switch; and the list goes on.
However, there are companies making a "Net" profit in cyberspace, businesses selling everything from books to fine art to hot sauce. Although few, if any, have struck the mother lode. The Net and Web add another facet their businesses, another profit center that made the investment pay off.

**Transactions: A Net Profit**

Being early, if not first, to market doesn’t hurt, as proven by Yahoo!, one of the first commercial Web directories, and a number of small businesses that plunged into the Net early on. Dell Computer Corp. (www.dell.com) extended its direct marketing operation to the Net in 1996 and a year later reported sales of $2 million a day. The E*Trade Group Inc. (www.etrade.com) and Charles Schwab & Co. (www.schwab.com) have shown they can make money offering financial services online.

The mortgage business is also benefiting. Myers Internet Services (www.myer.com) estimated that mortgage originations in the United States will exceed $4 billion for 1997. That’s about 1 percent of the total annual mortgage originations for the year, but the number is expected to grow to 12 percent by 2001.

PR Nutrition(www.prbar.com), the maker of a nutrition bar targeted at triathletes and bicycle racers, went online in November 1994 as a means of grabbing a bigger slice of market share from its larger rival, Power Bar. The Solana Beach, California, company began generating a positive cash flow almost immediately as customers placed case-lot orders using a form printed from the company’s Web site.

Another of the early retail operations on the Web was the Art Cellar Exchange (shown in Figure 7-2), which was officially launched on New Year’s Day, 1995, after three months of testing to sort out technical and logistical problems that are almost nonexistent today. Proprietor Pierrette Van Cleve expected about a 10-percent uptick in business by adding the Web to her marketing and advertising mix. What she got was a 60-percent increase, and at last report the fine-arts brokerage was doing 70 percent of its business on the Net, roughly $750,000 in annual sales.
Chapter 7: Defining Your Online Strategy

Welcome to the Art Cellar Exchange, a global fine art consultancy.

These links take you to information about the Art Cellar Exchange:

Art For Sale | ACEWants | Prime Interest | Buying |
All Fees | Transfer Fees | Prime Interest Archive | Selling |
Ask Artv | Contact | Other Sites | Art Planet

Welcome to the Art Cellar Exchange, a global fine art consultancy.

Figure 7-2: The Art Cellar Exchange was one of the early retail operations on the Web.

Absolutely Fresh Flowers (www.absolutely.com) is an example of how a low-budget Web site has flourished online. The company began late in 1994 with a simple page announcing its toll-free phone number, an extension of its more traditional magazine and radio ads. The company now conducts the entire transaction online. Hot Hot Hot (www.hothothot.com) used its Web site and expanded the sales of its gourmet salsas from the Pasadena, California, area to international regions it could not otherwise afford to penetrate.

As a cautionary note, however, keep in mind that the purpose of going online is to reach a broader market and increase overall sales. If all you do is cannibalize sales from your real-world operations, you may not have gained a thing.

Furthermore, it's important to get one's house in order before launching an all-out assault on the Net. As the Scouts are fond of saying, be prepared. It you get a rush of orders—particularly from overseas—you need to be able to fill them. You may need to increase inventory, review the shipping process, double-check shipping costs, and investigate import/export regulations, laws, and duties.
It may be wiser to test the waters first by offering a catalog and requesting feedback on people's buying preferences. Many companies have discovered that the marketing aspect of being online is very successful, but when it comes to buying, the majority still prefer the old-fashioned way: flipping through a printed catalog and placing the order by telephone, fax, or mail.

**Getting Mauled at the Mall**

Since the Web began to blossom in 1994, many adventurous entrepreneurs came up with the same idea: Build shopping malls in cyberspace. The rationale was obvious. Shopping malls are where it's at in terms of retailing in the physical world, why not in cyberspace?

However, things haven't panned out that way. Among the casualties are the Global Shopping Network, Nets Inc., and ScanUSA. Even financial powerhouses MCI and IBM closed their cybermalls, though it could be argued they didn't belong in the retail business in the first place.

The fundamental problem is that the reasons shoppers flock to malls in the physical world don't apply in cyberspace. Physical limitations severely restrict shoppers' options in the real world. But in the virtual world, a shopper can flit not only from store to store with the click of a mouse but also from mall to mall. What's more, it's difficult to window-shop in cybermalls, so you're less likely to benefit from spontaneous or impulsive actions by the shoppers. And if the mall is not well-promoted, your business will languish in anonymity.

Many malls are also their own worst enemies. They offer attractive low fees, but the typically naive business owner often gets nothing more than a business card slapped on a Web page by amateur designers. It's not an effective sales tool.

Rhonda Karayan initially went the mall route with her Naturelle Cosmetics, but says in hindsight that even at $250 she overspent. She now has an independent Web site with a domain name of her own. She says the only reason to be in a cybermall is to reduce the start-up cost of conducting secure transactions.

On the other hand, West Marine, which has its Web site under the umbrella of Internet Waterway Online (www.iwol.com), sees value in being affiliated with a mall-type operation. The arrangement West has is that the Web host maintains the site in return for a percentage of the sales revenue. That motivates the provider to have a reliable operation and keep the site attractive and easy to navigate.
If you're toying with the idea of joining a cybermall, investigate it thoroughly and contact businesses currently in the mall for their feedback. A mall that specializes in one area, such as collectibles or boating, has a better chance at success than one that generalizes. You also want exclusivity. You don't want any direct competitors in the same mall with you. If, after careful analysis, a mall setting still seems to be a good deal, then it may be worthwhile for you.

**Publishing**

It's true that for a few hundred bucks you can begin publishing news and feature articles on the Web and be right out there not only with the *New York Times* and the *Wall Street Journal* but also with ABC, NBC, CBS, and CNN—because you've eliminated the printing costs and most of the distribution costs. As a result, success in electronic publishing appears deceptively easy. The catch is that your other costs will not change much, if at all. You still need qualified writers to create the content and experienced Web designers to lay it out so that it's both appealing and in manageable-sized chunks.

In the online publishing arena, the road to Internet riches is littered with casualties. Time Inc.'s Pathfinder, ESPN Sportzone, and HotWired are all wallowing in the red. The iGuide joint venture between News Corp. and MCI was dumped; VirtualCity, funded in part by *Newsweek*, quickly went down the tubes; and The McKinley Group, which operated the Magellan Web directory, sold out to Excite Inc. as losses kept mounting. The IdeaMarket, intended to be a vast database of information ranging from oral histories to horoscopes, went on hiatus in July 1997, regrouping after just six months online.

The newspaper industry knows it must adapt but has yet to come up with the definitive answer. It's faced with battles on two fronts: After already losing its punch to television, it now has to contend with the almost-instantaneous news delivery made possible by the Net, rendering front-page news old hat to the habitués of cyberspace. At the same time, advertising on the Net is expanding, while ad revenue in traditional media, particularly print, is shrinking.

In response, most major newspapers have an online presence, and recent surveys indicate that television is losing viewers to the online world. Where newspapers ultimately make their money online remains to be seen. The most recent news is generally provided free of charge, though that access typically expires within three to seven days. Paid subscriptions are likely to become a fact of online life, but not in the immediate future.
Meanwhile, a small revenue stream has opened up. Newspapers and news magazines are beginning to sell articles from their archives online. Until recently, this was the purview of libraries and third-party service organizations, such as Lexus/Nexus. But with newspapers creating online databases, readers can search the archives themselves, pay a nominal fee or credit an account, and print the article from a desktop printer in a matter of minutes. This is part of the disintermediation process I mentioned earlier. Previously, third-party businesses acted as brokers for this information—Iquest, for example, which offered its service through CompuServe.

A newspaper’s advantage over the long haul, however, is its inherent strength: credibility as an objective and credible source of news and information. Many industry executives see the Net for what it is—a news delivery alternative to paper. They believe that as the population of cyberspace continues to increase, so will the percentage of wired readers. To a degree, it’s already happening. Upscale Netizens are reading online news delivered by newspapers they normally don’t purchase in print form. Over time, ad revenues will accrue as well, industry executives believe.

How long that takes to become fiscal reality remains to be seen. In the meantime, online news sources struggle with financial solvency. Web Review magazine (www.webreview.com), an online resource for people who design and develop Web sites, is a shining example of a high-quality, well-received electronic magazine, or “zine.” But it couldn’t cut it financially. Even with more than 100,000 page views a week, advertising revenues were less than $20,000 a month—not sufficient to cover expenses and support its staff of 12. Web Review shut down in June 1996, then was rescued three months later by Miller-Freeman, which promised to fund the zine for a year while developing multiple revenue streams. At this writing, the jury was still out.

TV-style entertainment has had even worse luck. After doling out a reported $6 million, American Cybercast, founded to produce TV-like shows for the Web, was forced to close down its much-ballyhooed The Spot soap opera. The overburdened infrastructure of the Net received part of the blame. It’s not yet capable of handling the bandwidth requirements of large graphics and multimedia files that attempt to simulate television fare, particularly when the end users are inching through the presentations with a 14.4 kilobits-per-second modem.

Selling subscriptions has proven to be virtually impossible to date, and banner-style display advertising revenue is elusive at best, except for the more popular search engines. Unless you’re selling pornography, that is. An Inter@ctive Week magazine report suggested that online pornography could
reach $1 billion in sales in 1997. The magazine cited, as an example, Danni’s Hard Drive, which claimed to have 13,000 members paying $9.95 a month. Combined with product sales, the site operator projected $2 million in sales for 1997.

**Classified Information**

Classified advertising is establishing a strong foothold online because of the ability to quickly search for the items you’re most interested in. Nor is it limited to the big players.

Editor Rich Hazelton is candid in admitting he wasn’t sure what to expect when he put 48° North (shown in Figure 7-3), a regional sailing magazine based in Seattle, Washington, on the Web. But the relatively low cost of going online made it worth the gamble to see what this Internet thing was all about. Initially, only select items from the print version are being published online—editorials, a few feature stories, yacht brokerage listings, and classified ads.

*Figure 7-3: 48° North, a regional sailing magazine, has found its classified advertisers have a growing interest in cyberspace.*
What he's found is growing interest from his classified advertisers. For an additional $5, they can have their ads on the Web, too. The classified section made its debut with fewer than 50 ads but at last count exceeded 120 a month and more than covered his Web expenses. As soon as the magazine enters the all-electronic production mode, advertisers may include pictures at an additional cost.

The magazine also publishes, at no additional charge, each yacht brokerage magazine listing on the Web. Yacht brokers from outside the magazine's primary distribution area have begun placing ads in the magazine to get the free listing on the Web. In some cases, these are brokers who previously had declined to buy advertising in the magazine because of its limited distribution. The broader reach of the Web made it worth doing so. The online presence has also generated new subscriptions from outside the normal distribution area.

Hazelton acknowledges that going online has not been a windfall for the magazine. But the Web site is paying its way, while providing added value to and increasing the loyalty of advertisers. This also gives the magazine a toehold in cyberspace that well may manifest itself in greater opportunity as the Net matures commercially.

Define Your Mission & Message

So, there you have it, some hard lessons from the trailblazers, with a growing number of success stories as well. With this perspective, you can better define your online mission and the message you want to send to the world. Your purpose for being on the Net and how you position your company are critical to its success. Your mission is a statement of why you're doing business on the Net. Your message is how you present yourself, how you tailor your image, once you're online.

Positioning

Begin by determining how you want to position yourself online:

- Enhance and extend your marketing communications program.
- Expand your territory.
- Improve customer service.
- Offer technical support.
- Sell products or services.
- Publish news, information, or entertainment.
Distill this list as your mission for being online. For example, Gadgets Galore is going online to extend its marketing program and expand its territory beyond the regional geographical limits of the current market. Secondarily, Gadgets Galore will research the willingness of customers to buy online and proceed with an online sales program when it appears warranted.

**Establish Goals & Objectives**

You also need to establish goals and objectives for getting and staying online, and set milestone dates for each. Table 7-1 is an example of a first-year implementation.

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Goals/Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–2</td>
<td>Obtain Net access.</td>
</tr>
<tr>
<td></td>
<td>Define mission and positioning.</td>
</tr>
<tr>
<td>2–3</td>
<td>Determine whether to host Web site in-house or use Internet service provider (ISP).</td>
</tr>
<tr>
<td></td>
<td>Establish a budget for online presence.</td>
</tr>
<tr>
<td></td>
<td>Develop preliminary layout for Web site.</td>
</tr>
<tr>
<td>3–4</td>
<td>Research Web designers/consultantshosts.</td>
</tr>
<tr>
<td>4–5</td>
<td>Accept proposals.</td>
</tr>
<tr>
<td>5–6</td>
<td>Contract with Web designer/consultant/host.</td>
</tr>
<tr>
<td>6–10</td>
<td>Kick off Web development.</td>
</tr>
<tr>
<td></td>
<td>Begin organizing Web-launch PR campaign and online marketing effort.</td>
</tr>
<tr>
<td>11–15</td>
<td>Monitor and review Web development.</td>
</tr>
<tr>
<td></td>
<td>Get personnel up to speed with online responsibilities.</td>
</tr>
<tr>
<td></td>
<td>Continue organizing online marketing effort and Web-launch PR campaign.</td>
</tr>
<tr>
<td>16–25</td>
<td>Launch Web site and PR campaign.</td>
</tr>
<tr>
<td></td>
<td>Monitor response to online effort.</td>
</tr>
<tr>
<td>26–48</td>
<td>Continue monitoring response to online effort.</td>
</tr>
<tr>
<td></td>
<td>Begin evaluating/analyzing response to online effort and modify program when and where appropriate.</td>
</tr>
<tr>
<td>49–52</td>
<td>Build online presence to test waters with enhanced services and transactions.</td>
</tr>
<tr>
<td></td>
<td>Complete review and establish new goals and objectives as necessary, based on lessons learned.</td>
</tr>
<tr>
<td></td>
<td>Reassess budget.</td>
</tr>
</tbody>
</table>

*Table 7-1: Example Internet timetable.*
The Net and its burgeoning offspring, the Web, are another resource that businesses and consumers are coming to expect to be available to them in their search for products and services. Those companies who don't heed this growing trend risk falling behind and losing market share. Nonetheless, the trailblazers have shown that the best bet is using the Net, at least initially, as an extension of their marketing programs, thereby limiting their financial exposure.

Your online success requires thoughtful planning and the development of a strategy that is likely to pay off in cyberspace. In terms of business, your online presence must take advantage of the unique strengths of the Net, which allow a company to reduce the cost of communications, increase market share through global marketing and distribution, and use interactive capabilities to conduct cost-effective market research, as well as obtain feedback from customers and consumers. Secondarily, the Net offers a new distribution channel and an avenue for businesses to sell products and services or publish news and information people are willing to support, either in terms of advertising, subscriptions, or both.

The safest route is to first identify and implement ways of saving money, then move on to the task of making money. The specifics of implementing your online strategy will be discussed in Steps 5 through 7.

Once you've established your goals for going online and outlined a strategy for achieving these goals, you must establish a realistic budget for implementing your plan. In Chapter 8, I discuss the second component of creating your Internet business plan: Planning your online budget. This chapter examines the various elements you need to take into account to cost effectively implement your online strategy.
Planning Your Online Budget

When people ask me what it costs to take a business online, I tell them it ranges from $300 to $3 million, depending on the size and complexity of their programs. Admittedly, the answer sounds a bit flippant, and such a broad range renders the figures almost meaningless. But the point I'm trying to make is this: It's impossible to make a generalized statement about the cost of doing business online. Like its real-world counterpart, it can be done only on a case-by-case basis.

That said, I'll attempt the impossible. Realistically, a small business should plan on spending somewhere between $2,000 and $20,000 for the development and promotion of a marketing-oriented program in the first year. A medium-sized business may spend from $10,000 up to $100,000 for a program that includes a high degree of interactivity or online transactions. A major corporation may fork over $1 million or more for a high-profile, highly promoted program that includes integrating the online business with its existing back-office support systems. For an Internet start-up such as Amazon.com, which still must fund most of the elements of doing business in the physical world, it's Katy bar the door.

The key is putting this in perspective relative to your goals. In Chapter 7, "Defining Your Online Strategy," we examined the need for and the process of establishing an online strategy. Yes, you may spend $10,000, $100,000, or $1 million the first year of getting the Net side of your business up and running. But what would it have cost you to open a satellite office or store across town, let alone in another city, state, or country?
You also have to consider this in terms of establishing a foothold on the
electronic frontier, so that as the world of electronic commerce matures,
you're positioned to quickly capitalize on new opportunities as they emerge.
What I'm saying is that making the move into cyberspace is not just an
extension of your current business. It's an investment in your business's
future. This chapter takes you through the budget-planning process, the
second component of your Internet business plan, so that you can effectively
implement your online venture.

Your Budget is a Reflection of Your Goals

The strategy you ultimately adopt for positioning yourself online will dictate the
size of your operating budget. You can't think just in terms of start-up capital,
such as "What's a Web site cost?"—the question I'm asked most frequently.

Your online program, particularly your Web site, will need revisions and
updates to accommodate changes in the marketplace, technology, and your
marketing and business decisions. Ongoing costs can range from a few hun­
dred to tens of thousands of dollars annually, depending on the path you
choose and what you can afford.

Compounding the complexity of developing an online budget is that
when most organizations decide to go online, they have no category in their
existing budget for the Internet (i.e., there is no Internet budget). The money
comes from a variety of places, including the CEO's own wallet. Typically,
the funds are skimmed off the marketing and/or advertising budgets until
the online program is given an identity of its own and specific funds are
allocated to it. Consequently, the allotted funds are unrealistically low, often
based on the "I thought the Internet was free" fantasy. This results in sticker
shock when bids for Web site design and development exceed the entire
budget for going online.

Using the accompanying worksheet and checklist, the requirements and
associated costs of taking your business into cyberspace will be identified in
terms of start-up and ongoing activities as they pertain to the need for equip­
ment, services, and human resources.

Budget Starting Point

Here are a few points of reference: Over the past three years many of the
projects with which I've been associated involved small- to moderate-sized
businesses. On average, the first-year cost of going online for these businesses
was less than $20,000, though some projects were as high as $70,000.
We estimated that America’s Cup On Line, which was launched in October 1994 and ran through May 1995, would cost us about $250,000 to $300,000 to produce if we had had to contract the services at market rates. And that was for a program that had few bells and whistles—because with the state of the art at the time, you literally couldn’t put bells or whistles on a Web site . . . or certain types of images . . . or even flow text around graphic images. I shudder to think what it would have cost to do that project using all of today’s technological options.

A panel of industry analysts and market researchers at the NetGain Conference in July 1997 estimated the entry-level cost of developing a useful business Web site to be $50,000 to $100,000, with a site for generating sales leads pegged at $300,000. The price tag for genuine transaction processing on the Net would be roughly $700,000. Still, the panelists concurred that sites that support a company’s strategic goals will pay for themselves within an acceptable amount of time.

Other industry analysts figure large corporations should plan on spending in excess of $1 million to ramp up for electronic commerce and establish bona fide positions in the electronic marketplace. Yet few companies have put much thought, let alone money, into the process. The Gartner Group’s “Electronic Marketplace Strategies: Vision vs. Reality” report found that, of the enterprise-level corporations surveyed, all had high expectations in terms of annual revenues from e-commerce in the coming years, but 74 percent of the respondents were budgeting less than $1 million for their online efforts. “Electronic marketplace participation gets more lip service than real support,” the report concluded.

**Electronic Trade Show**

If all those zeros leave you somewhat incredulous, here’s one way of looking at it: Think of it in terms of an exhibit or booth at a trade show that never closes. What do you spend each year to attend these shows and promote your attendance at these shows? As I mentioned in Chapter 7, “Defining Your Online Strategy,” Progressive Products more than covered its costs of going online after it stopped attending trade shows and cut back on its traditional advertising—achieving a greater response from being on the Net. The Texas company has a marketing-oriented Web site, which prompts prospects to contact the company either by e-mail or telephone to obtain more information regarding prices and delivery. This is what I call the economy plan.

I’m not suggesting that you stop exhibiting at trade shows. It’s just an analogy to give you a financial reference point, to get you thinking about the value of being online.
However, there’s a big difference between a Web site and exhibiting at a trade show. You are not part of the Web site. You’re not there to greet everyone who comes by. Your stand-in is the interactivity you integrate into the site. And this raises the ante.

Adding interactivity—in the form of a guest book, feedback form, survey for market research, mailing list, discussion group, product catalog housed in a database, or multimedia-type games—quickly drives development costs up. Taking another step and adding an electronic shopping cart to sell a line of products pushes the cost even higher, particularly if it’s tied to a back-office order entry and inventory system. The enhancements typically require custom programming to some degree, as well as systems integration. Computer programmers and systems integrators don’t come cheap.

Moreover, what people often fail to realize is that in adding these features they’re creating something much more complex than a printed brochure or catalog. They are developing software, even when it’s a simple Web site. And the unwritten rule of software development is that it costs twice as much and takes twice as long as you think it should. I prefer to look at it this way: How much are you saving in terms of human resources? Are these machines doing the work of one, two, three, or more employees? And perhaps more efficiently? Can you cut your traditional advertising expenditures because of the market reach of your Web site?

The material that follows walks you through the budget-planning process. It identifies the multiple aspects you must consider when determining your cost for going online. This is included as a combination checklist and worksheet (BUDGET) in the \Resource\Worksheets directory on this book’s Companion CD-ROM.

**Budget Planning**

Now that I’ve given you a bit of a reality check cost-wise, let’s look at the line items you need to consider to develop a realistic budget for growing your business in cyberspace:

- Internet access.
- Domain name.
- Web site hosting.
- Web site development.
- Promotion.
- Human resources.
- Program maintenance and upgrades.
Internet Access

The costs of Internet access were addressed in depth in Chapter 2, “Get (Well) Connected.” Get out your Going Online Worksheet and use that as your guide for establishing your start-up costs and your ongoing costs using the examples below as references.

Budget line items include:
- Setup fee.
- Hardware: computers, modems, routers, data/channel switching units.
- Software: Netscape Communicator, Standard or Pro version.
- Installation: may be part of setup, but not necessarily.
- Dedicated data transmission line.
- Monthly fees or use charges.

Domain Name

Do not be penny-wise and pound-foolish. Register a domain name. There are two line items:
- Registration fee: $100 per domain name.
- Retention fee (beginning the third year): $50 per domain name.

Web Site Hosting

These costs were addressed in depth in Chapter 3, “Select a Web Site Host,” so get out your Web Host Worksheet and use that as a budget-planning guide.

Budget line items include:
- Setup fee.
- Internet service provider (ISP) monthly hosting fee.
- Hardware: computer, router, network cards.
- Software: server, e-mail, newsgroup, File Transfer Protocol (FTP), network, other.
- ISP maintenance and administration fees.
- In-house labor costs.
Web Site Development

In Chapter 7, "Defining Your Online Strategy," I discussed the two primary approaches to profiting from going online—saving money and making money. We also covered the four fundamental business strategies for going online—communications, marketing, transactions, and publishing/distributing content. Lumping communications and marketing together, that gives us three basic types of Web sites:

- Marketing
- Transaction
- Publishing

Obviously, many businesses will combine the underlying elements of two, if not all three, of these categories to achieve their goals. But it helps simplify the budget-planning process to approach it in these terms.

Marketing

I call this the economy plan, but you can still spend a lot of money if you decide to enhance the site with custom graphics and special presentations, such as animation, audio, video, multimedia, and virtual reality. On one project in which I participated, the client wanted arcade-style games to attract kids to the Web site. Achieving this required the use of Shockwave multimedia tools and custom game development with a price tag well into five figures. In addition, a few of the company's classic television commercials were digitized and offered as QuickTime video clips.

Budget line items include:

- Adaptation of existing sales and marketing materials to Web pages.
- Custom graphics.
- Company newsletter.
- Searchable Web site.
- Searchable database for dynamic Web page delivery or product catalog.
- Interactivity: off-the-shelf (shrink-wrap) or custom-developed software programs for feedback, information requests, technical assistance, complaint form, mailing list, discussion group, chat, visitor statistics, personalizing content.
- Enhancements: animation, audio, video, multimedia, virtual reality.
Transactions
It’s common for someone to think, “Hey, I can sell my products all over the world by going on the Net, eliminating the cost of printing and distributing a mail-order catalog or opening new stores.” This is true, but it also raises other issues, such as how are you going to accept and process the orders online? It’s one thing to put up static Web pages for people to browse through. It’s quite another to set up your Web site so visitors can send information back to you in a form other than an e-mail message, particularly if it’s their credit card number. Consequently, this type of Web site has high front-end, or start-up, costs.

The folks at Virtual Vineyards invested close to $1 million getting their operation off the ground, although that included integrating the online ordering with back-office support systems. Amazon.com spent considerably more. On the small-business level, a young businessman asked me to estimate the cost of a Web site for selling a variety of herbal remedies and dietary supplements. He and his partner had hundreds of items in their catalog. After determining the essence of what they hoped to accomplish and what it would take to achieve that, I gave them a ballpark figure of $9,000 to $12,000, pending more specific details. And that was just for the Web site.

It was obvious from their response this wasn’t even within the scope of their thinking—I never heard from them again. This is not unusual. People see ads touting a service that will “put your business on the Web for $295 a year” and somehow think that’s all there is to it. For what these two were trying to accomplish, they needed a customized database and shopping cart and the ability to do secure transactions. They also needed a dedicated server to ensure top performance of database queries and the shopping cart routines.

If you’re going to do transactions on your site, budget line items in addition to those listed under Marketing include:

- Database software and/or custom database programming.
- Order form.
- Searchable product catalog.
- Shopping cart or merchant server.
- Secure transactions.
- Dynamic reporting of order status.
- Secure server.
- Secure server certificate of authenticity.
- E-mail and data encryption.
- Web site log-file analysis software or service.
Publishing
Producing a news- or information-oriented Web site that requires continual updating to keep the content current requires the greatest overhead. Automating the process to keep it from being labor-intensive can require a substantial up-front investment. Taking it a step further and delivering updates to subscribers' Web browsers uses what's known as push technology, and will require an additional investment.

When I worked up a budget for publishing an online sailing magazine following the 1995 America's Cup, I figured I could squeeze by with a minimum of $150,000 for the first year—working without pay—but really needed closer to $300,000 to do it well. Yes, the printing and distribution costs were minimal compared to putting ink on paper, but the other costs remained constant. I still needed people to report the news and sell advertising. Response from the readers was terrific (naturally, it was free), but with a less-than-enthusiastic response from the potential advertisers (typically a blank stare), I shelved the project after a few months online. Putting a daily newspaper online raises the ante exponentially.

If you plan to publish or distribute information online, items to consider in addition to those listed under marketing include:

- Database software and/or custom database programming.
- Personalized news/information delivery.
- Subscriber sign-up and login.
- Reader feedback.
- Reader forum/discussion group.
- Searchable archives.
- Ordering mechanism for purchase of archived articles.
- Secure transactions.
- Secure server.
- Secure server certificate of authenticity.
- E-mail and data encryption.
- Push technology.
- Advertising management program or service.
- Web site log-file analysis software or service.
Promotion

I’ve said this before and I’ll say it again: You can’t depend on the “field of dreams” (build it and they will come) approach to attract visitors to your Web site. Nor can you rely on word of mouth. You must tell the world you’re on the Net, and perhaps offer special incentives. Depending on your financial resources, this can range from a limited-distribution press release to a television ad campaign. Whatever the scope, you need to do something and budget funds for it. An economical approach is to integrate it with your existing marketing and advertising programs so the cost is minimized.

In the sample budgets, I’ve included a line item for advertising. This is an arbitrary number. You may choose to beef up your advertising or change its focus when you launch your online program, or you may simply opt to make minor changes to your ad copy to incorporate your Web and e-mail addresses. Budget line items include:

- New business cards and stationery.
- Press release composition and distribution.
- Public relations campaign, in-house or through an agency, including press conference and open house.
- Marketing campaign, in-house or through an agency.
- Advertising campaign, both traditional and online.
- Special promotions: product giveaways, sweepstakes, coupons, or discounted merchandise.
- Targeted direct mail to a mailing list or discussion groups or both.

Human Resources

Launching your online venture is not the end of your efforts. In some ways, it’s just the beginning. Just as you need to staff your real-world place of business, you need to assign at least one person to be responsible for the online activities, even if it’s only on a part-time basis. You also need to budget time for staff indoctrination and training in the use of the relevant software.

However, the allocation of human resources—or the lack thereof—is one of the weakest links in most online programs. Often, no one is assigned to do something as simple as respond to e-mail, or the person is not given enough time to do the task. Rhonda Karayan, who put her cosmetics business online (see Chapter 7), told me that one her biggest surprises was how much time it
took to handle inquiries after she invited Web site visitors to submit questions regarding the use of cosmetics. A West Marine executive (see Chapter 7) told me the company is likely to bring much of its online catalog development in-house, which means at least a part-time, if not full-time, position—requiring a new budget line item in the $20,000- to $40,000-a-year range.

Your Web site needs monitoring each and every day. Yet some businesses put up Web sites and don’t check in for days or even weeks at a time. Computers fail and their operators make mistakes. Although your Web site may be hosted by an ISP, you’re probably just one of many customers, and not all problems get caught. It pays to be on the lookout. If you’re not going to do it yourself, you need to assign a person to be responsible for monitoring the Web site, as well as responding to e-mail and reviewing the input from interactive elements such as a guest book, mailing list, market research survey, public forums, chat group, and product orders. Just an hour each workday will total some 250 hours annually. Who’s going to do it and where will the funds to pay for it come from?

On a more fundamental level, you should have an Internet committee, which I touched on in Chapter 6, “Belles-Lettres,” regarding the formation of a formal e-mail policy. I realize that forming a committee sounds bureaucratic, but I believe it’s important. Representatives of the various segments of your company can provide valuable input, and you are more likely to gain everyone’s cooperation in the implementation of your online program if they feel as though they are part of the process. Much of this will be soft costs, because the Net-related tasks may be just another facet of the work they already do. But it still takes time that was not previously budgeted, and as the time-worn cliché goes: Time is money. I have included a line for it in the sample budgets that follow. You can treat it any way you choose.

Budget line items include:

- Internet committee meetings for program development, implementation, review, and evaluation.
- Training employees in the use of software.
- Web site and e-mail monitor.
- Response to Web site visitor feedback and trouble reports.
- Inquiries concerning products, services, and/or technical support.
- In-house Web designer.
- In-house graphic designer.
- In-house programmer.
- In-house Webmaster and system administrator.
Program Maintenance & Upgrades

Many companies go online with a small-scale, marketing-oriented program. They plan to phase in enhancements, greater degrees of interactivity, online transactions, and news/information publishing after gauging the response to the program or to spread the spending out over a longer period of time. This ties in directly with the preceding elements. For your purposes, you may want to move some items from previous elements into this one.

Sample Budgets

Following are sample first-year, start-up budgets that fall within the three primary categories listed earlier. The budgets are for three fictional companies called A, B, and C, and incorporate a range of strategies for doing business on the electronic frontier. The figures are rough estimates only. Your budget may differ significantly depending on how much you choose to spend on graphic design, custom features, and content development. These sample budgets are to help you visualize and develop a budget of your own.

Company A: Economy Plan

<table>
<thead>
<tr>
<th>Item</th>
<th>Start-up</th>
<th>Ongoing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access: Dial-up, three users</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setup fee</td>
<td>$75</td>
<td></td>
</tr>
<tr>
<td>Hardware: modem $150 x 3</td>
<td>$450</td>
<td></td>
</tr>
<tr>
<td>Software: Communicator, $59 x 3</td>
<td>$177</td>
<td></td>
</tr>
<tr>
<td>Installation: in-house @ 2 hrs.</td>
<td>$50</td>
<td></td>
</tr>
<tr>
<td>Fee</td>
<td>$90/mo.</td>
<td></td>
</tr>
<tr>
<td>Domain name: One</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registration fee</td>
<td>$100</td>
<td></td>
</tr>
<tr>
<td>Retention fee (beginning 3rd yr.)</td>
<td>$50/yr.</td>
<td></td>
</tr>
<tr>
<td>Web site host: ISP/virtual domain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setup</td>
<td>$50</td>
<td></td>
</tr>
<tr>
<td>Monthly fee</td>
<td>$50/mo.</td>
<td></td>
</tr>
</tbody>
</table>
## Official Netscape Internet Business Starter Kit

### Item

<table>
<thead>
<tr>
<th>Item</th>
<th>Start-up</th>
<th>Ongoing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Web site development:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contract Web designer, adapt existing</td>
<td>$2,500</td>
<td></td>
</tr>
<tr>
<td>materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Promotion:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PR campaign</td>
<td>$1,000</td>
<td></td>
</tr>
<tr>
<td>Advertising</td>
<td>$2,000</td>
<td></td>
</tr>
<tr>
<td><strong>Human resources:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet committee</td>
<td>$300</td>
<td></td>
</tr>
<tr>
<td>Maintenance &amp; updates; visitor response</td>
<td>$100/mo.</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$6,702</td>
<td>$2,880</td>
</tr>
</tbody>
</table>

**Bottom line**

$9,582

### Company B: Moderate Budget

<table>
<thead>
<tr>
<th>Item</th>
<th>Start-up</th>
<th>Ongoing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access: ISP/ISDN</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line installation</td>
<td>$200</td>
<td></td>
</tr>
<tr>
<td>Setup by resident guru @ 2 hrs</td>
<td>$40</td>
<td></td>
</tr>
<tr>
<td>Hardware: ISDN router</td>
<td>$400</td>
<td></td>
</tr>
<tr>
<td>Software: Communicator, $59 x 5</td>
<td>$295</td>
<td></td>
</tr>
<tr>
<td>Use charges</td>
<td></td>
<td>$150/mo.</td>
</tr>
<tr>
<td><strong>Domain name: Two</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registration fee</td>
<td>$200</td>
<td></td>
</tr>
<tr>
<td>Retention fee (beginning 3rd yr.)</td>
<td></td>
<td>$100/yr.</td>
</tr>
<tr>
<td><strong>Web hosting: Co-location</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardware: Pentium class</td>
<td>$2,500</td>
<td></td>
</tr>
<tr>
<td>Software: Windows NT</td>
<td>$1,000</td>
<td></td>
</tr>
<tr>
<td>Setup</td>
<td>$250</td>
<td></td>
</tr>
<tr>
<td>Administration by ISP</td>
<td></td>
<td>$500/mo.</td>
</tr>
<tr>
<td><strong>Web site development:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web designer/in-house support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adapt existing materials;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>custom CGI/Java Scripts</td>
<td></td>
<td>$7,000</td>
</tr>
</tbody>
</table>
## Chapter 8: Planning Your Online Budget

### Company C: High-ticket

<table>
<thead>
<tr>
<th>Item</th>
<th>Start-up</th>
<th>Ongoing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access: Dedicated fractional T-1 (512 kbps)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setup/installation</td>
<td>$1,500</td>
<td></td>
</tr>
<tr>
<td>Monthly fee</td>
<td></td>
<td>$1,000/mo.</td>
</tr>
<tr>
<td>Hardware: CSU/DSU</td>
<td>$1,500</td>
<td></td>
</tr>
<tr>
<td>Software: Communicator, $79 x 5</td>
<td>$395</td>
<td></td>
</tr>
<tr>
<td>Software: Communicator, $59 x 10</td>
<td>$590</td>
<td></td>
</tr>
<tr>
<td>Domain name: Five</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registration fee</td>
<td>$500</td>
<td></td>
</tr>
<tr>
<td>Retention fee (beginning 3rd yr.)</td>
<td></td>
<td>$250/yr.</td>
</tr>
<tr>
<td>Web site hosting: In-house</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardware: Upgrade computer</td>
<td>$3,000</td>
<td></td>
</tr>
<tr>
<td>Software: Netscape SuiteSpot</td>
<td>$5,000</td>
<td></td>
</tr>
<tr>
<td>Setup &amp; administration</td>
<td>$1,000</td>
<td></td>
</tr>
<tr>
<td>Web site development:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web consultant/in-house support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultant: 40 hrs. @ $75/hr.</td>
<td>$3,000</td>
<td></td>
</tr>
<tr>
<td>Custom programming</td>
<td>$22,000</td>
<td></td>
</tr>
<tr>
<td>In-house Web design</td>
<td>$5,000</td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Start-up</td>
<td>Ongoing</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td>Promotion:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PR campaign</td>
<td>$10,000</td>
<td></td>
</tr>
<tr>
<td>Advertising</td>
<td>$20,000</td>
<td></td>
</tr>
<tr>
<td>Human resources:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance &amp; updates; visitor response</td>
<td>$1,500/mo.</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$73,485</strong></td>
<td><strong>$30,250</strong></td>
</tr>
<tr>
<td><strong>Bottom line</strong></td>
<td><strong>$103,735</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Moving On**

As you can see, drafting an Internet business plan, particularly the budget portion, is not something that’s done in an afternoon, or even a day or two. It requires a collaborative effort within your business, as well as input from service providers, to nail down the specifics regarding your needs and the costs involved. It’s important that this is done methodically and not rushed into blindly.

You now have the framework within which to establish your own Internet business plan and a budget to implement that plan. It’s important to involve people from all facets of your company. They can provide valuable input and will be more willing participants when the plan is implemented if they are involved in the planning process itself.

Before finalizing your budget, you’ll need to get some feedback, if not proposals, from Web site designers, developers, and/or consultants, which is discussed in the next phase of taking your business online: Step 4: Develop a Well-Designed Web Site. In Chapter 9, “Selecting a Web Site Designer,” I address the specific issue of how to go about assessing the strengths and weaknesses of prospective Web designers and consultants and examining the cost of such services. Having a preliminary Internet business plan and budget framework in hand will make the process much easier and quicker.
Develop a Well-Designed Web Site

Building a Web site is the biggest and costliest step you'll make in taking your business online. So, thoughtful planning is a given. At the same time, you need to weigh your options before pinching too many pennies. Typically, the process requires hiring a Web designer or developer to help you create a blueprint, and then turn that blueprint into a functioning Web site. Chapter 9, "Selecting a Web Site Designer," provides guidelines for selecting and contracting a Web site consultant, designer, and/or developer.

In addition, you'll have many decisions to make regarding the layout and technical sophistication of your Web site. That is, you'll have to sign off on what the fundamental elements are going to be and how many bells and whistles you should include. Chapters 10, 11, and 12 introduce the Web site essentials, the various enhancements you should consider, and what's needed to conduct transactions on the Web. If you opt to do some or all of the Web site design and development in-house, these next four chapters will arm you and your employees with the knowledge to make informed design decisions.
A common dilemma in developing a Web site is whether to do it in-house or hire outside contractors. However, the learning curve for developing the skills needed to create an effective Web site is steep, and neither you nor your employees are likely to have the time or expertise to do a satisfactory job within a reasonable amount of time—at least not without some outside assistance.

Choosing a Web site design consultant or developer is one of the most important decisions you'll make. You need to do it thoughtfully and cautiously. I provide worksheets to help you through the often frustrating process.

Get Expert Advice

I'm making my position clear from the outset: Get expert advice when designing and building a site on the World Wide Web. I'm not just saying this for job security. I'm saying this to save you the aggravation of starting down this path without a guide, or even a decent road map, and then discovering that WWW can mean What Went Wrong? If nothing else, using a Web design consultant will get you started; you can then bring the ongoing maintenance and updates in-house once the Web site is launched.
I spend a fair amount of time "Web doctoring." That is, I've been called in to fix problems with Web page design, as well as problems with the overall layout of a Web site itself, after the project has stalled—projects either begun in-house or by an inexperienced contractor. Had competent designers and developers been used in the first place, many of the problems could have been avoided.

Working with HyperText Markup Language, or HTML, appears deceptively simple at first glance. After all, when compared to the sophistication of word processing and desktop publishing, it exemplifies technological regression, not progression. HTML is a throwback to the early days of word processing, when we embedded the formatting commands as text characters in the documents themselves. Any junior high student can—and many are—working with HTML. But building a Web site involves much more than marking up documents with HTML, which is merely the vehicle for getting where you want to go.

Your objective goes way beyond finding someone who knows how to use HTML, write a Common Gateway Interface (CGI) script, or scan and touch up a photograph. Your objective is launching a Web site that enhances your marketing program and that has the technical functionality to implement your online business model. This is achieved through a well-organized site layout, intuitive navigation, aesthetically pleasing page design, quick download, and clear communication. Good HTML, bug-free programming, and appropriate graphics are simply the tools for obtaining these objectives.

However, what often happens is that because the Web requires computers and because the mysterious computer world is the domain of network specialists, programmers, and graphic designers, these people are often given the task of building a Web site—or they commandeer the role—even though they have little or no experience with the medium. This typically results in Web sites that have impeccable technical functionality but are as dull as dishwater. They have eye-popping graphics and multimedia presentations but take eons to download. They have sophisticated user interfaces but are so fraught with bad grammar and spelling they lack credibility. Or they have tons of valuable information but have such a poor site layout no one can figure how to get to it. Figures 9-1 and 9-2 illustrate some of these site disasters. When the technical folks create the site, the marketing mission often gets lost in the technical focus.
Chapter 9: Selecting a Web Site Designer

Rhythm

The subdivision of a span of time into perceptible sections; the grouping of musical sounds, principally by means of duration and stress.

In Western music, time is usually organized to establish a regular pulse, and by the sub-division of that pulse into regular groups. Such groups are commonly of two or three units (or their compounds, such as four or six), the arrangement of the pulse into groups is the metre of a composition, and the rate of pulses is its tempo. Most Western music, from the late Middle Ages to the 20th century, possesses a regular rhythmic pulse and metre; these may be absent, however, from some types of earlier music, for example ecclesiastical plainsong, which apparently lacked a metric structure, leaving its rhythm to be realized according to conventions and as dictated by the verbal text. In some 20th-century music, composers have sought to avoid regular rhythmic structures in order to achieve a more flexible rhythm; in some cases their methods have been influenced by folk music lacking a regular metric structure. But

Figure 9-1: A page with excellent information can be unappealing and may not get read if it’s not presented well.

Figure 9-2: Cool graphics and animation are great “eye candy,” but if they take forever to download—and have little substance—you’re going to run off the very people you want to keep around.
That's why I recommend hiring a Web design consultant at least, even if you decide not to contract complete Web development services. A consultant can advise and monitor your employees as they get up to speed in terms of Web design and implementation.

**Web Design/Development Capabilities**

To determine the extent of outside assistance you need to design and develop a Web site, you should assess your in-house capabilities. With that perspective in hand, you can make an informed decision as to how much you and your staff will contribute to the process.

I created a set of guidelines to assist you in your needs assessment. These guidelines are included as a worksheet in the /Resource/Worksheets directory on this book's Companion CD-ROM as the word processor file DESIGNWK.

**Needs Assessment**

I have separated the needs-assessment guidelines into three categories: personnel, hardware, and software, as shown in Tables 9-1 through 9-3:

<table>
<thead>
<tr>
<th>Personnel</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network specialist</td>
<td>Yes No</td>
</tr>
<tr>
<td>Software engineer</td>
<td>Yes No</td>
</tr>
<tr>
<td>Programmer</td>
<td>Yes No</td>
</tr>
<tr>
<td>Computer specialist</td>
<td>Yes No</td>
</tr>
<tr>
<td>Graphic designer</td>
<td>Yes No</td>
</tr>
<tr>
<td>Illustrator</td>
<td>Yes No</td>
</tr>
<tr>
<td>Other</td>
<td>Yes No</td>
</tr>
</tbody>
</table>

*Table 9-1: In-house personnel availability.*

If you answered no to each of these items, you're likely to need full Web development services. If you answered yes to any of them, then you may want to consider how much time your employees have to learn and implement the craft of Web design. Graphic designers and illustrators who use computers in their work, especially if they're experienced in desktop publishing, are good candidates for Web design, because Web development involves presentation much like publishing with paper. A programmer has a leg up when it comes to writing CGI scripts, JavaScripts, Java applets, and ActiveX controls.
Table 9-2 will help you determine your hardware needs:

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-end Windows or Macintosh computer</td>
<td>Yes</td>
</tr>
<tr>
<td>Flatbed scanner</td>
<td>Yes</td>
</tr>
<tr>
<td>Drum/rotating-type scanner</td>
<td>Yes</td>
</tr>
<tr>
<td>Digital camera</td>
<td>Yes</td>
</tr>
<tr>
<td>Audio digitizing and editing equipment</td>
<td>Yes</td>
</tr>
<tr>
<td>Video digitizing and editing equipment</td>
<td>Yes</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

Table 9-2: Hardware availability.

This hardware list was designed to give you a perspective on the type of equipment needed to do Web development. A high-end desktop computer and flatbed scanner are essential. A drum scanner, digital camera, and audio and video digitizing equipment are not essential, but they are useful.

What if you have a computer that could be upgraded for a reasonable cost? You need a high-end computer in terms of processing speed and random access memory (RAM), in order to use the necessary software effectively. The minimum computer I would recommend is:

- Windows 486/DX66, 32 megabytes (MB) of RAM
- PowerMac, 32MB of RAM

A decent flatbed scanner, such as those made by Microtek—which allows you to scan photographs, images, and artwork into your computer system for use on your Web site—can be purchased for less than $300. A high-end device, such as those made by Hewlett-Packard, may exceed $1,000. The difference in price generally has to do with the number of passes required to scan a color image. Low-end scanners take three passes, which slows down the process and may not give you as high a degree of resolution as a single-pass device. If you're considering the purchase of a scanner, stay away from hand-held scanners. The low price is inviting, but the results are not likely to be satisfactory.

Audio and video digitization and editing can be done with desktop computers combined with traditional recording and playback devices. But again, this requires specially configured computers with plenty of RAM to do the work efficiently.
Table 9-3 will help you assess your software needs:

<table>
<thead>
<tr>
<th>Software</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTML editor/composer, such as:</td>
<td></td>
</tr>
<tr>
<td>Adobe PageMill</td>
<td>Yes</td>
</tr>
<tr>
<td>WebEdit Pro</td>
<td>Yes</td>
</tr>
<tr>
<td>Netscape Gold</td>
<td>Yes</td>
</tr>
<tr>
<td>Netscape Communicator</td>
<td>Yes</td>
</tr>
<tr>
<td>Other</td>
<td>No</td>
</tr>
<tr>
<td>Graphics/paint programs, such as:</td>
<td></td>
</tr>
<tr>
<td>Adobe Photoshop</td>
<td>Yes</td>
</tr>
<tr>
<td>Corel Photo-Paint</td>
<td>Yes</td>
</tr>
<tr>
<td>Paint Shop Pro</td>
<td>Yes</td>
</tr>
<tr>
<td>Graphic Converter</td>
<td>Yes</td>
</tr>
<tr>
<td>LView Pro</td>
<td>Yes</td>
</tr>
<tr>
<td>Other</td>
<td>No</td>
</tr>
<tr>
<td>Illustration programs, such as:</td>
<td></td>
</tr>
<tr>
<td>Adobe Illustrator</td>
<td>Yes</td>
</tr>
<tr>
<td>Corel Draw</td>
<td>Yes</td>
</tr>
<tr>
<td>Other</td>
<td>No</td>
</tr>
<tr>
<td>Animation software, such as:</td>
<td></td>
</tr>
<tr>
<td>GIF animators</td>
<td>Yes</td>
</tr>
<tr>
<td>Macromedia Flash</td>
<td>Yes</td>
</tr>
<tr>
<td>Other</td>
<td>No</td>
</tr>
<tr>
<td>Multimedia programs, such as:</td>
<td></td>
</tr>
<tr>
<td>Macromedia Shockwave</td>
<td>Yes</td>
</tr>
<tr>
<td>Audio file editor</td>
<td>Yes</td>
</tr>
<tr>
<td>Video digitizing and editing equipment</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 9-3: Software needed to build a Web site.

While it's possible to build Web pages without an HTML editor or composer, it's not recommended because it's unnecessarily labor intensive. Specially designed software, such as Netscape Communicator's Page Composer, simplifies the process by using a WYSIWYG (what you see is what you get) interface that functions much like a word processor.

However, even Composer does not have the functionality to create a full-featured Web site on its own. Like other so-called WYSIWYG editors, Composer allows beginners to put together functional Web pages much more quickly than if they had to learn to mark up the documents by hand. But to
truly edit your work, or to build forms or frames or insert JavaScript, you still need a text-based editor as an adjunct to Composer. I use WebEdit, which is a Windows program. A favorite of many Macintosh users is BBEdit. These are specially designed programs with built-in functions that create the HTML for you. Versions of both programs are on the Companion CD-ROM in the Software directory, as is Homesite, another text-based HTML editor. I’ll discuss these issues in greater detail in Chapter 11, “Using Netscape Composer.”

Creating an appealing Web site also requires the use of a graphics editor, such as the products from Adobe Systems, Inc., and Corel Corp. Combined with a scanner, a graphics editor gives you the capability of putting your company logo, photographs, product depictions, stylized text, and other images in your Web pages. If you already produce a catalog or company newsletter, you may have the hardware and software you need to get started.

The other software programs listed here are used to add bells and whistles to your Web site. If you plan to do production in-house, you will need some if not all of this software. However, it comes with a price, not only in terms of the cost of the product itself but also in the time it takes for someone to learn how to use it efficiently. Using Shockwave, for example, is akin to computer programming and requires learning the Lingo scripting language. It’s likely that it would be more cost effective to use independent contractors to provide these services.

**Web Designer/Developer Evaluation**

Contracting the services of a Web designer is a tricky business, because the industry is only about three years old. There are many people trying to make a buck at it, but finding knowledgeable, experienced designers and developers is not always easy, particularly if custom programming is needed to create or adapt database applications and transactional capabilities.

There are several scenarios you’re likely to encounter. One is that you find someone willing to do the project very cheaply but later turns out to be incapable of completing it for the bid price, if at all. At the other end of the spectrum, a Web developer may charge more than the provided services are worth, because Web design is still not a commodity item, and those paying for the services may not know the true value of the services.

For example, I helped a business obtain Web development services when the programmer I recommended was not available. The business model was for selling videotapes via a Web site. The partners wanted a searchable database of videotapes by titles and genre, a shopping cart so multiple items could
be purchased easily, and the ability to conduct secure transactions. This required custom programming because the so-called shrink-wrap, off-the-shelf products available at the time were too limited in capability. I told them they should expect to pay $7,000 to $10,000 for development services, which would not include the costs of Web access or hosting.

Bids were received from four or five Web developers, with cost estimates ranging from $3,500 to $60,000. The low estimate, combined with the terms of the proposal, revealed that the developer didn’t know what he was doing and was unlikely to deliver a satisfactory product. The high estimates indicated the developers were preying on the ignorance of the two business partners and would be price gouging. The businessmen ultimately settled on an $8,000 proposal.

Providing specific guidelines in this area is difficult, because costs will vary from one project to another, depending on the complexity of the Web site. Setting up a marketing-oriented Web site is similar to developing traditional marketing materials, so you can use that as a guide initially. However, adding enhancements and the ability to conduct transactions can make the price soar. Think of it in terms of needing office space for a business. Company A can get by with an executive suite, Company B needs an entire floor of a small office building, and Company C needs a large, multistoried building of its own. What’s the cost of this office space? Anywhere from a few thousand to several million dollars.

Table 9-4 illustrates some price ranges for various degrees of Web site complexity. But keep in mind there are many variables involved, and ultimately, the costs need to be determined on a case-by-case basis.

<table>
<thead>
<tr>
<th>Type of Web site, plus cost of enhancements</th>
<th>Cost range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small site, static pages, adapt existing material</td>
<td>$1,000–$10,000</td>
</tr>
<tr>
<td>Enhancements (add to initial cost):</td>
<td></td>
</tr>
<tr>
<td>Custom graphics</td>
<td>$500–$2,500</td>
</tr>
<tr>
<td>New content development</td>
<td>$500–$2,500</td>
</tr>
<tr>
<td>Interactive elements: guest book, survey, feedback form, etc.</td>
<td>$250–$2,500</td>
</tr>
<tr>
<td>Catalog/shopping cart</td>
<td>$1,000–$5,000</td>
</tr>
<tr>
<td>Audio, video</td>
<td>$500–$2,500</td>
</tr>
<tr>
<td>Multimedia</td>
<td>$1,000–$5,000</td>
</tr>
</tbody>
</table>
Chapter 9: Selecting a Web Site Designer

Type of Web site, plus cost of enhancements | Cost range
---|---
Medium site, static pages, adapt existing material | $10,000-$50,000

Enhancements (add to initial cost):
- Dynamic pages (database) | $12,500-$65,000
- Custom graphics | $1,000-$5,000
- New content development | $1,000-$5,000
- Interactive elements: guest book, survey, feedback form, etc. | $500-$5,000
- Catalog/shopping cart | $5,000-$25,000
- Audio, video | $1,000-$5,000
- Multimedia | $2,500-$10,000

Large site, dynamic pages, adapt existing material | $50,000-$250,000

Enhancements (add to initial cost):
- Custom graphics | $5,000-$25,000
- New content development | $5,000-$25,000
- Interactive elements: guest book, survey, feedback form, etc. | $1,000-$10,000
- Catalog/shopping cart | $25,000-$100,000
- Audio, video | $5,000-$50,000
- Multimedia | $25,000-$100,000
- Back-office systems integration | $250,000-$1 million-plus

Table 9-4: Web site design/development costs.

Web Designer/Developer Worksheet

The worksheet on the following page will help you evaluate the skill sets of prospective Web consultants, designers, and developers, and their respective skill sets. The worksheet is included in the /Resource/Worksheets directory on the Companion CD-ROM as the word processor file DEVWORK.

### Web Designer/Developer Worksheet

#### Section I
- How many years in the Web design/development business?
- Is Web design/development your primary business? (If “no,” what is your primary business?)
- What are the Uniform Resource Locators (URLs)/addresses of Web sites you have created? (Note: The site may have been modified after the designer was through.)
• Which Web sites are you particularly proud of and why?
• Do you provide graphic design services or do you subcontract them?
• If you subcontract them, which graphic designers do you use?
• Have you created animated Graphics Interchange Format (GIFs) images? Examples?
• Do you write CGI scripts? Examples?
• Do you host Web sites as well as design and develop them? If yes, what server services do you offer? Web server? Database server (what vendor)? Secure transactions? Streaming audio? Streaming video?
• What is your philosophy regarding page and graphics size, the use of large graphics, animation, and multimedia within a Web site and why?
• Do you have references?

Section II
(The questions in this section pertain to Web site enhancements and advanced technologies. If you’re building a marketing-oriented site, they may be irrelevant.)
• Do you write JavaScripts? Examples?
• Do you write ActiveX controls? Examples?
• Do you provide programming and application development services or do you subcontract them? If you subcontract them, which programmers do you use?
• Do you work with the Java programming language? Examples?
• Have you built a database-type Web site that builds pages on the fly? Examples?
• Have you built a transactional site? Examples?
• Have you built a site that uses a shopping cart? Examples?
• Have you built a publishing-oriented site? Examples?
• Have you developed audio presentations? Examples?
• Have you developed video presentations? Examples?
• Have you created multimedia presentations using Shockwave or Java? Examples?
• Have you developed audio or video presentations for the Web? Examples?
• Have you worked with streaming audio or video? Examples?
• Have you worked with Virtual Reality Modeling Language (VRML)? Examples?
Experience is Critical

As with obtaining Internet service provider (ISP) services, the length of time in the Web development business is a red-flag issue. Experience with the Web is critical. You may find an experienced public relations or graphic design firm that's now branching out into the Web development arena but which has done little actual Web design. I run into this frequently. The problem they have in adapting to this new medium is two-fold: (1) making the adjustment from the huge file sizes they work with in the print medium to the comparatively minuscule file sizes required for a Web site, and (2) the loss of control over the layout, resulting in the use of many, or large, graphic files, which can load up a Web page to the point that it takes forever to download.

These are not so much technical issues as they are philosophical issues—issues of mind-set. Moreover, a graphics house is unlikely to have programming expertise, although it may have worked in CD-ROM development, which has carryover value in terms of having developed a user interface. The issue of user interface is an important one. A good user interface is the difference between a site that's easy to get around and one that's difficult to navigate. Graphic design firms often think they know how to design them, although they usually don’t, because they’re used to developing for a page-turning environment rather than point-and-click.

The skill sets that a designer/developer brings to the table are important, so it’s imperative that you assess them carefully. That’s why examples of previous work are necessary. If you’re accepting a bid from a developer who has not done the type of work you require, such as database application development, make sure the price does not include the cost of an education, too.

Design Philosophy

The philosophical issue regarding the use of graphics, animation, and multimedia is not only critical, it may be the overriding factor in your decision. This is because it will directly affect not only the look of the Web site but also how long it takes to download the pages. It’s an issue of form versus function. For example, I was involved in a project in which I was in charge of content development and editing, and a separate Web design firm had been retained to create the graphics and assemble the Web pages. When the first draft of the home page was presented, it was immediately obvious there was a fundamental conflict over what constituted an appropriate design.

Despite the fact that the client and I had insisted on a home page no greater than 30 kilobytes (KB)—the sum of all HTML and graphics files—the designers showed us a page that was more than double that in size. It was unacceptable, but they were reluctant to make it any smaller. Their perspective was that
a 60KB home page was plenty small. The significance is that a 60KB home page will take roughly one minute to download with a 14.4-kilobits-per-second (kbps) modem. That’s much too long to expect someone to wait to view a page, particularly a home page. Ultimately, they were dropped from the project and replaced by an in-house graphic designer.

One way to anticipate this type of problem is to examine a designer’s previous work. If the pages, particularly the home page, are heavily laden with graphics or animation, you may want to steer clear. Mind you, sometimes the client overrides the recommendations of the Web designer and makes foolish decisions based on ignorance of the medium. Or the client takes over after the site is online and does things the designer would have advised against. Out of fairness to the designer, you should have this clarified.

The fundamentals of an effective, well-designed Web site are laid out in detail in the next chapter. Refer to these guidelines when doing a full evaluation of the work of prospective Web designers. Meanwhile, here are some tricks I use in analyzing the design of a Web site:

- Size your Web browser to 640x480 pixels. If you don’t know how to do this, load the template from the Companion CD-ROM. Using your browser, click on File I Open File, then click on 640x480 Template in the /Resources/HTML/ folder. Resize your browser so the template fills the viewing window, as shown in Figure 9-3. This will show you how the pages look in the most common viewing configuration. Is all the critical information there, as it should be? Or do you have to scroll down—or worse, to the side—to see it? If so, you’ll want to know the rationale for this decision.

- Time the page download. A home page should download in less than 20 seconds using a 14.4 modem, although 10 seconds is better. Even a site that has a lot of graphics and/or multimedia presentations should have a home page that pops onscreen quickly. For this test to be truly objective, you need to do it at different times of the day. I’ve seen the same pages take two to three times longer to download at midday than in the morning or evening. This is a function of several things, including the volume of traffic on the Net and the load on the server hosting the Web site. Your connection will rarely operate at its rated speed.

- Watch the screen as the page loads. Is it blank? Or does meaningful information appear right away? Some useful information, whether text or small graphics, should appear onscreen immediately, telling you something about the Web site or providing temporary text alternatives while the graphics finish loading.
Check the sizes of the graphics. The simplest way is to watch the status bar at the bottom of your Web browser, which generally will display the size of the file being downloaded, the speed at which it's being downloaded, and the estimated amount of time remaining (shown in Figure 9-4). If you have a high-speed connection, this is difficult because the files load quickly. But if you're using a 28.8- or 33.6-kbps modem, large graphics will take several seconds to download and you'll see the size displayed. Files of more than 20KB on a home page or on the primary underlying pages are red flags.

![Figure 9-3: Configure your browser to 640x480 pixels when analyzing a Web site.](image)

![Figure 9-4: The status bar at the bottom of your browser reveals details about the files you're downloading.](image)
Click through the site. Are there "road signs" along the way? Are they obvious and self-explanatory, providing for intuitive navigation? Or do you find the site difficult to get around? As you drill down into the site, can you get back to the home page or other areas of the site easily? You should not have to rely on the Back button to get back to where you started.

Do you need special plug-ins to view important elements of the Web site? Having flashy, bleeding-edge gadgetry on a Web site may be cool, but it may also be self-defeating unless that's your business. Critical information should be available in text and simple graphics, leaving the special software and hardware requirements for enhancements and embellishments. This ensures that the site will be accessible to the greatest number of people.

Are you warned in advance of large files that may take a minute or more to download with a typical modem connection? Or are you left to discover these on your own, only after clicking on what appeared to be a fairly innocuous link? You should be warned in advance of large files so you can decide whether you want to spend the time waiting for them.

If you find that a Web site does not pass muster on at least four of these items, you should be somewhat suspicious of the skills of the designer. However, don't make a judgment based on just one Web site. The client may have insisted on some features the designer advised against. Look at several sites, including the designer's own, and watch for recurring patterns.

Making the Selection

As I stated at the outset, I believe you're better served by obtaining expert advice on the design and development of your Web site. This could take several forms. At the extremes, you could contract out the entire project, or you could do it in-house, using a consultant to guide you and your employees through the process. Between these two, there are various levels of participation you and your employees could assume. This is where the needs assessment enters the picture. If you have specific strengths or capabilities on staff, it may be more cost effective to complete some aspects of the project in-house.

As with locating an ISP, identifying prospective Web consultants, designers, or developers is problematic if you've never done it before. It's likely that your ISP also offers Web design and development services, so that's the first place to start. Or you may opt to contract with a Web designer before choosing a Web site host, since most Web designers either host Web sites or work closely with an ISP that does.
You also should do a little networking and find out who your business associates do or do not recommend. If you work with a public relations or advertising agency, it's likely the agency has worked with a Web designer and may be able to recommend one. Another option is to look at the home pages of businesses already on the Net and inquire about the designers of the sites you like. For practical reasons, I recommend using a local firm.

Once you've identified three or four designers, request proposals from them. If the project is a large one, you may want an independent consultant to evaluate the proposals for you and critique the work once it's completed.

**Moving On**

Selecting a competent Web designer/developer can be a frustrating process, but it is a necessary one. The key is to not be in a hurry and make a decision simply because it's expedient. That could come back to haunt you later. You should do it methodically and thoroughly, because it will save you the time and aggravation that you'll confront down the road if the designer turns out to be incapable of fulfilling the contract.

Once you've made the selection, you can get on with the exciting part of taking your business to the electronic frontier—the actual design, development, and launch of your Web site. In Chapter 10, "Web Site Design: The Essentials," I lay out the essentials for creating an effective Web site. The guidelines can be used by you and your staff to complete the work yourself, or you can use them to monitor the work of a Web designer, to ensure the work measures up in terms of presentation, organization, navigation, aesthetics, quick download, and clear communication.
Everyone is too focused on writing HTML. You should worry more about writing English. A Web site bristling with typos, jargon, and malapropisms is a great way to drive away the kind of educated customers who populate the Internet.

—Daniel Akst, Los Angeles Times

I often am asked if a business can operate on the Net without a Web site. My answer: “Yes, but not for long.” If you’re conducting business online, you need a Web site. So, the question to ask is not: Should I have a Web site? Rather, the question must be: How should it look?

This chapter establishes the hallmarks of an effective Web site, as well as the tricks veteran Web designers use to achieve them. If the work is done by an independent contractor, these guidelines are still imperative, for they allow you to knowledgeably evaluate the design proposals and the work that’s being done. Illustrations of effective page design are included on the Companion CD-ROM, where there are links to Web sites that can be used as models.

A Web site is first and foremost a marketing vehicle. It exists to persuade people to purchase your products or services. If they actually make the purchase while online, all the better. You’ve closed the sale. As the population increases and the infrastructure improves, there will be a movement toward a much greater level of electronic commerce. But for now, your goal is a Web site that enhances your marketing program and has the technical functionality to implement your online business model. This is achieved through the Ten Hallmarks of Good Web Design:

1. Well-organized site layout.
2. Intuitive navigation.
3. Quick download.
4. Web pages optimized for a 640x480 window.
5. Meaningful content.
6. Good writing.
7. Reinforcement of the marketing message.
8. Interactivity.
9. Impeccable HTML.
10. Bug-free programming.

By applying these principles, you will take a big step toward furthering the goals outlined in your online strategy. If you ignore these principles, you may end up discovering that WWW can also mean What Went Wrong?

**WWW: What Went Wrong?**

Do you still think WWW stands for World Wide Web? Think again.

Many companies and organizations have discovered that WWW can mean What Went Wrong—as in “What went wrong with our Web site?” In the feverish rush to stake claims in cyberspace, many companies and organizations did not plan their Web sites well or realistically.

How did they go wrong? Let’s count the ways:

- No specific strategy for integrating the Web site into the company’s business plan.
- Too many bells and whistles with too little substance.
- Reality ignored in terms of the end users’ access speed and systems.
- Navigation difficult and not intuitive.
- Quality of content taking a backseat to razzle-dazzle.
- Marketing message lost—the Web site isn’t integrated effectively, if at all, with the overall marketing program.
- The field of dreams (build it and they will come) delusion.
- Insufficient technical skill on the part of the developer.
- Content becoming stale.
- Insufficient interactivity.
The Essence of a Web Site

At its core, a Web site is what the geeks call a user interface. That is, it’s the interface (intermediary) between your content and the user (your Web site visitor). The layout needs to be organized so that visitors can easily find the information they’re seeking—so they get the message you’re attempting to convey.

At the same time, the procedure for quickly identifying and getting to the important elements of your site must be obvious and available at all times. Otherwise, it’s self-defeating. If your potential customers become frustrated in their efforts to find what they’re looking for, they’ll quickly move on.

Well-Organized Site Layout

A Web site is only as effective as its design and implementation. By taking the time to get it well organized at the outset, you’ll find the development process will be that much smoother. And once it’s done, the site will be easier to update and maintain. From the planning perspective, being well organized means identifying all the pieces needed to complete the Web site puzzle. From the implementation perspective, site organization and site navigation go hand in glove. You’re not going to have intuitive navigation if the Web site is thrown together in a piecemeal fashion.

Intuitive Navigation

Intuitive navigation is accomplished by giving visitors the high points—the big picture if you will—on what we call the home page, the first page that appears on the screen when the visitor goes to your Web address. From there, the visitor can drill down into the Web site. Once into the Web site, moving from one page to another often bypasses the home page, so you need road signs directing visitors to the other areas of the site. You can’t look over the shoulders of your visitors and tell them where to click.

Quick Download: Flash vs. Dash

There are several methods of presenting the content of a Web site, including text, images, animated graphics, audio, video, multimedia, and 3D/virtual reality. Many of these require large data files that can take a long time to download if the access is via a standard analog modem. Consequently, you must strike a balance between the flash—your presentation, and the dash—the download time.
Web Pages Optimized for a 640x480 Window

You want your Web pages to be attractive, appealing, and compelling. This generates interest in your products and services and increases your credibility. However, you need to keep in mind that much of the world still views the Web through a window 640 pixels wide by 480 pixels high. This is quite restrictive in terms of what you can do with your layout. The challenge in Web page design, particularly for the home page, is creating a presentation that fits well within the confines of this relatively small frame.

Meaningful Content

The honeymoon of being amazed by the wonders of the Web is long over. Surveys consistently reveal that the majority of people surfing the Web are more concerned with substance than style. Yet, quality of content continues to take a back seat to razzle-dazzle and smoke and mirrors. Eye-grabbing, screen-filling graphics and slick multimedia presentations are engaging—for a moment or two—but do they provide any real value?

Good Writing

Good, clear writing is imperative. Muddled sentence structure, poor spelling, incorrect grammar, and insufficient editing are embarrassing and detract from your credibility. Your written material should be put in the hands of communications professionals.

Reinforcement of the Marketing Message

A Web site is first and foremost about marketing. Yet, the marketing message can be lost within the site if it’s not consciously reinforced. This can be accomplished by something as simple as ensuring the company name or logo is on every page.

Interactivity

Using a combination of a Web page and messaging technology, you can make it easy for Web site visitors and customers to quickly communicate with you. They may want additional information; they may want to know where to purchase your products, if not online; they may want to register a complaint; or they may want to give you feedback on your Web site. You can also obtain information about them.
Search Tool

If you create a relatively complex Web site, well-designed navigation tools are not sufficient for ensuring that Web site visitors can quickly find the information they’re seeking or determine whether it’s available. You need an auxiliary search tool of some sort, which can range from a static site map to a searchable index to a mechanism that allows a search of the site’s entire contents.

Impeccable HTML

HyperText Markup Language, or HTML, is the lingua franca of the Web. It underlies every aspect of a Web site. The manner in which Web pages are marked up with HTML determines how they appear on a viewer’s screen. At the same time, you need to keep in mind there is a notable difference between what’s feasible technologically and what’s appropriate within a given context. This is where a thorough knowledge of HTML, its capabilities and its limitations, is required. In Chapter 11, “Using Netscape Composer,” I’ll introduce you to Netscape Communicator’s Page Composer and show you some of the HTML pitfalls to avoid.

Bug-Free Programming

Most Web sites incorporate features that require some computer programming. (HTML is not computer programming, although with the impending use of dynamic HTML, it will become much like programming.) HTML is forgiving of minor errors, but full-blown software programs are not. An errant ampersand or quotation mark can bring a program down quicker than you can say WWW. If you don’t have an experienced programmer in-house, you’ll need outside assistance.

Web Site Layout & Design

Now that we have the fundamental principles under our belts, let’s get down to business—designing a Web site. Keep these principles in the forefront of your decision making. This will go a long way toward ensuring that your Web site accomplishes the goals and objectives of your online strategy.

A condensed version of the design guidelines in this chapter is in the Checklist subdirectory of the Resource directory on the Companion CD-ROM as the word processor file WEBTIPS.DOC.
Larry’s Maxim of Web Design

Web design and development require greater self-discipline than working with print or broadcast media: The Web does not impose the arbitrary limits of page length or blocks of time, yet ensuring quick download is critical. Rule of thumb: 20-second download or bust!

Charting the Page Flow

Begin the design process by identifying the information, by topic or category, that’s to be included in the Web site. Then organize it in a logical fashion. (If you’ve produced a CD-ROM, the process is similar, but it’s unlikely you can use much of the material in its current form.) I’ll use the fictional company Gadgets Galore! as a model.

Let’s start with a flowchart, which gives us the big picture by illustrating the relationships between the primary components of the Web site. From there, we can fill in the details. The Gadgets Galore! flowchart (shown in Figure 10-1) illustrates the Web site directory structure and navigation paths of a typical commercial Web site. The navigation paths represent the hyperlinks connecting one page to another.

![Flowchart of the Gadgets Galore! Web site.](image-url)
To see first-hand how this structure manifests itself, go to the /Resource/GadgetsGalore/ directory on the Companion CD-ROM and click on Gadgets Galore! Home Page. With this page on the screen, you can follow the links to the various underlying pages to get a feel for how they interconnect.

**Tip:**

Concurrent to developing the flowchart, you need to establish the navigation paths for reaching the underlying information. These two go hand in hand and must be done together. If not, you'll find yourself back at square one.

### Web Site Components

Every business-oriented Web site has common components. Typically, they are:

- **Home page.** The first page a visitor sees when going to your base Uniform Resource Locator (URL).
- **Table of contents or navigation bar.** Hyperlinks to your underlying material or content; a component of all pages.
- **What’s new.** Information advising visitors of site updates so they don’t have to discover them on their own (they won’t).
- **Products.** Details on the company’s products and how to obtain them.
- **Services.** Details on the company’s services and how to obtain them.
- **About (the company).** Background information on the company and its officers.
- **Contact information.** How to contact the company, its departments, and/or employees, online as well as offline.
- **Feedback.** A mechanism allowing visitors/customers to comment on and report problems concerning the Web site.
- **Search tool.** Comprehensive site map, site index, or interactive search mechanism.

These elements may manifest themselves as single pages or semi-autonomous subsections consisting of multiple pages, depending on how much material you deem worthy of inflicting upon, er, contributing to the online world. Use this list to draw a preliminary flowchart of your own Web site, but keep in mind that this list does not preclude you from adding other components. It’s just to get you started. In a complex Web site, you’ll have mini-sites within the primary site.
Page Layout

Once you have a basic flowchart and the navigation paths identified, you can start developing the layout of your Web pages. The layout should be consistent from one page to the next. I generally begin the process with a sketch (see Figure 10-2). From that, you develop a page template, which I recommend using for the majority of your pages. This way, they will all have a familiar look and your visitors won’t have to relearn the interface every time they move to a new page.

The Gadgets Galore! page layout incorporates a navigation bar, logo art, introductory headlines, promotional statements, and information relevant to the company and site. The dotted line indicates the lower boundary of what would be visible in a 640x480 window.

There are no formal style guidelines for the Web, although there is a move, being led by Dr. Jakob Nielson of Sun Microsystems, Inc., to adopt design conventions. The precepts in style guides for printed matter apply to the Web to a degree. However, the addition of hypertext and the need for navigation elements beyond page numbers changes the rules on the Web.
For example, Dr. Nielson suggests that a search mechanism be in the same place on all home pages. This way, someone visiting an unfamiliar site will find this familiar feature. In the anarchic world of the Net, not everyone agrees with him. But the fact remains that the easier you make it for people to comprehend the layout and material of your Web site, the more likely they are to become, or remain, a customer.

**Home Page Layout**

The home page is critical because it's the one most visitors will see first. Even when people come through what I call the backdoor of a Web site, they generally end up at the home page to see what else is contained in the site. (Coming through the backdoor is when the visitor goes directly to an underlying page, bypassing the home page. Typically, this happens when someone clicks on a link from a search engine or Web directory of some sort.)

A home page needs to be both a cover and a table of contents, so visitors can immediately identify where they are and what their options are. At a minimum, the home page needs your company’s name and logo and the primary hyperlinks to the underlying content (see Figure 10-3).

![Figure 10-3: The home page of the fictional Gadgets Galore! Inc.](image)
You'll see some Web sites that try to emulate a book or magazine in a literal sense. The home page reads, "Welcome to Foobar Inc.'s Home Page!," followed by the one and only link on the page: Enter. All this does is irritate people and start you off on the wrong foot.

You want a clean look, so each element stands out. Some home pages are the opposite of the Foobar page I just described. They're so cluttered you don't know where to begin. Or the entire site consists of a single Web page that, if printed on paper, would be a dozen pages or more. The visitor is forced to scroll up and down the page in a futile effort to find a nugget of information or promising link—once the gargantuan page has stopped loading, that is. This is an instance where more is less: More pages mean less scrolling as well as less initial download time.

A home page should also be optimized for a screen resolution of 640x480 pixels, the reasons for which I'll discuss in detail later in this section. The San Diego Convention & Visitors Bureau (www.sandiego.org—shown in Figure 10-4), designed by sandiego.com, Inc., illustrates these page-design concepts.

Figure 10-4: The San Diego Convention & Visitors Bureau home page incorporates the elements of good page design.
Aids to Navigation

When roads, highways, harbors, and airports are built, key elements in the process are the direction signs and beacons that guide the travelers. The size, placement, and visibility of these signs and navigational aids are critical to guiding drivers, ship captains, and pilots to their respective destinations. Similar components must be included in a Web site.

Establishing intuitive navigation is not as easy as it sounds, however, because what seems perfectly obvious to you, being familiar with the site layout and its content, may not be obvious at all to someone visiting your Web site for the first time. Not everyone thinks alike, nor are your visitors likely to be as familiar as you are with the materials you’re presenting. You have to put yourself in their shoes in an effort to anticipate how they will interpret and respond to your road signs.

From a purely practical standpoint, a Web site is an electronic file cabinet; a complex site is the equivalent of several file cabinets. When you approach a row of file cabinets, you look for labels on the cabinets and cabinet drawers. Within the drawers, you assume (call me a dreamer) that the documents will be further separated into multiple files, all appropriately labeled with terms that are readily identifiable and give you some clue as to their contents. The key to finding documents quickly is not only having a good filing system but also labeling the drawers, folders, and documents with terms that concisely, yet accurately, identify their contents.

An enterprising individual may go so far as to create a table of contents and/or an index to facilitate the search process. An even more enterprising individual may create a searchable database file that lets you instantly pinpoint the specific cabinet, drawer, folder, and file you’re looking for (more wishful thinking). A well-designed Web site incorporates all these elements.

User-friendly Web sites typically have a navigation bar, although the term bar is more figurative than literal. This groups the primary hyperlinks together, as illustrated previously in Figure 10-3, like a table of contents or index, rather than having them scattered all over a page. This may manifest itself as simple hypertext, several separate graphics grouped together, a single graphic with embedded links (image map), a button created with an HTML form, or a drop-down list.

There are a number of ways to approach this. For the Gadgets Galore! page, I created eight links to the underlying content and positioned them in a narrow column on the left-hand side of the page. The information is placed in the broader right-hand column.

Make navigation through your system as time-consuming and frustrating as possible.

—From the Gartner Group’s “The Eight Best Ways to Kill Your Online Business"
Another method is placing the nav bar at the top of the page. I favor the left-side column because of the horizontal orientation of the Web window. In a 640x480 environment, the Web browser’s toolbars alone consume 20 to 30 percent of the available space. Adding your site navigation to the page top reduces the height of the viewing window even more.

Some complex sites use a combination of the two, with the primary links on the left and the secondary links at the top and/or bottom of specific Web pages or the reverse, with the primary links at the top and the secondary links at the left. The San Diego Convention & Visitors Bureau home page uses both a horizontal nav bar and an image map—the photographs on the left side of the page.

**Tables vs. Frames**

Beyond the positioning of the nav bars, there is the matter of how to display them. There are two camps of Web designers in this regard: the champions of tables-only and the defenders of frames. I lean toward the latter, although I frequently use tables, too, which is how the Gadgets Galore! site is laid out. Tables provide good control over the relative position of your Web page components, particularly graphics. With frames, however, you’re actually displaying multiple pages at once. Typically, the navigation bar is a separate page displayed next to the information page.

The fundamental difference between the two methods becomes apparent when you scroll down the page. If it’s a table layout, the nav bar will disappear from view if the page is sufficiently long. If it’s a frames page, the nav bar will always be in view and may scroll separately. This is a strong incentive to use frames. Another advantage of frames is that once a frames page is displayed, it can remain loaded in the browser, although the information pages change as you click on the various links. This speeds up the browsing process because you’re not reloading the nav bar every time you move to a new page.

So, why not always use frames? There are several negative aspects to frames... enough, in fact, that some of my colleagues are adamantly opposed to their use and have launched a Just Say No to Frames campaign. The biggest complaint about frames is that they interfere with making bookmarks. If you find an interesting page within a frames site, you can’t bookmark it using the standard procedure. In its more recent versions, Netscape Navigator allows you to right-click on the page (click the right-hand mouse button of a two- or three-button mouse), and choose Add Bookmark on the pop-up menu.

Another complaint about frames is this: A frames site can force the home page of another site to load within one of its own frames. This is particularly aggravating when both are frames-based sites, and you suddenly have a bewildering array of four, five, six, or more frames onscreen at once. Frames
have also been abused by amateur page designers who create multiple frames that leave a browser window looking like a series of pigeon holes.

From a purely technical perspective, frames require more HTML—at least two and usually three separate HTML files, rather than one. And if the `<N_OFFRAMES>` option is employed, it means having redundant information for those Net surfers who have what we euphemistically call "frames-challenged" browsers. That is, their browsers cannot display frames. If you don't offer them the `<N_OFFRAMES>` alternative, they see nothing.

Frames can also be problematic when someone comes in through the backdoor. In a frames site, this often results in an information page appearing onscreen by itself, without the nav bar. If the page does not show an obvious way of getting back to the home page or some other frames-enabled page, it becomes an orphan page, a page without identification or links. Therefore, some fundamental navigation components must be included on each information page as well.

Despite these drawbacks, I remain a cautious proponent of frames. If the shortcomings are minimized, then the strengths can be maximized to the benefit of your Web site visitors. The home page of the AmericaOne Web site (shown in Figure 10-5), which I manage, is frames-based, as is the San Diego Convention & Visitors Bureau (ConVis) site, depicted earlier. On the AmericaOne page, the frame borders are visible; on the ConVis page, the borders are invisible. I'll explain how to set up frames and tables in the next chapter.

Figure 10-5: The AmericaOne home page is composed of three frames.
Underlying Pages

The same rules and techniques used in designing the home page apply here. The key is offering something of value on every page. I'm sure you've been to Web sites that have a series of intermediary pages that were nothing but stop signs you had to click through to get to the information you really wanted. Don't put up roadblocks for your visitors. They'll pick an alternate route and end up at your competitor's Web site.

Moreover, this is where the navigation issue becomes critical. Once visitors have clicked through to an underlying page, it's as if they've taken an elevator to another floor. You need to make it easy for them to find their way around not only that floor but also the departments on other floors as well. That's why you need to design an effective page template and stick to it. Figure 10-6 is one of the product pages in the fictional Gadgets Galore! site.

Figure 10-6: The MechGadgets product page has a layout similar to the fictional Gadgets Galore! home page.
Surfing for Inspiration

Before finalizing your page design, do some Web surfing to find some layouts you like and use them as guides for your own. Here are some links to get you started:

- AmericaOne: www.ac2000.org
- CommerceNet: www.commerce.net
- General Coatings Corp.: www.gencoat.com
- The Sharper Image: www.sharperimage.com
- San Diego Convention & Visitors Bureau: www.sandiego.org

Content Presentation

In addition to page layout, you'll need to decide on the best method of presenting your material. The choices range from simple, unadorned text to sophisticated, interactive multimedia. I'm limiting the discussion in this chapter to text and graphics. The pros and cons of the other options—animated graphics, audio, video, multimedia, and Virtual Reality Modeling Language (VRML)—are discussed in Chapter 12, "Web Site Design: The Enhancements." Meanwhile, here are a few tips, tricks, and traps for content layout and presentation.

Hypertext

The greatest attribute of the Web is hypertext, which allows you, with the click of a mouse, to jump from one place to another to see related material or more detailed information on a specific topic. But it's easy to distract and overwhelm site visitors with too many choices. Psychological surveys have shown that when people are given more than seven or eight choices at once, it can actually result in indecision and inaction.

It's important to limit the number of hyperlinks you have on any given page. It's also important to present these links in an orderly, easy-to-comprehend manner, such as in a list. Resist the temptation to simply embed them in text. While this works in some situations, in general, it's bewildering to the viewer, particularly if it requires scrolling the page up and down to weigh all the options.

Page Length

Another advantage of the Web is that you don't have the constraints you do with paper. Written material, within reason, can be as long as you want on the Web. And you can include colorful images and photographs for a comparatively insignificant cost.
However, this is a blessing and a curse. It's a blessing because you can throw off the shackles of an arbitrary page size. But it's a curse because it requires more self-discipline in placing some limits on the amount of material you ultimately include. People are already suffering from information overload. Don't compound the problem.

Web veterans repeat over and over that information needs to be presented in "byte-sized" chunks. Whether the pages are describing products, services, or your company's riveting historical background, keep it short and simple. One business owner told me she limits textual content to 300 to 400 words per page. For her situation, that's probably appropriate. It's not always practical, but it's a reasonable place to start. Then you can proceed on a case-by-case basis from there.

Images
On the Web, the cost of graphic images and photographs is measured more in terms of download time than in dollars and cents. In the section on graphics, I'll give you some tips on how to reduce file sizes to a sensible level. In terms of presentation, a technique I use to keep from downloading pages with large graphics is to use small or thumbnail-style images on the primary page, then link the small image to a larger one that can be viewed separately if the viewer so desires (see Figure 10-7).

Figure 10-7: The Gadgets Galore! world headquarters is depicted initially as a small image. Clicking on it gets you the big picture.
Written Material
When presenting written material, make it easy to read. Huge blocks of text with lines stretching from one side of the browser window to the other are difficult to read, which is why newspapers and magazines are divided into columns. If you run across this on a Web page, it’s the sign of amateurs or lazy designers at work.

Creating columnar layouts on the Web is problematic, because HTML does not automatically flow text from one column to the next. The simplest solution, because you don’t have to worry about the physical length of a page, is to present written material in a single column with substantial margins, which in HTML is done with indents. The reader simply scrolls down the page.

To aid paragraph formatting, you have to use workarounds to indent the first line of a paragraph, because HTML doesn’t support tabs yet. A simple solution is to place a blank line between paragraphs and not indent the first line.

Another trick to making material easy to read is presenting it in lists. HTML allows both ordered lists and unordered lists, similar to word processing. An ordered list is numbered sequentially, and an unordered list has bullets (see Figure 10-8).

Figure 10-8: The About Gadgets Galore! page uses unordered lists to clearly identify links to additional material.
Slide Presentations
Slide presentations, such as those created with PowerPoint, can be adapted to
the Web, and they may be quite useful if done appropriately. But in making
such adaptations, the drawbacks of the extensive use of graphics must be kept
in mind.

Reversed Layouts
Because color is cheap on the Web, it’s used extensively—to the point of abuse
in some situations. Case in point: Reverse layouts, in which the background is
dark and the foreground is light colored, which can be dramatic in terms of
catching someone’s attention and is fine in small doses.

However, using a reverse layout to present blocks of text has several disad­
vantages: First of all, it’s difficult to read unless the text is a large, oversized
font, such as a headline. Text is easiest to read when it’s dark and contrasts
sharply with the background. Black text on a white background is best; navy
blue on pale yellow is quite acceptable. But red or blue text on a black back­
ground can be difficult to read. You won’t win many friends with it.

What’s more, people often print Web pages so they can read them at a more
convenient time or place or to share with others. If you present text in a light
color, it will print the same way—and if you’re using standard white paper,
the information will be difficult, if not impossible, to read.

Another drawback is that when a reversed layout is used within an HTML
table, some browsers—including the America Online default browser—will
not display the background color, making the text difficult or impossible to
read on the Web page itself.

Content Development
The two basic elements of a Web page are text and graphics. But before you
can begin building the pages, you’ll need both at hand and ready to plug in.
The process is similar to putting together a brochure, newsletter, or catalog. A
good place to start is with existing materials, both text and graphics, that you
can adapt to your Web pages. This will typically come from your marketing
materials, company backgrounder, product catalog, annual report, press
releases, and so on.

The items need to be identified and assigned to specific pages, with cross­
links established between them. Much of your material may already be in a
digital format, which is a good first step, but rarely is this directly convertible
to HTML, the claims of various software manufacturers notwithstanding. As
I’ve stated before, the print medium is very different from the Web, and what
makes up a page on paper often requires several Web pages to be appropriately laid out and displayed. What’s more, the graphics are generally in an
incompatible format and much too large for use on the Web.

To save headaches down the road, I recommend converting your word
processing or desktop publishing files to plain text and reformatting them
with the appropriate HTML. The graphics, most likely, will need to be con­
verted to the GIF (Graphics Interchange Format) or JPEG (Joint Photographic
Experts Group) file formats and have their resolution reduced to obtain an
appropriate file size. In some cases, you’ll need to re-scan your images,
particularly if you used black and white on paper but want to use color on
the Web.

If you’re accustomed to using storyboards and are comfortable with that
medium, use them to aid the design process. They can help you visualize
your ideas and be effective devices for clearly communicating these concepts
to your Web page developers, whether they’re in-house or independent
contractors.

**Simplifying Site Administration**

As a purely administrative procedure, I recommend setting up a directory struc­
ture that separates your various file types. If you have a large, complex site, you
may want to segregate your HTML documents by category as well. As the project
grows, this will make it easier to locate files and do periodic house cleanings.
For example:

```
/root directory
 /cgi-bin
 /htdocs
    /applets
    /audio
    /images
    /multimedia
    /video
```
Effective Communication

The majority of people use the Web for research, which today often means seeking information on products and services. However, surfing the Web is not a leisure activity per se—it’s a means to an end, not an end in itself. Thus, the Web is a “fast-food” environment. The Websters want answers, and they want them quickly. At the same time, because they generally are well educated, they expect the material to be tasteful and well prepared (which is where the fast-food analogy ends). They expect the same, if not a better level of quality than in printed and audiovisual materials.

You need effective communication not only to satisfy the wishes of your Web site visitors but also to establish credibility. This means crisp, clear delivery of meaningful information about your products and services and a presentation that gets right to the point.

Yet, as you’ve no doubt witnessed personally, this is not always the case with the Web—although I’ve seen a marked improvement over the past year. The problem has been that those in charge of building Web sites often have not been trained in communications skills. They may be great computer programmers or graphic artists, but they often inject spelling, grammatical, and typographical errors; have a limited vocabulary; can’t write a declarative sentence to save their lives; and don’t know the difference between a plural, a possessive, and a contraction. Get your copywriters, public relations pros, and a good editor involved in the project to develop and edit the material for the Web.

Copyright: It’s Your Right

I’ve hammered on the notion that it’s the substance, not the style, of a Web site that makes it truly valuable. This is never more clearly illustrated than when looking at it from the perspective of copyrights. I’ve been involved with three Web sites that published news and information as written articles and photographs, and with all three we had to take action against scofflaws who took our materials and either redistributed them through mailing lists and discussion groups or republished them on their own Web sites.

We were harmed in that it took potential traffic away from our sites, which were supported by sponsors and advertisers. I don’t recall anyone using our accessory graphics. But even if the graphics had been used, the comparable
harm—providing it wasn't a total replication of our site—would have been insignificant, because they were simply a thin icing on a very large cake.

If you publish or distribute information or items of value on your Web site—such as software, news, research data, music, art, or literature—you're likely to be confronted with these same issues. What makes the Web different from other media is that it's so easy to steal someone else's material.

Although copyright law as it applies to cyberspace is still somewhat muddy, you should assume the materials you publish on the Web fall under existing law. Mark all your Web pages with a copyright notice—e.g., Copyright 1997, Gadgets Galore! Inc. If your Web pages are not registered with the U.S. Copyright Office, you can link your copyright notice to a full copyright statement. See the Gadgets Galore! fictional Web site on the Companion CD-ROM for an example.

If you believe others may use your material to their benefit without your permission, you'll have to be diligent in ferreting them out and taking appropriate action against them. In terms of the Web, it is more time consuming than difficult to find those who are using your material. Because of the capabilities of search engines, you should be able to track down the scofflaws. If the material is being distributed in another fashion, however—on paper, cassette tapes, or computer disks, for example—it's more problematic.

There's also the matter of you infringing someone else's copyright. If you're tempted to include text, graphics, or other material from another Web site—unless it's specifically marked as copyright free—seek permission. Otherwise, you may be in violation of copyright law.

---

**TRAP**

A potential trouble spot in Web design is the assignment of copyrights for material created by independent contractors. This needs to be specifically addressed in the contract. I'm familiar with an unfortunate instance in which a Web site launch was delayed for months because of a legal battle between the company and a contractor over who owned the rights to the interactive games the contractor had developed for the site.

---

Online resources for copyright issues include:

- U.S. Copyright Office: http://lcweb.loc.gov/copyright/
- Copyright Act of 1976: http://www.law.cornell.edu/uscode/17/
- Copyright & Fair Use, Stanford University Libraries: http://fairuse.stanford.edu/
These and additional links to copyright information are included on the Companion CD-ROM under /Resources/Online Resources.

**It's About Marketing**

I was asked to review and suggest improvements to the nearly completed Web site of a major manufacturer of consumer goods. The first question that came to mind was not “Where’s the beef?”—because there was more than enough meat to the site—but “Where’s the logo?” Many of the underlying pages had no corporate identification nor a direct link to the home page. They were orphan pages. The Web designers had counted on visitors coming in only through the home page, then drilling deeper into the Web site. Their rationale was: Visitors surely would know where they were and could use the Back button or intermediate links to return from whence they came.

However, this would not be the case if the visitors were following links from a search engine or Web directory of some sort. If they had jumped directly to one of these underlying pages, bypassing the home page, they would have had no way of knowing where they were or how to “drill up” to the home page. In the print world, headers or footers, plus page numbers, are de rigueur, so that simply opening a book, magazine, or newspaper in the middle will identify the publication and tell you where you are. With a Web page, such identification is even more imperative, because there is no context in which to place the page.

When designing your page layouts, remember: The overriding objective is marketing. Unfortunately, this often gets lost in the heady, gee-whiz atmosphere of first-time Web development. A Web page is a tremendous opportunity for creating brand awareness and for registering impressions of your company’s name and logo in the mind’s eye of every visitor to your Web site. I strongly recommend that your logo or some form of company or product identification appear on every page. Doing so not only accomplishes branding, it also identifies the page when someone comes in through the backdoor. More on this in Chapter 15, “Marketing Online: A Personal Matter.”

For instance, in the AmericaOne site, we placed the corporate logo at the top of every page, with links to both the home page and a site map (shown in Figure 10-9). Doing so makes good marketing sense as well as keeps the site user friendly and easy to navigate.
Ad Scanning is Not the Answer

I'm often asked by neophytes why they can't simply scan their 8-1/2-x11-inch magazine ads and turn them into Web pages. Technically, it can be done. But would it be effective as a Web page? No. In fact, not only is it likely to be ineffective, but also it's likely to backfire on them, detracting from their image and ability to promote their businesses.

The problem is that a magazine page has a vertical orientation (height greater than width), and a computer screen has a horizontal orientation (width greater than height). If you presented that full-page magazine ad in a 640x480 screen, you would see only about one-third of the page at any given time. To see the other parts of it, you must scroll up or down. But you would never see the entire ad at once, unless it was sized so small that it would be incomprehensible. Yet, effective print ads are designed to be viewed at a glance, with the upper-left corner leading the eye to the lower-right corner. Turn that great print ad into a Web page, and it becomes impotent.

In addition, scanning a print ad creates a gargantuan file size that could take the better part of an hour to download. Would you wait that long to look at it? Not likely. Even if just some of the elements were image files, they could still be so big that it would take several minutes to download them through a common analog modem, and that is still prohibitive in terms of the wait time you impose on your visitors.
Right-Size Your Web Pages

In one project with which I became involved after the initial Web development already had begun, the guys writing the checks had been promised "a site that would be the Cool Site of the Day." That may have been the designer's goal, but it certainly was not the goal of company.

The designer had little appreciation for the company's business and marketing objectives, which were to launch an initial public offering and sell stock. My associates at sandiego.com, Inc. and I calculated that the home page alone, as it was designed originally, would take two and a half to three minutes to download over a 14.4-kilobits-per-second (kbps) modem. This was in mid-1996, when 14.4 was still the de facto standard. Such a page design was completely unacceptable.

The lesson here is that page design must be appropriate for the medium. You've probably been to a Web site that seemed to have information you wanted or content you might have found entertaining, but it was taking so long to see it, you gave up in disgust and went elsewhere. You don't want to be guilty of the same thing when it comes to your own Web site.

Strike a Balance

It's imperative that you strike a balance between visual presentation and download time, particularly on the home page. You may have the coolest visual presentation in cyberspace, but if the viewers have to wait two minutes to see it, they'll be impressed all right. They'll be so impressed they'll say, "To !#$%^&*! with you!" and go somewhere else—perhaps to a competitor's Web site, where the pages pop onscreen in a matter of seconds.

Plain text downloads the quickest, but it's also the most drab way to present information. Page after page of text on a gray or white background is quite unappealing. People are visually oriented. They like pictures, especially moving pictures, and a splash of color. Sounds to accompany those pictures are nice, too.

However, a photograph or graphic image that consumes the same amount of a screen's real estate as several paragraphs of text may result in an image file that's hundreds of times larger than the text file—which means it will take hundreds of times longer to download. Audio and video clips, even when just a few seconds long, can easily exceed 1 megabyte (MB), which can take three minutes or more to download, even at 56.6 kbps.
Determining Download Times

The rule of thumb for determining download times is this: 1 kilobyte (K) of data requires one second to download using a 14.4-kbps modem. (If you do the math, this will not compute; the number takes into account other variables, including connection time and transmission delays.) This means a total page size—HTML file plus graphics and embedded files—of 20K will take roughly 20 seconds to come down the electronic pike using a 14.4-kbps modem (or about 10 seconds with a 28.8-kbps modem). Twenty seconds isn’t much, but I’ve seen some studies, along with anecdotal comments, indicating that most people begin losing patience within 10 seconds; sometimes less.

To calculate page size, add together the file sizes of all the elements that make up the page: the base HTML file (or files, if using frames), plus the associated graphics, audio, video, or multimedia files. For example, the Gadgets Galore! home page (shown in Figure 10-10) is 15K—the sum of the 5K HTML file and the 10K of image files.

Figure 10-10: The Gadgets Galore! home page is a total 15K—the sum of the HTML and image files.

It’s true that 14.4-kbps modems are being supplanted by 28.8-, 33.6-, and 56.6-kbps devices, as well as high-speed access in some metropolitan areas. But the most recent data I could lay my hands on indicated that there are still a significant number of 14.4-kbps modems still in use.
Nor is it just modems that affect the performance of an end user's system. If the computer has a relatively small amount of random access memory (RAM)—4 to 8MB, which is common in household systems, downloads can stall as the computer juggles its resources. Moreover, PC Meter, the Web site ratings service, reported in July 1997 that consumers are not upgrading their systems as fast as manufacturers wish they would. Nearly 60 percent of home computers have pre-Pentium processors and are still operating on Windows 3.1 rather than Windows 95, according to the report.

Keep in mind, too, that as Netizens upgrade their systems and modem speeds increase, so does the tendency for Web designers to include more and larger graphics and audiovisual media. Add to that the continuing rapid growth of the Web's population, which is far outstripping the pace of infrastructure upgrades, and you may have, at best, a zero-sum gain at certain times of the day. You may have experienced midday drops in performance, including gridlock and service brownouts.

**Reality Check**

Many Web designers lose sight of this reality because they work in insulated cocoons, where they are loading the files at lightning speed from their hard drives or networks into high-performance machines with tons of RAM and have high-speed access to the Net. They’re the monarchy in a medieval kingdom. They forget, or choose to ignore, that the lowly serfs are still eating cake.

What ends up happening is this: Visitors see a promising link and dive deeper into the Web site before the graphics finish loading—or simply hit the Stop button. Or Web surfers may block the images entirely—as I did back in the Net's dark ages when a 14.4 modem was the Cadillac model—and load only text. So much for all those flashy graphics for which someone so handsomely paid.

This oversight can be costly in terms of the reception the Web site receives, and can lead to the “What Went Wrong?” syndrome. You don’t want to be guillotined—figuratively speaking, of course—over a Web page that's slow to load. Rest assured that if you do inflict such treatment on your visitors, you will hear from them in no uncertain terms when they storm your Bastille. This is what happened to Disney, which did a costly makeover to reduce its fat graphics and animation to more petite sizes.

So, is even a 20K page too large? On the positive side of the equation, understand that the screen will not be blank the entire time the page is downloading—if it’s designed well. The text elements should appear immediately, followed by the graphic elements, which will give the illusion that the page is loading faster than it really is. This is achieved by specifying the linear dimensions of the images within the HTML.
Web KISS: Keep It Small, Swift

Keep pages small—under 10K whenever possible—and put a ceiling on critical introductory pages of 20K-30K for the total page size. If you have larger files—such as photos, animated graphics, audio or video clips, multimedia presentations, or virtual reality—do your visitors the courtesy of letting them make the choice for themselves. Don’t just cram this stuff down their collective throats without giving them an advance warning of what they’re in for. I’ve been to sites—and never returned—where the home pages had 100K-plus graphic images or multimedia presentations embedded at the top of the page. Talk about shooting yourself in the Web foot.

Let your visitors decide whether or not they’re willing to invest the wait time to see a large image or presentation. Tell them the file size and the approximate download time in advance. For example, a series of video clips is available at the AmericaOne Web site. Each one is clearly identified by format, file size, and approximate download time using a 28.8-kbps modem (shown in Figure 10-11).

![Figure 10-11: Let visitors choose whether they want to wait for a large file to download.](image)
In addition, quick-loading alternate text and low-resolution images can be used as temporary substitutes for the slower-to-load primary images. Another trick is the repeated use of an image, such as a logo or navigation button, on multiple pages. Browsers cache files on the user’s hard drive for quick reload, so once a graphic file has been downloaded, additional requests for the graphic go to the hard drive rather than the server, speeding up the delivery by an order of several magnitudes. These are just some of the design tricks I will demonstrate in Chapter 11, “Using Netscape Composer.”

**Right-Size Your Web Window**

Besides having to deal with restrictions on file size, you also have to deal with restrictions on screen size—the dimensions of the window through which your visitors will view your Web pages. The size, or resolution, of a computer screen (not to be confused with the physical dimensions of the monitor) is measured in *pixels*, a pixel being the smallest element that can be displayed visually. Think of it as a tiny piece of tile that, when you have enough of them, creates a mosaic. The standard, or base, screen resolution is 640 pixels in width and 480 pixels in height.

Some operating systems, including Windows 95 and upper-end Macintosh computers, allow the screen resolution to be increased. Typically, these settings are 800x600 and 1024x768. Most Web designers work with resolutions of 1024x768 and higher. But designing a Web page for those dimensions is a mistake, because most household computers, and many office computers, are set at 640x480, either because the software doesn’t support a higher resolution or because the user isn’t aware there is an alternative. Or, in some cases, people prefer it, because the text and graphics appear larger with the 640x480 setting, so it can be easier on the eyes.

When laying out a Web page, particularly a home page, it’s imperative that you consider how it appears in the 640x480 mode. That doesn’t mean you have to restrict your layout to those dimensions: It’s impractical to squeeze everything into the 640x480 environment—particularly when a Web browser’s effective viewing window is roughly 625x350 pixels, depending on how the browser is configured. Vertical scrolling, therefore, is a fact of Web life. But horizontal scrolling, moving from side to side, is a fundamental taboo unless there is no alternative, such as when presenting a table of financial data or statistics or large photographs.
Always design for a 640-pixel screen width—thinking of it as a standard sheet of paper 8-1/2-inches wide—and limit vertical scrolling as much as is practical. And since well-designed Web pages follow this rule, you should set your own browser’s width to roughly 640 pixels, even if you use a higher screen resolution. This way, you’ll see the page as the designer intended it. For an 800x600 screen resolution, the browser would be four-fifths of the width of the screen, and for 1024x768, the browser should be about two-thirds of the width of the screen. Use the 640x480 template referenced in Chapter 9, “Selecting a Web Site Designer,” to size your browser window for previewing page layouts. The file is on the Companion CD-ROM at /Resources/HTML/640x480 Template.

Some HTML hackers bemoan this limitation. But what’s the point? The fact is, if that’s the common denominator for screen resolution, there’s little or nothing that can be done about it. Unlike highly standardized media such as television, radio, video, and compact disc, on the Web we have to deal with a wide variety of access modes, computers, and software—over which we have little control.

Moreover, the introduction of television set-top Internet devices has thrown another monkey wrench into the design works because of browsers’ limited functionality, and palm-top computers will also have an impact on design considerations. Changes are coming that will give us greater control over page layout, such as the proposed dynamic HTML. In the meantime, we have to live with what we have.

Whether you’re designing pages or browsing the Web, set your own browser’s width at 640 pixels. For viewing purposes, extend the browser window to the maximum height—no point in scrolling vertically if you don’t have to. But for design purposes, check the 480-pixel height dimension of your page layout to see how it looks. (Remember, the 480 pixels includes the browser, toolbars, and scroll bar, not just the viewing window.) The critical element is where the primary navigation devices are placed. When people arrive at your Web site, they should not have to scroll down a page just to see what their initial options are.

The CommerceNet (www.commerce.net) home page (shown in Figure 10-12) illustrates the concept well. The home pages of AmericaOne, which I had a hand in designing, and the San Diego Convention & Visitors Bureau were also designed for the 640x480 screen.
Static vs. Dynamic

In laying the foundation for your site, you must decide whether to create static, hard-coded pages or a database that builds pages dynamically (on the fly) upon request from a site visitor. Static pages are quick to build at the outset, but can ultimately be more labor intensive in terms of maintenance if the site is updated regularly. A database is the more expensive option at startup, but it's easier and more cost effective to maintain once it's online. You can create a hybrid, in which the core pages are static and have, for example, a catalog or calendar sitting on a database, which makes it easy to update and to search for specific items or dates.

For the purposes of this book, I'm limiting detailed discussion to the creation of static pages. However, the same principles regarding site layout, organization, page design, and the use of HTML apply. The only real difference is how and when a page is actually assembled—in advance of the page request or in response to a page request.
The San Diego Convention & Visitors Bureau site is an example of a dynamic Web site, which was custom developed using the Structured Query Language (SQL) and a Microsoft SQL server. Other software manufacturers selling database applications for Web site development include Informix Software, Inc. (www.informix.com), Lotus Development Corp. (www.lotus.com), Oracle Corp. (www.oracle.com), and Sybase, Inc. (www.sybase.com). Netscape's Enterprise Web server has native support for Informix, Oracle, and Sybase databases and can interact with Microsoft's SQL server.

**Interactivity**

It's been shown repeatedly that making a Web site interactive—providing an opportunity for Web site visitors to communicate with you—increases traffic to the site and leads to more sales. Typically, Web site visitors want to:

- Request additional information on products or services.
- Know where to obtain your products or services if they’re not available online.
- Give you feedback on your Web site.
- Register a complaint.

The implementation of two-way communication can range from a simple e-mail reply mechanism to a guest book, input form, multipart survey, mailing list, or stand-alone discussion group. Making it easy for site visitors to request information and ask questions is a big step toward their becoming, or remaining, paying customers. What’s more, by soliciting their questions and comments, you’re saying that you value their input. Making the process convenient creates good will and can provide you with valuable feedback. You also can obtain information about them.

A small degree of interactivity can be achieved with HTML alone through a feature known as *mailto*. This is contained in a hyperlink that, when clicked, opens a pre-addressed Message Composition window. Using this convenient feature, visitors can compose and send messages to you with little effort on their part.

Moreover, a fill-out form or a search routine that invites user input requires at minimum a script of some sort, whether it's a Common Gateway Interface (CGI) script or a JavaScript one. More sophisticated features may call for Java applets, ActiveX controls, SQL database queries, or programming in Visual Basic or C++. This is the realm of experienced programmers, and you’re likely to need independent contractors to do this work.
Implementing interactivity requires experience with HTML—the ability to get under the hood and get one's hands dirty, so to speak, and actually manually code the raw HTML. Web pages must not only perform well on your computer but must also perform equally well for the visitors to your Web site. Because of the wide range of software and computer platforms in use, this is not always the case. If the pages are not formatted properly, they won't appear onscreen as you intended and, at the extreme, could cause an end user's Web browser to lock up, or crash.

However, to go beyond the limited nature of mailto and offer something that can prompt responses to specific questions or topics, you'll need a script to process the input and generate a reply of some sort. This is typically done with a combination of an HTML form and a CGI script (shown in Figure 10-13), although some functions may be achieved with JavaScript. Other forms of interactivity, such as product demonstrations and games, may be achieved with special programs utilizing Java applets, ActiveX controls, or multimedia development tools. These are discussed in Chapter 15, "Marketing Online: A Personal Matter."

Figure 10-13: An online form created with HTML and processed with a CGI script.
You should consider all your options for adding interactive features to your Web site, then make your decisions after weighing your goals for the site against budget constraints.

**Search Tools**

Offering your visitors the ability to search your site will win you many friends. Your options for search tools range from a detailed site map to a searchable index to a mechanism that makes the site's entire content searchable.

Although a static site map or index is not technically a search tool, I've included it here because it's an inexpensive method of providing a comprehensive overview of the site and its contents. Figure 10-14 illustrates the concept. This depiction of the site layout was created with HTML. Being a static page, it must be reconfigured manually when changes to the site are made. This concept also can be accomplished with a clickable image map, but the downside of an image map is that the file size is large and it's labor-intensive to update it.

![Figure 10-14: A site map provides a quick overview of a Web site.](image-url)
A dynamic Web site housed in a database is inherently searchable—the internal links are, in reality, predetermined searches. For sites composed of static pages, both JavaScript and CGI scripts can be used. However, JavaScript is not recommended because it requires setting up a separate database file, and if the site is updated regularly, it could become labor intensive to maintain.

Many search tools are based on CGI scripts, versions of which are available online. One source is Matt's Script Archive (http://www.worldwidemart.com/scripts/), which offers the Simple Search script at no charge.

**Graphics: Yin & Yang**

When the World Wide Web was invented by Tim Berners-Lee, it was initially implemented as a text-only medium. But in 1994, a group of creative programmers led by Marc Andreessen, now senior vice president of technology for Netscape Communications Corp., developed Mosaic, the first Web browser capable of displaying graphic images along with text. That was the equivalent of James Marshall discovering gold at Sutter’s Mill in California in 1848: It started the Web Rush that led to where we are today. Adding the visual element made the Web much more appealing and opened the door to an astounding number of business opportunities. It’s difficult to imagine the Web without imagery.

However, graphic images and related technologies such as multimedia and VRML are as much a curse as a blessing because of the heavy toll they extract from the Net’s infrastructure, not to mention the end users’ patience. There is a continual give and take between the size and quality of the images we would like to use and the images we must use to keep the Net from grinding to a complete halt and Web surfers from turning off their computers in disgust.

In this section, I’ll discuss the problems associated with graphics and give you tips on how to compensate for these problems.

**Graphics Dilemma**

The use of graphics poses a dilemma for Web site developers, particularly graphic designers used to putting ink on paper and marketers who know images have a huge impact on a person’s buying decisions. It’s a matter of control over the design of a page versus the time it will take to download the page—flash versus dash.

From a marketing standpoint, the flash is critical. Perception is everything. But that must be weighed against the dash—how long it takes an image to appear onscreen and be seen.
With HTML, you don’t have the degree of control over the presentation that you do in the print medium. It’s more difficult to achieve complex layouts combining text with graphics, plus you don’t have complete control over the type faces, or fonts, the end user will see. You may specify a fancy font in your HTML, but if an end user doesn’t have that font installed on his or her computer, the browser’s default font—usually Times Roman (serif) or Arial/Helvetica (sans serif) will be displayed instead. Or if the end user has set the browser preference to use only the default font, your fancy fonts will not be seen even if that font is available.

As a result, there is a tendency to resort to the use of graphics to retain control of page layout and design. This works, but at what price? You’ve wasted your time and money if no one sees the final result because they refused to endure the Web torture of waiting for the graphics to finish loading.

**It’s the Content, Stupid!**

The graphics issue is a matter of substance versus style, function versus form. The reality is people will come to your site seeking information and perhaps the opportunity to buy your product or service online. If you put up roadblocks in the form of large (read: slow) graphics that do not provide added value in direct proportion to the amount of time someone must wait to see them, it decreases the odds they will react favorably—and increases the odds they won’t be back.

My preference is to put substance before style, function before form, to ensure quick download, while retaining enough style and form to make the pages sufficiently appealing that they grab visitors’ attention. The newspaper USA Today didn’t create its colorful, TV-style image for nothing. Still, to paraphrase President Bill Clinton, it behooves you to remember: It’s the content, stupid!

<table>
<thead>
<tr>
<th>Information, Not Eye Candy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The 1997 Price Waterhouse Consumer Technology Survey (<a href="http://www.pw.com">www.pw.com</a>) concluded that Web users want information, not eye candy—the graphics- and animation-heavy Web sites that delight their creators and tech-heads, but leave end users sighing heavily while waiting for the stuff to download, if they bother to wait at all. “Home Internet users prefer Web sites that educate, enlighten, and add value to our lives,” explained Kevin Carlton, a senior partner in Price Waterhouse’s Entertainment, Media, and Communications Group.</td>
</tr>
</tbody>
</table>
Graphics Package

The philosophizing about flash versus dash notwithstanding, most Web sites have a color-coordinated graphics package, a set of images used to spruce up the look and impact of a Web page. A typical package incorporates a number of graphic elements, including:

- Page background.
- Logo art.
- Navigation buttons.
- Bullets.
- Icons.
- Rules and dividers.
- Stylized titles.
- Product images.
- Photographs or illustrations of people, buildings, places, or other objects.

You'll want a graphics package of some sort for your own site—and then to use the graphics judiciously. The images should be created in advance of building the Web pages because their size and positioning directly affect page layout. You may choose to adapt graphics or graphic styles from your existing materials or create a new set of graphics to initiate a new image on the Web. Graphics can be custom made by graphic designers or artists, or you can select from a wide variety of clip art available on the Web or commercially sold on CD-ROMs.

You may be tempted (because it's so easy) to "borrow" graphics from someone else's Web site. They are not there for the taking, however. Material prepared for the Web generally is copyright protected, as is material published on paper. Look for items that are labeled copyright free or ask permission.

Online Resources

If you're on a limited budget, you may want to use copyright-free or low-cost clip art as a starting point for your graphics package. Several software vendors, including Adobe Systems, Inc.; Corel Corp.; Microsoft Corp.; and others sell digitized clip art and photographs on CD-ROMs. You also can buy books of clip art from art supply stores and scan the images. I created the fictional Gadgets Galore! Web site, in part, using clip art. Clip art also is available at various sites on the Web, including these:
Chapter 10: Web Site Design: The Essentials

- Arts & Letters: www.arts-letters.com/homepage.htm
- Clip Art Connection: www.ist.net/clipart/index.html
- Gaff’s Clip Art: www.stgenesis.org/www/clip-art/clipart5.html
- Julianne’s Background Textures: www.sfsu.edu/~jtolson/textures/textures.htm
- WWW Intro-Assorted Clip Art: www.slis.ua.edu/wwwintro/imclip.htm
- Yahoo Clip Art links: www.yahoo.com/Computers_and_Internet/Graphics/Clip_Art/

These and additional clip-art links are included on the Companion CD-ROM under /Resources/Online Resources.

**Trap**

Read the fine print. Some clip-art collections are not as free as they first may appear. Some books may seem to contain copyright-free clip art, but upon reading the fine print, you may find out the contents may be reproduced only with permission from, and probably payment to, the artist who created the artwork. The same may hold true for clip-art collections on CD-ROMs.

**Down-Size Your Graphics**

In preparing a graphic image for the Web, you must be concerned not only with the linear dimensions but also with the file sizes. One thing working in your favor is that computer monitors have a resolution of 72 dots per inch (dpi). There is little value in creating graphics at a higher resolution than that because some of the data will simply be ignored. Thus, reducing an image originally scanned for reproduction on paper to 72 dpi will decrease its file size substantially. The file will be reduced further by conversion to a GIF or JPEG format, both of which compress the data.

Limiting the number of colors used in an image will also reduce the file size. Again, because many users’ systems are limited to 256 colors, creating a graphic with millions of colors may be wasted effort. Limiting the image to 16 colors can whack the file size by 50 percent or more. Yes, this reduces the quality of the image slightly, but what’s the point of a super high-quality image if no one takes the time to see it? Image editors such as Adobe Photoshop, Corel Photo-Paint, and Paint Shop Pro can be used to reduce the number of colors contained in an image. But when editing a GIF, convert it to RGB mode, which will give you more flexibility, then convert it back to the indexed color mode required of the GIF format.
With JPEG images, you can choose the degree of compression when you save the file. To obtain a reasonable file size and still have acceptable quality, most JPEG images can be compressed 50 to 70 percent. Beyond that, there is a noticeable deterioration in visual quality because data actually are discarded. Figure 10-15, a screen shot from Adobe Photoshop, illustrates this concept. The setting shown here is one notch below good. If the image does not have a lot of detail, I may ratchet it down one more notch to shave a few more kilobytes off the file size without an appreciable drop in quality.

Figure 10-15: An Adobe Photoshop dialog box allows you to choose how small to compress an image based on a scale of quality.

Tip
When designing graphics using a high-resolution monitor, the appropriate image sizes will appear small. Just remember to chant the Web designers' mantra: Sixty-four or fight!

GIF vs. JPEG
Because you can now use either GIF or JPEG images on the Web (originally we were restricted to GIFs), a choice must be made as to which format to use for a given image. There are pros and cons for each.

The biggest difference between the two is in the file size of an image of given dimensions. With compression, a JPEG image almost always has a smaller file size, unless there are very few colors in the image, in which case the GIF format may be smaller. JPEGs have another advantage in that the color palette is not limited to 256 colors. In some situations, you may want to use a broader color range, such as in art-oriented sites or product catalogs in which color is one of the selling features.
A downside of JPEG images is that they're "lossy." That is, data are tossed out when the file is compressed. Further editing becomes problematic, because when the files are reopened, the photo editor will replace the discarded data with pixels of its best guess as to the pixel color, degrading the image quality. It's a good idea to retain high-quality backup files of JPEG images you may need to reedit down the road.

The greatest advantage of a GIF is that the background can be made transparent (JPEGs cannot). All images are rectangular, but by making the typically white background transparent, an image can appear to be round or irregularly shaped (see Figure 10-16). In addition, a series of GIFs can be bundled together to create an animation effect, which I'll discuss in Chapter 12, "Web Site Design: The Enhancements."

GIF images can also be interlaced, which immediately displays a low-resolution rendition of the entire image and then gradually fills in the missing data until the image is complete. This results in a Venetian blind effect as the image appears onscreen and increases the file size somewhat. But it gives the viewer a rough idea of what the picture is about before it has finished downloading. This device was common before JPEG images were introduced to the Web, but JPEGs have largely replaced GIFs in instances in which large images are used.
A similar effect can be achieved with a specially formatted JPEG image, called a *progressive JPEG*. However, not all browsers support this format and it’s not recommended.

As you can see, there are many issues and options to be considered when preparing graphics for a Web page. You or your graphic designer can experiment with these many options to determine the best course of action on a case-by-case basis.

There are online sources of tips, tricks, and tutorials as well. A good starting point is Netscape’s Navigator Gold Tool Chest (http://home.netscape.com/assist/net_sites/starter/samples/index.html), which includes an online Color Guide you can use to compare color combinations. Another is The Pixel Factory (formerly Kai’s Power Tips and Tricks) hosted by the Massachusetts Institute of Technology (http://the-tech.mit.edu/KPT/KPT.html). Refer to the Companion CD-ROM for more graphics-related Web links under /Resources/Online Resources.

**Graphics Editors**

There are a number of graphics editors available that can accomplish at least some of the image editing procedures I described earlier. Among these are Adobe Photoshop, Corel Photo-Paint and Paint Shop Pro, plus third-party plug-ins that extend the capabilities of each.

Not all of these can create transparent backgrounds, however. For that, I generally use LviewPro (Windows only), which is included on the Companion CD-ROM in the Software directory. I like it because of the control it gives you in selecting the background color to be rendered transparent. For Mac users, BoxTop Software, Inc. (www.boxtopsoft.com), makes the PhotoGIF 2.1 plug-in for Photoshop 3.0 or later, which can create transparent backgrounds.

Also on the Companion CD-ROM is the program Kai’s Power Tools, which is a set of plug-ins for Photoshop and Corel. Kai’s Power Tools allow you to create a variety of special effects. Other imaging programs on the CD include Fractal Design Painter, as well as GIF/SmartSaver and PhotoImpact GIF Optimizer from Ulead Systems.
Moving On

You are now armed with the basic principles of Web design and a handful of design tips, and you have a blueprint for creating your own Web site. You’re ready to proceed to the construction phase, whether you do the work yourself, have it done in-house, or use a professional Web developer.

In Chapter 11, “Using Netscape Composer,” I’ll introduce you to Netscape Communicator’s Page Composer, a WYSIWYG (What You See Is What You Get) HTML editor. With Page Composer, you can efficiently create Web pages without knowing HTML. That said, Chapter 11 also introduces you to this mysterious thing we call HyperText Markup Language. There are some aspects of HTML that Composer does not address, so if you’re serious about developing your own Web site, you’ll need to become familiar with the nuts and bolts of HTML and learn how to edit it directly.
Using Netscape Composer

Now that you have a blueprint and have laid the groundwork for your Web site, you can turn to the actual construction of the Web pages. For this we turn to Netscape Communicator's Composer, a WYSIWYG (what you see is what you get) HTML editor that makes quick work of laying out and publishing basic Web pages.

In this chapter, I'll introduce the software program and its features, and then walk you through the application of these features using the Web site of the fictional Gadgets Galore! Inc. I will show you the limitations of HTML, how to edit HTML, and how you can harness the strengths of HTML to create effective Web pages, despite its limitations. In addition, I'll introduce you to HTML forms and CGI (Common Gateway Interface) scripting, which is required to capture input data from a form. I will also give you a peek at JavaScript.

Introducing Composer

You'll find that Composer works much like a word processor. In fact, some of the text formatting commands are identical. However, the bottom line is that we're still dealing with the limitations of HyperText Markup Language, or HTML, which restricts your options as compared to the current sophistication of word processors and desktop publishers.

Additionally, Composer has a few quirks of its own, which I'll point out as we go along, to save you the trouble of trying to do something it ultimately won't let you do. Keep in mind that this is not intended to be the definitive
opus on Composer or HTML. This is to get you pointed in the right direction so you can start building your Web site. Netscape Press has a book devoted solely to Communicator and its components, including Composer: *Official Netscape Communicator 4 Professional Edition Book*. See the Mastering Web Development section near the end of this chapter for that and other resources.

**Composer Toolbars**

As with any construction project, it saves time in the long run if you’re familiar with your tools and the strengths and weaknesses of each. You’ve heard it before: Use the right tool for the right job... and other such self-evident platitudes. However, it has a direct bearing here because of the unique characteristics of HTML.

If Communicator is not open on your desktop, open it now. To open Composer, either click on File | New | Blank Page, or press Ctrl/Cmd+Shift+N on the keyboard. This presents you with a new application window (note the pen icon in the upper left corner) and two new toolbars (shown in Figure 11-1).

![Image of Composer toolbars](image)

*Figure 11-1: The Composer layout.*

**Toolbars & Pop-up Menus**

As you can see, the toolbars are reminiscent of a word processor. I’ll touch on the highlights, particularly where there is a significant difference between what you may be used to in the word processing/desktop publishing environment and the arcane world of HTML. Then you can experiment on your own.

The two toolbars contain buttons corresponding to the commands you’ll use most often. All the commands are available from the drop-down menus, but it’s generally quicker to use the toolbars or pop-up menus. You can hide or display these toolbars by clicking the narrow tab at the left end of each toolbar.
Chapter 11: Using Netscape Composer

The features of the Composition toolbar (shown in Figure 11-2) allow you to create, open, and save Web pages; publish your pages to a remote Web server; preview your pages in the browser; edit your work; create links; insert images, horizontal rules, and tables; and check your work for spelling and typographical errors.

![Composition toolbar](image1)

Figure 11-2: Composition toolbar.

The features of the Formatting toolbar (shown in Figure 11-3) apply to formatting text. They allow you to apply paragraph formatting; specify fonts, font sizes, and font styles; set text color; and control text alignment.

![Formatting toolbar](image2)

Figure 11-3: Formatting toolbar.

Pop-up menus (called context menus on the Macintosh) are a handy shortcut to frequently used commands. To view a pop-up menu (as shown in Figure 11-4), select an object such as text, an image, a table, or a link, and right-click the mouse (mouse-over on Macintosh). The commands available will vary depending upon what you've selected. For example, pop-up menus for text provide you with commands for modifying text, paragraph, or table properties.

![Pop-up menu](image3)

Figure 11-4: Pop-up menus make it easy to reformat your work.
Setting Preferences

Before we actually put these tools to use, let's set the general and publishing preferences for Composer, which will save you from some repetitive tasks later on. Composer preferences let you specify an author name for your documents and which applications to open when you want to edit the HTML hands-on or modify an image file.

To set your general Composer preferences, click on Edit | Preferences to open the Preferences panel:

- **Author name**: You can use your name or the company name.
- **External editor, HTML source**: Specifying an external HTML editor puts this capability immediately at hand. I'll show you how to use it later in this chapter. Locate and select an editor program. In Windows, use Notepad.exe in the Windows directory. For Macintosh, use Simple Text or Teach Text. (Historical note: Notepad was once the premier HTML editor—back in the “good ol’ days” when we manually marked up the pages.) You can use a word processor, but I don't recommend it. It's memory intensive and you must remember to save the file as text only. Otherwise, it can’t be read by either Composer or a browser.
- **External editor, Images**: Specifying an external image editor allows you to edit an image that's in Composer's editing window. I do not recommend this unless you have enormous system resources (i.e., lots of random access memory—RAM—and a high-speed processor). Communicator consumes a great deal of memory by itself, and most graphics editors are memory hogs. I rarely try this using a Pentium with 32 megabytes (MB) of RAM because it takes so long to accomplish anything.
- **Auto-Save**: Click on this box to have Composer automatically save your document. I set mine at 10 minutes.
- **Template for new page** (Mac OS only): Enter the template's location or click on Choose Local File to browse for the filename of the file you want to use as a template for this page.
- **Font Size Mode** (Windows only): Select the way you want Composer to display font sizes in the editing window. You have three choices: (1) relative to the point size of the default Navigator font; (2) as a relative HTML font scale, which ranges from -2 to +4; or (3) as both relative HTML font scale and absolute point size attributes. The default setting is (1). But understand that these are relative point sizes, not absolute point sizes. The underlying markup will be identical to that created by option (2). Therefore, I recommend selecting (2). You may as well accept the reality that HTML and word processing are not identical and know exactly what you're dealing with.
I strongly recommend against using option (3), which offers you the tantalizing prospect of absolute point size attributes. You may be accustomed to this flexibility in word processors and desktop publishing programs, but you're now in the world of HTML, where font sizes are relative, not absolute. The problem with this option is that you will be tempted to use these attributes, which go as high as 72 points. But this is deceptive. It's nonstandard HTML and cannot be interpreted, or parsed, by most other browsers, including Navigator versions 3.0 and earlier. Consequently, what you see is not what most of your Web site visitors will get, and it could change the layout of the page.

**Publishing Preferences**

With the Preferences panel still open, set your publishing attributes by selecting Composer | Publishing. This is where you designate the location (server) for publishing your Web pages and specify how you want the links and images to be handled.

The settings you choose will affect the performance of your Web site, so use the default and recommended settings for now. Otherwise, you may end up with a Web site in which the links don't work and the images do not appear.

You also can enter the default FTP (File Transfer Protocol) and HTTP (HyperText Transfer Protocol) locations for your documents. If you know your FTP information, enter it now. If you don't know, contact your Web site host and obtain it. At a minimum, you'll need hostname, user ID, and a password. Here are your options and recommended settings:

- **Maintain links**: Select this to make sure the links are kept relative to the current document's location when publishing your pages on a remote server. If you do not select this option, the link path names are not modified, and links local to the saved document may no longer work. That is, the server will be looking for files along paths that exist on your desktop computer but not the server itself.

- **Keep images with page**: Select this to save a copy of each image file in the same location as the document. Since images are files separate from the HTML files, deselecting this option means that the HTML document is published, but the image files are not. For now, select this option. Later, if you're updating pages for which the images are unchanged, you can deselect this option so you're not transferring files unnecessarily.
Default publishing location: Typically, this will be an FTP site. Enter the default location for uploading your Web pages using File Transfer Protocol. You may need to contact your Internet service provider (ISP) to find out what to enter here. A typical path will look something like this:

web.isp.net/users/local/gadgets/html/.

HTTP address to browse to: Enter your URL (Uniform Resource Locator). When you are finished editing the preferences, click on OK.

Drag & Drop

A nifty feature of Composer is drag and drop, which offers you several options for inserting images and creating hyperlinks in your documents, including:

- Drag an image file from a file folder and drop it in the editing window to insert the image in your Web page.
- Drag an image from a browser window and drop it in the editing window. (While this is convenient, there may be copyright issues involved, so you should verify the status of the image and seek permission to use it if it's not copyright free.)
- Drag a link from the browser window and drop it in the editing window to insert the link in your Web page.
- Drag an HTML file (or files) from Windows Explorer (File Manager in 3.x) or Macintosh folder and drop it in a Composer window to create a link to that file.
- Drag a link from a bookmark, mail, or news window and drop it in the editing window, creating a new link on the Web page you're building.

Learning the Basics

You're now ready to begin building that fabled Web site I've been alluding to since page one. So, assemble all those napkins and envelopes on which you've sketched blotchy flow diagrams and jotted illegible notes regarding your Web site, and have at it.

Tabula Rasa

The Composer editing window presents you with a clean slate—your tabula rasa—upon which to build your Web site. You can begin by typing, inserting an image, or laying out a grid as a page foundation. To illustrate the process, I'll show you how I built the fictional Gadgets Galore! Web site.
You can use the Gadgets Galore! components as a tutorial or substitute your own text and graphics. Either way, you’ll be creating an HTML document, which consists of a series of HTML elements, or tags, although you will do little actual markup in the traditional sense.

Composer is the graphical interface between you and the nuts and bolts of HTML—just as a word processor is the interface between you and the behind-the-scenes formatting of text in a written document prepared for a printer. By taking advantage of the WYSIWYG environment, Composer creates the tags for you, based on the information you provide in the various forms or panels to specify the attributes of each of the HTML tags.

### Page Properties

We begin building a Web page by setting the page properties, which include the title, author, color scheme, and what are known as META tags.

To open the Page Properties panel (see Figure 11-5), click on Format I Choose Page Color & Properties, or right-click (click the right-hand button on the mouse) and choose Page Properties on the pop-up menu.

![Figure 11-5: Page Properties panel.](image-url)
To set your page properties, click on the General tab. Your options include:

- **Title:** This is what will appear in the title (blue) window at the very top of a Web browser when the page is viewed, and it’s what will be recorded when the page is bookmarked. Since this is the home page, type in your company's name or Gadgets Galore! You can follow it with a slogan or descriptive phrase if you like. For example, Gadget Solutions! Over 2 Zillion Sold! Limit the title to 64 characters.

- **Author:** You can use your name or the company name.

- **Description:** Describe the contents of the page or, in the case of the home page, the essence of the Web site. For example, Gadgets Galore! is your No. 1 source for gadgets of all kinds: mechgadgets, e-gadgets, x-gadgets.

- **Keywords:** Use words that you anticipate others may use in a search to find information about your industry, company, products, and services. For example, Gadgets Galore!, gadget, gadgets, mechgadgets, e-gadgets, x-gadgets, gadgetry. Use commas to separate multiple words or phrases.

- **Classification:** Classification names are another method used by search engines to locate Web pages. Enter your keywords here, too.

Other than the page title, these elements are called META tags, which are hidden components that do not appear onscreen when the page is viewed in a browser. You can see them only when you view the page’s source HTML.

META tags (META is short for meta-information) are used to identify the author, define system variables, describe the contents of the document, and provide keywords for searches. They can be a powerful weapon in your marketing arsenal, which I discuss in Chapter 16, “Update, Upgrade & Promote.”

You can create additional META tags by clicking on the META Tags tab and entering the variables in the Name and Value dialog boxes. Leave these blank for now.

To set the page colors, click on the Colors and Background tab. You’re given a number of choices, including the colors for text, hyperlinks, and page background. If you do nothing, the viewer’s browser settings will control the colors. I recommend customizing the colors. Click on Use Custom Colors.

You can set each of the options individually, or you can select a Color Scheme from the drop-down menu. Use Black on Off-white for Gadgets Galore. This invokes the Web color standard of black text, blue hyperlinks, and violet or red followed links. I chose off-white as a default background color because it provides high contrast, making it easy to read blocks of text, but it’s not as hard on the eyes as the brilliant white. Pastel colors work well too. Later on, I’ll show you how to add color to the page.
Color Coordinates

Color is an important aspect of any Web site. It can breathe life into it, or it can take the life out of it. It also creates an immediate—and perhaps lasting—impression. For your business to create the best impression, use some restraint regarding the color options available to you. Here are some tips:

- **Limit the number of colors used.** Computers give us so many options regarding color, it’s tempting to use them all. But the principles of good graphic design apply to the Web as much as they do to the print shop. Limit the number of colors you use and stick with complimentary colors. If your company has a set color scheme for its logo and marketing materials, apply that to the Web, too. This gives your entire program a consistent look and image.

- **Use reverse layouts sparingly.** A reverse layout—such as white text on a black background—can be very appealing and a nice change of pace. However, it has its limitations. Although it looks nice with headlines and large fonts, it can make blocks of text difficult to read. This is especially true when there is little contrast between the colors—red or blue text on a black background, for example. The fundamental issue is one of clear communication. Don’t erect barriers between your customers and your message by making it difficult, if not impossible, to read. As you surf the Web looking for design ideas, you will find that most pages containing significant amounts of text have white backgrounds. That’s your cue.

- **Use standard link colors.** While it’s tempting to use nonstandard link colors so your page has a color-coordinated look, I don’t recommend it. The point of using standard colors is to maintain a consistent navigational component that users will recognize immediately. This makes it easier for your Web site visitors to find their way around.

You can use an image to create a page background, which overrides the background color once the image is loaded in the browser. We’re going ahead without a background image for now.

Your final option is whether to make these the default settings for new pages. Because this is a template, check the box. However, these entries are not set in stone. You can experiment with different settings and color schemes as you go through the page construction process and change the settings at any time. For example, you may want to use a different color scheme for each major section of the Web site. For now, click on OK to apply the attributes and close the Page Properties panel.
It's now time to save the file if Composer hasn't already prompted you to do so. Click on Save (Ctrl/Cmd+S), name it page1, and save it to the HTML folder. (If you don't have such a folder, create it, then save the file.) Composer automatically adds the .htm extension that identifies the file as an HTML document.

**Page Building**

In this section, I'll walk you through the page-building process with two different types of pages: one basic, the other complex. The basic page will consist of a straightforward layout using a lot of text and few graphics. This will get your feet wet and allow you to become comfortable with the process. The complex page will involve the use of tables, which give you greater control over the page layout and more design flexibility but are more complicated with which to work.

**Inserting Images**

We'll start with an image and place it in the upper left corner of the page. The easiest way to do this is to drag and drop the file directly from its file folder on the Companion CD-ROM: /Resource/HTML/Gadgets/. Or you can:

1. Click on Image on the Composition toolbar to open the Image Properties panel (see Figure 11-6).
2. Click on Choose File to browse your file directory for the image file.
3. Click on the file gglogo-big.gif.
4. Click on Open. (Composer will automatically copy the image file to the HTML folder on your hard drive the next time you save the page.)

With the Image Properties panel still open, set the text alignment option by clicking on the second icon from the right. This instructs the browser to place the image on the left margin (align left) and flow text around its right side. The first five of the seven options will display just one line of text next to an image.
I explained in Chapter 10, "Web Site Design: The Essentials," the importance of specifying the dimensions of images to reduce the time it takes a Web page to be displayed in a browser window. Composer automatically places them in the Dimensions dialog boxes. You don’t need to set these unless you want dimensions that are different from the actual ones.

Since the Gadgets Galore! logo is on the small size, let’s increase its display dimensions by about 10 percent by changing the width to 125 pixels. Notice that the height changes automatically when the Constrain box is checked. Increasing the dimensions does not increase the file size, but if you enlarge it too much, it will reduce its visual quality.

Add white space around an image using the Space Around Images dialog box. This is useful when you don’t want text or other images butting up against one another. Open up space on the sides of an image using the Left and Right attribute. Open up space above and below an image using the Top and Bottom attribute. Settings of three to 10 pixels are common, but you’ll have to decide on a case-by-case basis. For our purposes, set both at 15 pixels.

To place a border around an image, set the Solid Border attribute at one or higher. This specifies the width in pixels. A setting of zero makes the border invisible. Since we’re using an image with a transparent background, we want an invisible border. Set it at zero.
The Alternate Image Properties Panel is where you specify alternate text and a low-resolution image. The alternate text is displayed until an image loads, describing to viewers what they’re not seeing. It’s also displayed in text-only browsers that can’t view images, such as Lynx. Type your company name or Gadgets Galore!

If you specify a low-resolution image, it will be displayed before the primary image is loaded. This is not recommended for small images, because you’re adding another image to your overall page size, which will slow the download in direct proportion to the size of the file.

However, if you’re displaying a relatively large, 45-kilobyte (K) picture of your office building, premier product, or the fun and games at the annual picnic, a 7K low-resolution image will give your Web site visitors a hint of what’s coming.

Our final option on the Image tab is Extra HTML. Use this option when you want to include additional attributes to the image tag you’re creating, such as a JavaScript function.

Click on OK to set the Image attributes, then save your work.

**Inserting & Formatting Text**

Inserting text is simply a matter of typing. Composer makes this aspect of Web page construction almost identical to word processing. And as in word processing, you have a number of options for formatting text on a Web page. These include bold and italicized text, variable font sizes and styles, font color, headers, bulleted and numbered lists, and indents. You can also align the text on the left- or right-hand margins, or center it.

I’ll walk you through some of the options in the course of laying out a couple of Web pages. Then it’s up to you to experiment with the many formatting options on your own.

We begin by clicking on the Composer tablet or edit window to the right of the Gadgets Galore! logo, and typing **Your Gadget Source!** This is plain text. To reformat it as a headline:

1. Position the pointer immediately to the left of the first character, then click once to select, or highlight, the entire line of text.
2. Leave the default Normal paragraph and Variable Width font-style attributes unchanged.
3. Click on the Font Size drop-down list and choose +2 to increase the font size.
4. Click on the Bold icon.
5. Click on the Italics icon.
6. Click on the Font Color arrow to open the color selection panel and choose Navy Blue (row 7, column 6).

7. Click Save (Ctrl/Cmd+S) to save your work.

To add a second line, click at the right end of the line, press Enter, then type **Gadget Solutions! Over 2 Zillion Sold!**

---

**TRAP**

It's tempting to stylize the text using the fonts available from the font list as you would with a word processor. However, if an end user doesn't have that font installed on his or her computer, it will be displayed in the style of the default font, usually Times (serif) or Arial/Helvetica (sans serif). Your efforts will have been wasted. To ensure the end user sees the font you choose, you must resort to graphics or Java, with the associated liabilities I discussed in Chapter 10, “Web Site Design: The Essentials.” This is one of the limitations of HTML.

---

**Seeing Is Not Always Believing**

You're probably wondering why the first line of text is aligned with the lower right corner of the image rather than the upper right corner, even though you selected Text wrapping around the image (see Figure 11-7).

---

Figure 11-7: Composer allows just one line of text beside an image.
To view your handiwork, click on Preview on the Composition toolbar. This opens Navigator and displays your page. The text should be in the proper place (see Figure 11-8). This is because with Composer, what you see is not always what you get. This is one of those little quirks I mentioned earlier. You probably didn’t read the fine print in the Image Properties panel that said: “To see wrapped text, view page in Navigator window.”

This niggling bit of reality can make the page layout process frustrating because you have to switch back and forth between Composer and Navigator to see how your changes affected the page layout. Fortunately, there’s a way to get around this, which I’ll demonstrate to you when we get to the complex page layout.

For now, do this:

1. Place the cursor at the left end of the first line of text.
2. Press Shift+Enter. This will force the text below the image.
3. Highlight all the text by clicking at the left end of the first line and dragging across the other lines.
4. Click on the Alignment icon on the Formatting toolbar (far right) and choose Center.
5. Save and Preview.

Viewed in the Navigator window, your page should look like Figure 11-9.
Create a HyperLink

The next step is creating links to the other pages in the Web site. These links are called *relative links*; that is, they are links that are relative to this Web site and use truncated path names. Full URLs, beginning with `http://` are called *absolute links*, which I'll discuss later on.

First we'll establish a location for the links. Click at the right end of the second line of text and press Enter twice. Now, we have two choices. We can drag and drop to create the links or enter them manually. I think I know what I prefer.

In Windows, open Windows Explorer and expand the Gadgets Galore directory on the Companion CD-ROM. Using a Macintosh, open the CD-ROM/Gadgets Galore folder.

Click on the mechgad.htm file, then drag and drop it onto your page. Highlight the text and change the name to MechGadgets! You've linked your page directly to the file on the CD-ROM.

Now type the *pipe symbol* (|) (typically created with the keyboard command `Shift+\`), followed by a single space. The pipe symbol often is used to separate a series of text-style links. Add egads.htm and xgads.htm, renaming them E-Gadgets and X-Gadgets, respectively. Notice that the words are royal blue and underlined. These are the telltale signs of a hyperlink.

**Tip**

Do not underline text for emphasis. It makes it look deceptively like a hyperlink and will confuse people. Use italics and bold for emphasis.
For the second tier of the nav bar, open up a new line and create these links:

What's New! (whatsnew.htm) | About GG! (about.htm) | Contact Us! (about.htm#Corporate).

The Contact Us! link requires special treatment. Notice the change in syntax, which includes an extended attribute. This link will not only take you to the About Gadgets Galore! page but will also take you to the specific location, or target, on the page where the contact information is located.

To add the target to the link:

1. Right-click on the link and choose Link Properties from the pop-up menu. This opens the Character Properties/Link panel (shown in Figure 11-10).

2. Choose Corporate from the target list and Corporate is automatically entered in the Link To dialog box.

3. Click on OK.

Of course, there has to be a target defined somewhere for the link to lead to. Here's how to create a target:

1. Place the cursor at the beginning of a line that you want to become your target or select some text at the beginning of a line. In this case, it's the second occurrence of Corporate Offices, located below the photograph on the About Gadgets Galore! page.
2. Click on Insert and choose Target or click on the Target button on the Composition toolbar to open the Target Properties panel.

3. If you highlighted some text, it will appear in the dialog box. You can use it as a default or type a name for the target in the dialog box. It can be up to 30 characters long. This name will appear in the target list of the Link Properties dialog box.

4. Click on OK. A special Target icon appears in your document to mark the location of the link. This is visible only in the Composer window.

   Reformat all the new links at once by highlighting them, then changing the font size to +1, then save your work. Click on Preview. Then click on the links to make sure they work.

### Link to Other Web Sites

You will want to create links from your Web site to other sites. These are called absolute links. The process is similar to what you did earlier, but the full URL needs to be included, beginning with http://. There are two basic ways to do it:

- Drag and drop a bookmark from the Bookmarks window into the Composer window, and it's created automatically.

- If you don't have the page bookmarked, click at the location on the page where you want the link to appear, open the Link Properties panel, enter a name for the link, enter the full URL, and click on OK.

   It's as simple as that. You can link an image, too, using the same procedure we used earlier.

---

### Polish Up the Page

Now, let's finish this page by adding a few more elements to it:

1. Click at the right end of the last line of text.

2. Press Shift+Enter twice.

3. Type: We've Got Them All!

4. Reformat the text by highlighting it, changing the font size to 18 or +2, and centering it.
HTML and word processing part company when it comes to using the Enter key. To force a browser to recognize and display white space between lines of text, you must use what’s know as a line break tag <BR> or a paragraph tag <P>. You insert the line break tag by clicking on Insert | New Line Break or pressing the Shift+Enter combination. The paragraph tag does not have a keyboard shortcut, so it must be formatted by clicking on Format | Paragraph. Or you can use the drop-down menu at the left end of the Formatting toolbar and select one of the formatting options. More on that in a moment.

The next step is what I call a sandwich-style layout: text positioned between two images:

1. Open up space below the last line of text by pressing Shift+Enter twice.
2. Drag and drop the image redlight.gif.
3. Set the attributes to flow text on the right side, add left and right spacing of 25 pixels, and set the border at zero pixels.
4. Click on OK.
5. Click on the image so it’s highlighted by a dark border (it will go away).
6. Click on Copy on the Composition toolbar or right-click and choose Copy (Ctrl/Cmd+C).
7. Click to the right of the image.
8. Click Paste on the Composition toolbar or right-click and choose Paste (Ctrl/Cmd+V).
9. Highlight the image on the right.
10. Right-click and open the Images Properties panel.
11. Change the text flow attribute to align right by clicking on the far right icon.
12. Click on OK.
13. Save.

With that flurry of activity, you now have two copies of the same image. That’s the first part of the sandwich. (Note: You can use two different images, too.)

To add the text element of the sandwich:

1. Insert a line break and type: Redlight Specials!
2. Insert another line break and type: Value Merchandise!
3. Insert another line break.

4. If the images and text are not centered, highlight them all together and center them.

The images should be side by side, with the text below them. Where's the sandwich? Save the file and click on Preview. In the navigator window, the images should be on opposite sides of the page, with the text sandwiched in between them.

Return to Composer and add a horizontal line by clicking on H. Line. To format the line:

1. Right-click on the line and choose Horizontal Line Properties.
2. Set the attributes to Height=2, Width=85% of Window, and Alignment=Center and check 3-D Shading.
3. Check the check box Save Settings as Default if you want Composer to automatically format the line with these attributes in the future.

Now, for the finishing touches of the page: a way for people to contact the Webmaster and the copyright notice:

1. Insert a line break below the horizontal line.
2. Type Please report any problems with these pages to the
3. Insert a line break.
4. Type: Webmaster: webmaster@gadgetsgalore.com.
5. Insert two line breaks.
6. Type: Copyright 1997, Gadgets Galore! Inc.
7. Highlight the three lines of text.
8. Click on the italics icon.
9. Click on the Font Size drop-down list and choose -1 to reduce the text to a less-intrusive font size.
10. Click on the text to remove the highlighting and save.

**Create a Mailto Link**

To enable two-way communication, we'll turn the e-mail address into what's known as a mailto hyperlink. Because this involves e-mail, the syntax is different than a Web page URL. When a Web site visitor clicks on this link, a preaddressed Message Composition window will open, where a message can
be composed and sent to you, your Webmaster, or whomever you choose. This provides a way to get feedback on the functionality of the Web site itself. Here’s how:

1. Highlight just the e-mail address.
2. Right-click and choose Create Link.
3. In the Link to a page dialog box, type: `mailto:webmaster@gadgetsgalore.com` (there are no spaces between any of the characters).
4. Click on OK.

The reason for spelling out the e-mail address is that not all browsers support mailto. This still gives those viewers a chance to communicate with you. Save your changes, and the page is complete. It should look like the layout depicted in Figure 11-11.

![Figure 11-11: The basic version of the Gadgets Galore! home page as displayed in Composer.](image)
Now, click on Preview to take a peek at how your creation looks in Navigator, which is how the rest of the world would see it. It should look like the layout depicted in Figure 11-12.

![Image of the basic version of the Gadgets Galore! home page as displayed in Navigator.](image)

Click on the mailto link to test it. If the Message Composition window doesn’t open, double-check your syntax. A common error is placing spaces between the characters.

One more thing: You may not have noticed, but this page fits within the 640x480 screen resolution I hammered on about Chapters 9 and 10. Load the template into Navigator (640x480 Template in the /Resources/HTML/ folder on the CD-ROM) and resize your browser so the template fills the viewing window. Now, preview the Gadgets Galore! page again.

OK! You’ve done it. You’ve completed a functional Web page. But no rest for the weary. Now that you’ve mastered some basics, it’s time to tackle the complex stuff. This will give you the skills needed to create a truly compelling page layout. But first I want you to see the behind-the-scenes activity so you know what you really created.
HTML in the Raw

You can see the results of your first markup efforts by clicking on View Page Source. (But only after everyone over 30 leaves the room.) Whoa! A little scary, huh? What you see is raw HTML; HTML in the buff, as it were.

I want you to see your masterpiece as the browser sees it, and to get a feel for what this HTML stuff is all about. Here's an abbreviated sample:

```
<html><head>
<meta name="Author" content="Larry Edwards">
<title>Gadgets Galore!</title>
</head>
<body text="#000000" bgcolor="#FFFFFF">
<p><img src="glogo-big.gif" alt="Gadgets Galore!" hspace=15 vspace=15 border=0 height=67 width=125 align=left>
<i>Your Gadget Source!</i></p>
</body>
</html>
```

You're seeing this HTML in a read-only viewer. You can't edit the HTML from here. We'll get to that soon enough. Nonetheless, no doubt you see the trend here. The HTML tags are contained within greater-than and lesser-than symbols—or what we now call angle brackets.

Note that the very first tag is <HTML>. This tells the Web browser that it's an HTML document and that it should be interpreted, or parsed, as such. Sandwiched inside the <head></head> tags are <meta> and <title> tags. This is also where JavaScript is placed.

Items within the <head> section remain hidden, except for the title, which is displayed in the title window. Items inserted within the <body></body> tags are what appear in the browser window. Scrolling down the page, you can see evidence of your work—the text as well as the attributes you entered in the panels. The </html> tag indicates the end of the document.

Notice that some tags have a forward slash (/) and some don't. The tags without the forward slash are open tags, which establish the properties of the information that follows. For example, the <i> tag causes the ensuing text to be italic. The tags with the forward slash are end, or close, tags, which command the browser to stop applying that particular property or style. The </i> tag, for example, turns off the italic format. If your first foray into word processing was in its formative, pre-WYSIWYG days, you will recognize some of these markup elements. Many are the same. But instead of relaying instructions to a printer, they're relaying instructions to a Web browser.
I’m not going to bore you with an explanation of what every HTML tag is and how it’s used, because that’s the subject of an entire book by itself. But I will point out a few things here and there when appropriate to the discussion at hand. That said, if you’re planning on doing some heavy-duty markup, you will need to fully comprehend HTML. You’re going to have to get under the hood, so to speak, and not only tweak the carburetor but also possibly rebuild it.

Heavy Construction

Now that you have the fundamentals of laying out a Web page, we’ll move to more advanced features. We’ll create a template for the Gadgets Galore! Web site, laying the foundation for the pages to follow, then we’ll build a home page on that foundation. From there, it’ll be up to you to do the room additions.

We’re going to start with a clean slate again—but use some of our earlier work so we’re not starting from scratch. This time we’ll use graphics to create a vertically oriented nav bar on the left side of the page and on the right side establish a grid in which to place the key elements of each of the individual Web pages. This layout will be the template for the remaining pages.

Give Us Some Background

HTML allows you to specify a color for your page background, as you know. You can take it step farther and gain more control over your background by using a background image. Using an image, you can have a textured appearance, or lightly emboss the background with your logo, or use color to divide the background into sections. For the Gadgets Galore! page, we’ll do the latter.

Open a new page in Composer, then open the Page Properties panel. The settings you established earlier are still in effect, so leave them as they are. To add the background image:

1. Check the Background Image Use Image check box.
2. Click on Choose File and browse the Gadgets Galore! folder on the CD-ROM.
3. Select the file ggback.gif.
4. Click on Open to enter the filename in the dialog box.
5. Click on OK.

You now have a broad blue stripe running the length of the left side of your page, with the remaining portion of the page white. The blue stripe will become the background for the nav bar.
**TIP**

The background image should be small—5K or less. The browser will automatically tile the image so it fills the entire background, regardless of the dimensions of the page. The image used in this example is very wide—1200 pixels—to accommodate those people who use their browsers wide open in a high-resolution screen, but its height is a short 20 pixels, to obtain a file size of about 3K.

---

**Table It**

The best way take control of your page layout is with tables. This lets you position text and graphics close to—but not exactly—where you want them. As a bonus, what you see in Composer is basically what you will see in Navigator, making the layout process much easier to comprehend. To accomplish the layout, we’ll use two tables, one nested within the other.

Begin by clicking on Table to open the New Table Properties panel (shown in Figure 11-13). You have a number of options from which to choose, which you can change at any time after the table is created.

![Figure 11-13: New Table Properties panel.](image-url)
For now, set the table properties using the following attributes:

- Number of rows: 1
- Number of columns: 2
- Table alignment: Center
- Border line width: 0 (no border)
- Cell spacing (creates space between cells): 5
- Cell padding (creates margins within cells): 0
- Table width: 100% of window
- Table min. height: 300 pixels
- Equal column width: Unchecked
- Table background color: Unchecked

Click on OK.

The table is outlined on the Composer tablet, but the dotted grid lines disappear when the page is viewed with the browser. If you want a border around your table to create a frame effect or a grid for presenting financial data, set the Border line width to 1 pixel or bigger.

Since both columns in the table are of equal width, we need to change the properties of the left-hand column to make it narrow and expand the width of the right-hand column. To do this:

1. Right-click in the left-hand column (or click on Format).
2. Choose Table Properties.
3. Click on the Cell tab and set the following attributes:
   - Horizontal alignment: Center
   - Vertical alignment: Top
   - Cell width: 115 pixels
4. Click on OK.
5. Save the page as template.htm.

The narrow left-hand column is for the nav bar. The wider right-hand column is for the company promotion, which is where we’re nesting the second table. Click in the center of the right-hand column to reposition the cursor. Open the New Table Properties panel and set the table properties using these attributes:

- Number of rows: 4
- Number of columns: 2
With this gridwork for a foundation, we're ready to begin adding the common elements of the Web pages. We'll start with the nav buttons, which you also need to activate as hyperlinks.

1. Drag and drop gglogow.gif from the CD-ROM.
2. Right-click on the image and open the Image Properties panel.
3. Change the Top and Bottom spacing to 2 pixels and the Left and Right spacing to 15 pixels.
4. Click on OK.
5. Right-click on the image again.
6. Choose Create Link.
7. In the Link To dialog box, type: index.htm. This creates a link to the home page, which will be critical when the template is used to build an underlying page.
8. Click on OK.

**Tip**

In most cases, you will name your home page index.htm. Most Web servers are set up to serve index.htm automatically in response to a request for the base URL of the Web site—www.gadgetsgalore.com, for example—when a specific file is not named in the URL. The filename default.htm also is used a default setting, although it's not as common as index.htm. The reality is, the server can be set up with any default filename the administrator chooses.

You also may see the suffix .shtml. This means a special script is being run in conjunction with the page to create an additional level of communication between the server and the Web browsers. You need to check with your Web host to determine which filename you should use.
The same principle holds true for subdirectories. If you don’t have a file named index.htm, then the server—depending on how its security permissions are set up—may display a list of the files in the directory, giving the viewer access to all the files, whether you wanted the files to be accessible or not. You can put a dummy index.htm file in your subdirectories that tells anyone attempting to view the directory list that access is denied and include a link page back to your home page.

**TIP**

Sometimes Composer thinks it's smarter than you and will create a border around the image when you make a link. If this happens, open the Image Properties box again and change the Border attribute back to zero.

Now, insert the remaining images and link them to the associated pages:

- gg-new.gif (new.htm)
- gg-mechgad.gif (mechgad.htm)
- gg-egads.gif (egad.htm)
- gg-xgad.gif (xgad.htm)
- gg-order.gif (ogad.htm)
- gg-about.gif (about.htm)
- gg-feed.gif (feedback.htm)
- gg-contact.gif (about.htm#Corporate)

If the images are not aligned left, you may have to align each one individually using the Alignment tool on the Formatting toolbar. Save your changes.

In the right-hand column, below the nested table, we’re going to insert the Webmaster mailto and copyright information as you did on your previous page. The quick way to do this is to copy and paste from that first page:

1. Reopen page1.htm, which we created earlier. (Composer will open a new window so both pages are open at once.)
2. Highlight the horizontal line and text below it.
3. Right-click on the highlighted line and text and choose Copy (Ctrl/ Cmd+C).
4. Click on the new page, positioning the cursor where you want the new information to go. Double-check that the cursor is blinking in the right place.
5. Right-click on the cursor and choose Paste (Ctrl/Cmd+V).
6. Save the changes. Your page should look like the one depicted in Figure 11-14.

Figure 11-14: The Gadgets Galore! page template.

**Tip**

You can edit the tables in the template using Composer's edit and insert features. For example, if you find you have too many or too few rows, cells, or columns in your layout tables, you can delete some or add more. To delete, select Edit | Delete Table and choose from Table, Row, Column, or Cell. To add, select Insert | Table and choose from Table, Row, Column, or Cell.

**Templates 'R' Us**

We now have a page template. This is the basis for the home page as well as the underlying pages. If we were going to build the entire site, it would make the next phase—building the actual Web pages—much quicker and less
tedious. When you’re building your own site, you may want to create additional templates, depending on how you’ve designed your Web site. Once you have a foundation from which to start, it’s simple enough to do.

**TIP**

Netscape has a few basic page templates available online. To get there, click on File \ New \ Page From Template \ Netscape Templates. (You must be online to do this.) The template page is part of the Netscape Gold Rush Tool Chest, which includes a collection of clip art, design techniques, page backgrounds, introduction to HTML, Java applets, and JavaScripts to help you create your Web pages.

To use your template, select File \ New \ Page From Template \ Choose File \ template.htm. This loads the template into Composer and you can begin work on a new page or create another template. The first time you attempt to save your work, you’ll be prompted to assign a new filename so you don’t overwrite your original template. Remember to add a title to each new page you build.

You may have noticed that you have a Page Wizard option on the File \ New menu. This is a Web-based application that helps you set up a very basic Web page without knowing anything about HTML. To use it, you must be connected to the Net, because clicking on the button opens Navigator and loads the wizard from the Netscape Web site. The wizard predates Composer, however, and I doubt that it will have anything more than an academic interest for you. That said, it’s an excellent demonstration of the use of CGI scripting, discussed later in this chapter, and a technology known as cookies, which I’ll discuss in Chapter 13, “Online Transactions & E-Commerce.”

**Home, Sweet Home Page**

With our template at hand, we can finish the home page and get this show on the Web, so to speak. We’ll use the page-design sketch from Chapter 10 as a guide. If you haven’t opened the page template in Composer, do it now.

Since the nav bar is complete, we’ll begin with the main portion of the page. If the first page we built is no longer open, reopen it now, and we’ll poach the graphics and text from it.

Start with the Gadgets Galore! logo. You can drag and drop or copy and paste to move the logo. Place the image in the upper cell of the center column, open the Image Properties panel, and change the Left and Right attributes to 10 pixels.
Now, copy and paste the first line of text, "Your Gadget Source!" into the upper right cell.

**Tip**

*When working with tables, it's very easy to highlight everything in a table at once, even though you want only a single image or line of text. Don't get in such a rush that you move too many items on the page at once and then waste more time patching things up. (This is the voice of experience speaking.) When highlighting text, I start at the end of the line and drag across it to the beginning.*

*Similarly, when you're dropping an object into a page or pasting an object from the clipboard, it's easy to put it in the wrong place. Before completing the task, make sure the cursor is positioned where you want it to be.*

Continuing on, move the phrase "Gadget Solutions!" to the cell below the one containing the logo, and move "Over 2 Zillion Sold!" to the adjacent cell on the right. Change the font size of these two phrases to +1.

**Making a Bulleted List**

In the third cell, center column, we're going to create a list defined by bullets. This won't require any graphics on your part, since HTML will automatically create bullets. Here's how:

1. Click in the cell to position the cursor.
2. Type: MechGadgets and press Enter.
3. Repeat the process for E-Gadgets and X-Gadgets.
4. Highlight all three lines of text together and set the font size at 0 if it's not already.
5. Click on Format | List or right-click and select Paragraph/List Properties and set the following attributes:
   - Paragraph style: Normal
   - Additional style: List
   - List style: Bulleted (unnumbered) List
   - Bullet style: Solid circle
   - Alignment: Left
6. Click on OK. Notice that in addition to the bullets preceding the text, the entire list has been indented.

7. Next, moving to the adjacent cell, type: **We’ve Got Them All!**

8. In the fourth cell, center column, add the text **Value Merchandise!** Then in the adjacent right-hand cell, place the redlight.gif image and set the Left and Right spacing at 12 pixels.

9. Position the cursor to the right of the image.

10. Click on Insert | Break Before Image(s) to open a line below the image.

11. Type: **Redlight Specials!** and change the font size to -1.

The layout should look like the one depicted in Figure 11-15. All that’s left to do now is reformat the table cells to our liking.

![Gadget Galore! Home Page](image)

Figure 11-15: The Gadget Galore! home page under construction.
Resetting the Table

Reformatting tables is similar to creating tables, but we use a different properties panel. Let’s start with the cell containing the logo. To give it a bit of breathing room, we’ll enlarge the cell:

1. Position the cursor in the cell.
2. Click on Format | Table Properties or right-click in the cell and choose Table Properties. This opens the Table Properties panel.

**Trap**

*Do not click on the Table button on the Composition toolbar. This opens the New Table Properties panel, which you do not want. If you use this panel, it will create a new table within the cell and you will have a genuine rat’s nest to clean up.*

3. Click on the Cell tab.
4. Check the Cell Minimum Height check box.
5. Change the minimum height to 75 pixels.
6. Click on OK.

The cells with text in them could use some tweaking, too. In the upper right cell, if the text is not centered, you can center it horizontally as well as vertically:

1. Position the cursor in the cell.
2. Open the Table Properties panel.
3. Click on the Cell tab and change the Horizontal and Vertical alignments to Center.
4. Click on OK.

Do the same for the two cells in the second row. But you don’t want to center the list because the bullets will not line up. In the fourth row, left-hand cell, align the text on the right, and in the right-hand cell, align the image and text to the left.

**Tip**

Composer supports the undo feature. If you make a mistake, you can back up and get out of it if you undo immediately. To use undo, select Edit | Undo or use the keyboard shortcut of Ctrl/Cmd+Z. Unlike some word processors, undo applies only to the preceding task. If you try to undo twice in a row, you invoke the redo feature and you’re back where you started.
Now, we're going to change the background color of the second and third rows. To do this:

1. Right-click anywhere within the second row and open the Table Properties panel.
2. Check the Use Color check box.
3. Click on the solid gray color selection button to the right of the Use Color check box.
4. Choose tan (row 1, column 3), and the color selection button will display the color you chose.
5. Click OK.
6. Repeat the process for the third row.
7. Save your work.

The Gadgets Galore! home page is complete. Preview it in Navigator. It should look like the layout depicted in Figure 11-16. Notice, too, that this page also fits within the 640x480 framework.

Figure 11-16: The completed Gadgets Galore! home page.
If it doesn’t, check your work. You may have to play with the spacing between the lines as well as their font sizes. If you pressed the Enter key after placing or typing text in any of the cells, you may have unintentionally added an extra line. If so, click below the line of text and use the Backspace key to close up the space.

The process of reformatting the cells is somewhat tedious, but you can see the degree of control you have over the page layout when compared to the first page we built. Tables increase the size of the HTML file, but if used judiciously, the increase won’t be significant. With a little practice, you’ll become comfortable with tables and come up with some intriguing page layouts, I’m sure.

### Columns

Another area where HTML and word processing go their separate ways is when it comes to using columns to format blocks of text. As you’ve seen, you can create columns with tables. However, you cannot automatically flow text from one column to the next. You can do it manually, but what happens when the layout changes? There is no automatic reflowing of text.

As a result, articles on the Web tend to be one long column, which is an advantage the Web has over the print medium. There’s no limit on how long a page can be. However, very long pages also become very large files. To get around that, simply break long articles into multiple pages. If it’s a particularly long, multipage document—such as a prospectus for an initial public offering or annual report—consider creating a separate table of contents for it.

You can make your columns easier to read by breaking them up into short paragraphs. Also, use the `<BLOCKQUOTE>` tag to create margins on either side of the page or use a table to create a narrow column, rather than having the text run from one side of the page to the other. Doing these things will make your pages easier for people to read.

### Underlying Pages: The Room Additions

With the home page put to bed, it’s just about time to move to the underlying pages. Having a template at your disposal makes the process similar to building the home page.

However, I’m not going to bore you with further details on building all the remaining pages in the Gadget’s Galore! Web site. (Did I just hear a collective sigh of relief?) Most of the skills you need to complete a basic page layout you learned in the preceding steps. The others will come with practice. And Help is only a mouse click away. The entire site is on the CD-ROM, however, and
you can use it as a model or open any of the pages in Composer to use as a template for a page of your own.

Nevertheless, to complete your Web site, it’s likely you will need to edit the HTML directly. You won’t have any choice if you’re using forms or JavaScript. In the next section, I’ll take you behind the scenes into the real—some would say surreal—world of HTML, where playing tag takes on a new dimension. I will also give you a few organizational tips that should make it easier to manage your Web site.

Organizing Your Site

Keeping even a moderate-size Web site organized and well managed is an administrative challenge, particularly if more than one person is involved in developing and maintaining the site. To keep a handle on things, I recommend keeping like files in separate directories, or folders. For example, put your HTML files in one directory and your image files in another.

In addition, if your site includes sections devoted to separate departments within your company, I recommend creating separate directories for each one, again separating the HTML files from the image files, and so forth. Remember the file cabinet analogy I used in Chapter 10? Think of your Web site in those terms, and the organization of it will be easier to comprehend and implement.

**Trap**

If you do use separate directories, be sure to change your preferences, deselecting the Keep Images With Page option. Otherwise, Composer will copy your images into the same directory as the HTML file. If you change your preferences after Composer has established paths to the files it moved, it gets very confused and the outcome is unpredictable. Suffice it to say, before you begin make copies of your images in a separate back-up folder as insurance against a composition misadventure.

Sanding Off the Rough Edges & Adding Creature Comforts

Once you have completed your basic Web site, you can turn your attention to cleaning up the rough edges, as well as adding features that will make it more useful to you and your visitors. In this section, I’ll get you started on editing the underlying HTML, and introduce you to forms, CGI scripts, JavaScript, and frames. I will also show you how to publish your pages on the Web server so all the world can see them.
Hand Coding & Editing HTML

It's now time to peek under the hood and get your hands dirty. Don't sweat it; it's not that big of a deal . . . although I do recommend backing up your files before attempting to tune up an existing page—just in case you snap off a spark plug or something.

Although Composer is an excellent way for the novice to get started building Web pages, it does have its limitations. For example, it will let you insert HTML tags, but just one line at a time, and you can't delete them if you change your mind. In addition, Composer is not set up to create forms, frames, or JavaScript. For these, you need a text-based editor so you can hand code and edit the HTML.

One of the downsides of WYSIWYG HTML editors is that they can leave a trail of crumbs of unneeded HTML. Most of these are harmless tags that were abandoned during a format change of some sort. Others, however, can affect the layout of the page. For example, Composer has an annoying habit of inserting nonbreaking spaces—symbolized by this character string: &nbsp;—especially at the top of the page. When working with tables, this opens a useless space between the top of the table and the upper edge of the browser window. I always remove it before publishing the page to the server. In addition, when you delete a bulleted list, the first bullet remains on the page. You cannot remove it in the Composer editing window. You have to use a text-based editor. Extra tags can also make it difficult to update pages, they add to the download time, and they are potentially confusing to browsers trying to interpret the page.

To edit the HTML of the Gadgets Galore! home page you created, open the page in Composer, then click on Edit | HTML Source. This gives us direct access to the HTML by launching the helper application you named when setting up your preferences.

With the file open, you can add and delete HTML. If you want to create a form or JavaScript, for instance, this is where you do it. You can edit or add to your META tags from here, too. For now, you're going to delete that niggling nonbreaking space. As a reference in this bewildering array of computer-speak, it's near the top of the page, just below the <BODY> tag, as illustrated here:

```html
</HEAD>
<BODY TEXT="#000000" BGCOLOR="#FFFFFF"
           &nbsp;
```

Now, highlight the "&nbsp;" string, press the Delete key, and save the file. Composer will warn you that the page has been modified and ask you if you want to reload. Click on No. If you click on Yes, it will reload the page and reinsert the nonbreaking space. Similarly, the next time you open the page in
Composer, the nonbreaking space will be reinserted automatically. You may choose to live with it, but I think it throws the layout off balance, so I always remove it as the last thing I do before publishing the page on the server. It takes only a few seconds.

Click in the Navigator window to bring it to the forefront. But before you reload the file, focus on the open space above the nav bar. Now, reload the page and watch the space close as the graphics and text shift upward.

And with that bit of microsurgery, you've done your first HTML edit. It wasn't much, but it was pretty much risk-free and you were able to experience it firsthand. You'll get more opportunities as you progress. If you need to delete the <LI> tag, which creates a bullet, you do it in the same manner.

**HTML Editors**

When setting preferences, I suggest using a simple text editor, such as Notepad or Simple Text, as the default editor for working directly with the HTML. This is fine for minor edits like the one you just did. But for anything beyond that, such as when creating frames, forms, or JavaScript, you'll want software designed specifically for editing HTML.

Dedicated HTML editors have *shortcuts*, or *macros*, built into the program that insert complete HTML tags with one mouse click. (You didn't really think we still hand typed all that stuff did you?) They also use dialog boxes to speed up the coding process.

I use a product called WebEdit Pro (Windows 95), which is included on the Companion CD-ROM. You can give it a trial run to see if you like it before buying it. Another Windows program that many people seem to like is HomeSite, also on the CD-ROM. For Macintosh users, BBEdit is a good HTML editor. Commercial and "lite" versions are included on the CD-ROM.

**TRAP**

Be wary opening the same HTML file in different types of editors. You can introduce conflicting formatting commands and line feeds (carriage returns) that will change the layout of the page or render it unreadable by a browser. I particularly recommend not using a word processor, which automatically inserts printer formatting commands into documents when the documents are opened. You can't see the commands, but they're there. The only way to get them out is to save the file as text only, but if you forget, it's unlikely the page can be read by a browser.
Forms

A form is used to gather input and send the data to the server. The options for data input include text box, check box, radio button, and drop-down menu. A text box is self-explanatory. The difference between a check box (square) and radio button (round) is this: In a series of options, multiple check boxes can be checked, but only one radio button can be checked. A drop-down menu offers several choices from which to choose. The advantage of a drop-down menu is that it saves space—only one item is displayed until the user clicks on the down arrow to view the entire list.

To see an example of a simple feedback form (as shown in Figure 11-17) go to the GG home page on the CD-ROM and click on Comments. For a more complex form, click on the link to the Distributor Survey.

![Feedback Form Example](image)

Figure 11-17: This feedback form was created using HTML and is linked to a CGI script to pass the input to the Web server.

You can use these forms as templates for forms of your own. When you open the files in an HTML editor, use the Save As command to create a new file, which you then can edit to suit your needs. You also can start the page in Composer, then add the form elements using the HTML editor.
Here's a sample of the HTML used to create the feedback form:

```html
<FORM method="POST" action="/cgi-bin/feedback.cgi">
    <UL>
        <LI><B>Name:</B><BR> <input type="text" name="firstname" size="40"
            maxlength="40">
        <LI><B>From:</B> (Company Name and/or City/State/Country)<br> <input
            type="text" name="country" size="40" maxlength="40">
        <LI><B>E-mail Address:</B> <BR> <input type="text" name="email" size="40"
            maxlength="60">
    </UL>
    <B>We welcome your comments:</B><BR> <textarea name="comment" ROWS=5
        COLS=60></textarea>
    <P>
        <I><B>Hypertext references made within the text body will not work.</B></I>
    </P>
    <P> <input type="submit" value="Click here to send">
    <input type="reset" value="Click here to start over">
</FORM>
```

This form (FEEDBACK.HTML) is in the Feedback folder in the \Resource\Forms\ directory of the Companion CD-ROM, along with the accompanying CGI script (FEEDBACK.CGI). The accompanying readme file explains how to use it.

**CGI Script**

For a form to work, it needs a CGI script to pass the information to the server. The information can be stored in a file, added to a database, or converted to an e-mail message. Here's a small sample of the script that enables the feedback form:

```
#!/usr/local/bin/perl
require "cgi-lib.pl";
$where="/usr/local/apache/htdocs/feedback.html";
    #2 The full path to the logfile
$logfile="/usr/local/apache/logs/feedback.log";
    #3 Location of sendmail
$mailprog="/usr/lib/sendmail";

It looks a little intimidating, doesn't it? And that's just a small percentage of the dozens of lines of code in this script. The script was written with the Practical Extraction and Report Language (PERL), commonly used for writing CGI scripts.
This script and others, along with their respective forms, are contained in their own folders on the CD-ROM. Accompanying each one is a readme file that gives an overview of how to use them. A CGI script must be adapted to the form—or the form must be tailored to fit the CGI script. They must fit hand in glove. These scripts will need to be adapted to your specific circumstances so the input goes to your server instead of mine.

CGI scripts are used for a wide variety of applications, including simple feedback forms like the preceding one, guest books, surveys, search engines, random image displayers, random URL generators, counters, animation, and electronic shopping carts. In addition to those on the CD-ROM, there are scripts available online, some of them at no charge. A good starting point is Matt's Script Archive (www.worldwidemart.com/scripts/). These can be adapted to your specific needs.

When you’re browsing the Web for CGI scripts, you will see references to PERL scripts. These are CGI scripts written in PERL as opposed to another programming language, such as C++.

As I stated in Chapter 10, “Web Site Design: The Essentials,” CGI script writing and editing is the realm of programmers. Even if you want to use these scripts, I strongly recommend having a programmer do the adaptation for you, as well as the installation and testing. They either work or they don’t. If they don’t work, it takes an experienced troubleshooter to identify the problem and solve it.

Also, the scripts must be installed in their own directory (e.g., /cgi-bin) on the server, so you’ll need the cooperation of your Web site host to get this done. This is because CGI scripts are placed in what are known as executable directories, which have special security precautions, or permissions, built into them, typically limiting access to system administrators only. These security precautions are necessary to keep pranksters and evil-doers from installing scripts that potentially could cause the server to malfunction or stop running altogether. It may be that your Web host is your best choice for setting up the scripts for you—one-stop shopping.
Chapter 11: Using Netscape Composer

If you do decide to take a whack at CGI, a good editor is the Programmer's File Editor (Windows and Macintosh). You can get it at Shareware.com (www.shareware.com). To find it, use "pfe" in a keyword search. Macintosh users also can use BBEdit.

**JavaScript**

A JavaScript is similar to a CGI script in that it interacts with a computer, but there are two key differences: (1) JavaScript is embedded in an HTML document and (2) it can't pass information back to the server. That doesn't mean JavaScripts are not as useful. It's just that they're used for things other than enabling data entry forms.

I've included a few JavaScripts on the Companion CD-ROM—for example, the script I used to animate the buttons on the Gadgets Galore! nav bar. I'll show you that script in the next chapter. There's also a script that creates a pop-up window for special announcements. The scripts are in the /Resources/JavaScript directory.

To add JavaScript to a Web page, you need to use a text-based HTML editor rather than Composer. Open both the HTML document and the file containing the JavaScript, then copy and paste the script into the <HEAD> element of the document, as depicted here:

```html
<HEAD>
<TITLE>Store Promotion</TITLE>
<SCRIPT LANGUAGE="JavaScript">
<!-- // ************** hide script from older browsers
window.name = "._gadget";
window.open('storepromo.html','subwindow', 'width=500,height=150');
// ************** finish hiding script -->
</SCRIPT>
</HEAD>
```

The application of this script will be explained in Chapter 16, "Update, Upgrade & Promote." The instructions for using the file are contained in the header of the script, which is in the /Resource/JavaScripts/Popupwindow folder on the CD-ROM.
Although JavaScript lets you add some fun and useful features to your Web site, it comes with drawbacks, too. There are browser-compatibility issues, and until they are resolved, don’t assume that just because your script works well in Communicator that it works equally well, if at all, in other browsers. At this writing, the current version of JavaScript was 1.2, which, even though it was developed by Netscape, is not fully backward compatible with older versions of Navigator. (The scripts on the CD-ROM are 1.0 compliant.) Moreover, not all JavaScripts will function in the Microsoft Internet Explorer browser, which is optimized for Visual Basic scripting. A JavaScript may require hours of experimentation and testing before it will run—if it ever runs—in Explorer as well as it does in Navigator. In addition, America Online’s default browser doesn’t support JavaScript at all.

Unfortunately, there are no rules of thumb to follow on how to set up a script to work equally well in Navigator and Explorer. And by the time you read this, there may be a newer version of JavaScript from Netscape or Microsoft (which calls it Jscript), so even if I could give you some pointers, they’d probably be out of date. The browser war is far from over. Meanwhile, Web site developers are caught in the crossfire. If you want to use JavaScript, keep these factors in mind before designing your Web site’s entire navigation system around it.

Frames

I promised I would explain the use of frames, so here’s a quick introduction. Frames, you may recall from Chapter 10, allow you to display multiple pages at once. To manage this requires a top, or parent, HTML document that establishes the parameters, but runs in the background. Its children, the child frames, are the ones you see—unless you have a browser that doesn’t view frames, in which case you will, hopefully, see the <NOFRAMES> alternative incorporated into the parent document.

Here is the frame setup for the Cosmetic Connoisseur home page (www.makeuplesson.com):

```
</HEAD>
<FRAMESET NAME="_top">
<FRAMESET ROWS="*">
<FRAMESET COLS="103,*" BORDER=0>
<FRAME SRC="menu.html" SCROLLING=no
BORDER=0 NORESIZE MARGINWIDTH=0>
<FRAME SRC="body.html" NAME="main_frame"
```

This setup specifies two frames displayed as two columns in a single row. The first frame is a column 103 pixels wide positioned on the left side of the page; the other frame fills the remaining space, roughly 500 pixels in a 640-pixel-wide screen (see Figure 11-18). Templates for this frameset are in the /Resource/HTMLtemplates/frames folder on the CD-ROM.

Figure 11-18: This page is really two pages displayed within frames. The pages function independently of each other.

To achieve this setup requires three separate HTML files: index.htm, menu.htm, and body.htm. The index file is the home page, the menu file contains the nav buttons, and the body file contains the bulk of what is visible when the pages load. Note that the framesets are between the <HEAD> and
<BODY> elements.

The syntax of the links used in frames-based Web sites is different, too: <A HREF="reviews.html" TARGET="main_frame">. Note the target attribute (not to be confused with the target mentioned earlier), which specifies the window in which the linked page is to be displayed. If you don’t specify a target, the linked page will load on top of the page containing the link. You may want this, but if one frame has a page dedicated to a nav bar, you don’t want the nav bar to be wiped out by a content page.

HTML Verification

Once your pages are complete or as you complete specific pages, you should validate your HTML, particularly if you edited it manually. Both WebEdit and BBEdit will check the HTML to ensure there are no errors and that it conforms to adopted standards. You will be amazed at the havoc one missing bracket or quotation mark can cause. If errors are found, they will be identified so you don’t have to track them down yourself.

You also can check your HTML online, after the pages have been placed on the server. Again, this will identify code errors or areas with the potential for problems, such as the use of nonstandard HTML. Here are two online HTML checkers you can use:

- A Kinder, Gentler HTML Validator (http://ugweb.cs.ualberta.ca/~gerald/validate/)
- FAL Weblint Gateway (www.fal.de/cgi-bin/WeblintGateway)

Mastering Web Development

Understanding how to use these advanced components of Web site development are important if you plan to play a major role in building your Web site. Yet, in introducing them to you, I’m also illustrating the manner in which many people learn HTML and keep up with the latest developments—by watching others. When you view the source HTML of pages created by someone else, you can see what makes certain page layouts tick and then adapt those tricks to your own work when you find something you like. I’m not suggesting you steal HTML lock, stock, and barrel, although I have seen it done. I’m just suggesting that if you see a page layout you find appealing, view the source to see if you can figure out how they did it. You may find yourself saying, “Aha!”
Chapter 11: Using Netscape Composer

There is one camp of Web developers that believes copying HTML is a copyright violation. However, if the text, images, and other files all are replaced with your own, I hardly see how anyone can make a case for it. The whole point of being able to view the source in the first place was so people could learn from one another.

JavaScripts and CGI scripts are another matter. They perform specific, deliberate functions as a complete unit. Before you take someone's script, find out what the use policy is. It's usually stated at the top of the script, along with contact information. Some people will let you use their scripts as long as they get credit for creating them. Others make their living writing scripts, particularly CGI scripts, and taking their work without compensating them for it is theft, pure and simple.


Online, the Netscape Gold Rush Tool Chest (http://home.netscape.com/assist/net_sites/starter/samples/index.html) offers an introduction to HTML, Java applets, and JavaScripts. This documentation can help you create your Web pages.

The WebEdit users have a mailing list, and they are very helpful—even to newbies. To subscribe, send an e-mail message to webedit-list@sandiego.com with the word subscribe in the body of the message. There are several active discussion groups, too, including:

- alt.html
- alt.html.writers
- alt.html.editors.webedit
- comp.infosystems.www.authoring.html

And you always can drop me an e-line: larry@larryedwards.com. If I can answer your questions, I will. If I can't, I'll try to point you toward someone who can.
Moving Day

When your pages are done and ready for publication on the Web, they need to be moved, or published, to the Web server. Unless, that is, you’re working directly on the server, in which case you can skip this section.

If you’re building your pages remotely and will be using the Net itself to transfer the pages, you have two options: You can use Composer, which has a built-in File Transfer Protocol (FTP) component, or you can use a separate FTP client. I’ll show you how to use both in the following sections.

However, just because the pages are on the server doesn’t mean you’re through with your development work. As with any move, you need to get your house in order and conduct an inspection before hosting an open house. Your entire site needs to be tested to ensure all the pages function properly, that the images and other collateral files load and function, and that all the links work. You also need to test the site using computers other than your own to make sure they display your pages the way you intended.

Tip

If you publish your Web site before it is complete, please do not put Under Construction signs on the empty pages. All Web sites by default are under construction. Activating links that go nowhere is just going to frustrate your visitors. Don’t activate links to pages unless the pages contain some meaningful content.

Publish Using Composer

If you have a relatively small site and all the pages are contained in one directory, like the Gadgets Galore! site, you can use Composer to publish your pages on the Web. It works like this:

1. Click on Publish on the Composition toolbar, which opens the Publish panel (shown in Figure 11-19).
2. In the Page Title dialog box, enter the title of the page you want to publish. Remember, the title is what appears in the browser’s title window. If the page is loaded into Composer, it will appear automatically.
3. In the HTML Filename dialog box, enter the filename for the document you want to upload to a remote server. Be sure to include the .htm extension. If it’s the first time you’re moving pages to the server, make this your home page.
4. In the HTTP or FTP Location to Publish To dialog box, enter the location of the remote site, if you didn’t enter this information when setting your preferences. You may need to contact your Web host for this information.

5. In the User Name dialog box, enter the name assigned to you by your Web host. It may be the same as the name you use when logging on to the Net but not necessarily.

6. In the Password dialog box, enter the password associated with the user name.

7. You can check Save Password to save your password information so you don’t have to enter it every time you publish your Web pages. Please note, however, that if your computer is in a relatively public place, this is not a good idea. Anyone with access to your computer could publish pages to the site, including a prankster who may decide to replace your pages with his or her own.

8. Check Files Associated With This Page so that all of the files referenced by the current document are displayed. Then select the files you want to publish along with the document. If it’s the first time, you’ll want to Select All so that all the pages and graphics are transferred at once. Later, when you’re updating specific pages or adding new pages, you’ll need to select only specific pages. Click on Select None or Select All to quickly select and deselect files in the list.
9. Check All Files in Page’s Folder to display all of the files in the current document’s directory. Then select the files you want to publish along with the document. Click on Select None or Select All to quickly select and deselect files in the list.

10. Click on OK to publish, or transfer, your pages to the server.

**TRAP**

If a file on the remote server has the same filename as one you’re uploading, it will be replaced with the new one. There is no safety net. You will not be asked to confirm it.

**Publish Using FTP**

If you have your site divided into multiple directories, as I recommended in Chapter 10, you will need to use a separate FTP software program and move the files a directory or folder at a time. Generally, these are drag-and-drop programs, which make file transfer very easy. I use WS_FTP3.2 (Windows 95), shown in Figure 11-20, a version of which is on the Companion CD-ROM. Other popular products include WinFTP for Windows and Fetch for Macintosh.

![Figure 11-20: The WS_FTP file transfer program.](image)
FTP software gives you more latitude than the Composer component because you have direct access to the files on the server. You can create, rename, or remove file directories. You also can delete outdated or unused files, or you can rename files. In addition, you can transfer files back to your own computer from the server, such as log files when you want to analyze the traffic through your Web site. Files can be transferred individually or in batches.

**Test on Multiple Platforms**

You also need to check your pages using different browsers and platforms because they won’t look the same on all computers. Some of the differences will be insignificant; others will be dramatic. The JavaScript for the pop-up window described earlier, for example, worked great on Windows and Macintosh computers, but not some UNIX computers. It turned out the background color was the culprit, turning the navigation buttons black and leaving the viewer with no clue as to which one did what.

After you publish your pages to the server, have several people look at them and give you feedback. At this point you’re more interested in the functionality than the aesthetics. The wider the variety of computers and browsers with which you test, the better.

Have someone review it through America Online’s default browser, in particular. I hate to keep harping on AOL, but I use its default browser as one of my lower common denominators because it lacks the functionality of the state-of-the-art software.

You also need to check all your links. On a large site, this is impractical to do one at a time. However, there are software programs that will do this for you, which I’ll discuss in Chapter 17, “Web Site Monitoring & Management.”

**Common Problems**

As you test your site, you will discover that it has a slightly different appearance when viewed on various types of computers and when viewed with different browsers on the same computer. Some things you’ll want to correct to the extent possible; others you can do nothing about, short of removing a particular feature from the site. But you should know about them so you don’t waste time trying to fix something over which you have no control.
Here are some common problems and your options for dealing with them:

- A portion of the home page disappearing off the right side of the screen. Most likely you designed your page for an 800x600 or 1024x768 screen resolution and it’s being viewed in a screen with a resolution of 640x480. Reread the section in Chapter 10, “Web Site Design: The Essentials,” about screen resolution.

- Images with color discrepancies. This is caused by conflicting color palettes. It’s not uncommon for images created with a Windows computer to have problems when viewed using a Macintosh and vice versa. This typically crops up when viewing images with a computer that displays only 256 colors—which includes many older Windows machines, as well as newer ones set at 256 colors. You can re-index the color palette or re-create the images using a default Windows or Macintosh color palette to see if that improves the situation. If it does not, you’ll have to decide which audience is more important to you and live with it.

- Multimedia presentation or video file that changes the system color palette. Multimedia presentations and video files are notorious for causing the colors of everything else in view to go out of whack. Again, it’s a color palette issue that typically comes to light with computers limited to 256 colors. If you’re going to the expense of including multimedia and video in your Web site, this is an issue that needs to be discussed and resolved before they are produced. I’ve seen Shockwave files that distorted a computer’s color palette so badly that it effectively disabled the browser because the menu and navigation buttons were virtually indistinguishable from the background color.

- No background colors in tables. The AOL default browser does not display background colors in tables. So that color we added in the Gadgets Galore! page will not be seen by those folks from AOL using the default browser. The entire page background will appear white or gray. That’s no reason not to use color. Just understand that not everyone will see it. As a caveat, however, keep in mind that if you create a reverse layout using background colors in tables, the text, if white, will be invisible, and light colors will be difficult to see.

- Table extending far beyond browser window in AOL default browser. Look for a no-wrap attribute in a table cell tag <TD>. I discovered this one only after several frustrating attempts at massaging a table layout.
- Last column of text in a table not displayed. This is a quirk of Navigator when (1) a table extends beyond the right edge of the browser window, requiring horizontal scrolling to view it, and (2) the table extends farther than any other component of the page. The scroll bar reaches its limit before the last column of text appears. To get around this, add an empty cell to that end of the table.

- Characters in the same word separated by a space that does not exist in the HTML. This happens when (1) one character has a `<FONT SIZE>` different from the one next to it, and (2) it's viewed using an older Macintosh computer. Keep this in mind if you use this technique to stylize your headlines or the first character in a paragraph. There's nothing you can do about it other than not use multiple font sizes in the same word.

- Frame borders are visible. Some versions of Internet Explorer will not display frames without borders, though Navigator does. For example IE 3.x for Windows displays the borders, but the same version for Macintosh will display borderless frames. So, if you use frames and specify no border to achieve a seamless appearance, you might not get it in Explorer. The same is true of AOL's default browser, which is a scaled-down version of Explorer.

- Home page can't be seen. This is probably a frames issue. Some older browsers cannot view frames. If there is no `<NOFRAMES>` alternative, the browser displays just what it was given: a blank page.

- Form doesn't work. Some older browsers don't support forms. Suggest to the complaining party that the browser be upgraded.

- Shopping cart doesn't work. Some older browsers do not support the protocols that enable secure transactions. There is no workaround. Suggest to the complaining party that the browser be upgraded.

- JavaScript does not run. I discussed this at length earlier. There are compatibility issues with JavaScript, particularly with non-Netscape browsers. These issues probably will be resolved over time, but for now don't use JavaScript for any mission-critical aspects of your site.

---

**Moving On**

You're now through the heady experience (or is agonizing a better choice?) of building a basic Web site. At times you probably wondered if you were going to make it through the process, from conception to completion—or if it was worth it. But you did make and it will be worth it.
As you become more comfortable with the medium, you can experiment with your options and design alternative page layouts. You also can begin looking at enhancing the basic text and graphics presentation with some of the bells and whistles you no doubt have heard about. It's these bells and whistles that are the focus of the next chapter. I'll introduce many of your options regarding the use of animation, audio, video, multimedia, and virtual reality, as well as the pros and cons of each.
Web Site Design: The Enhancements

There are a number of ways you can spice up your Web site, taking it beyond text and graphics. Your options include animation, audio, video, multimedia, virtual reality, and a form of broadcasting, among others. When used appropriately and tastefully, these technologies add value to your Web site. They catch the eye and ear and may provide the best way to make a point, illustrate a concept, demonstrate a product, or provide entertainment and amusement to your Web site visitors.

Some companies, for example, offer current and past radio and TV commercials, some of which are considered classics. Others are incorporating animation, audio, and video into their online advertising campaigns, which will be discussed in greater detail in Chapter 15, “Marketing Online: A Personal Matter.”

This chapter touches on the pros and cons of these enhancements. You must not only consider the production costs of these items but must also take into account the time it will take many of your visitors to see or hear them.

Resist the temptation to include “cool” gimmicks and “killer” gadgetry unless they serve a truly useful purpose. These things are the elixirs of the Web. They tempt the palate but typically leave a bitter aftertaste if not properly prepared. For experienced Web developers, the rule of thumb is function over form, substance over style. Eye-grabbing, screen-filling graphics, and slick multimedia presentations—eye candy—may be engaging momentarily, but is it worth the wait to see them?
In addition, most of these technologies require helper or plug-in applications (usually free of charge) and may require special hardware in order to be viewed or heard. There’s no guarantee that your Web site visitors will make the effort—or spend the money—to obtain and install the necessary hardware and software. What’s more, the two most popular browsers, Netscape Navigator and Internet Explorer, sometimes enable these technologies differently. In such instances, you will have to use separate HyperText Markup Language (HTML) tags for each.

Therefore, including these options in your Web site simply to say you have them is not a sufficient reason. They should provide value beyond the sheer technological wonder that it can be done. Just because you can do it doesn’t mean you should do it.

## Animation

Animation and other special effects can be achieved with a number of technologies, ranging from the simple HTML `<BLINK>` tag (please, don’t use this) to sophisticated software programs such as Macromedia’s Shockwave. In this section, I’ll introduce several options and discuss the advantages and disadvantages of each.

### Animated GIFs

An animated Graphics Interchange Format (GIF) is a series of GIF images bundled together and displayed sequentially like a slide show or cel animation. It has been the most common form of animation on the Web. This technology standard is called GIF89a (the 89 is for the year it was created). It’s now supported natively in most browsers—but not the America Online default browser—which means it works without a plug-in. It’s added to a Web page using the same `<IMG>` tag as a standard GIF image.

On the AmericaOne site (www.ac2000.org), for example, we use an animated GIF to display the logos of the Web site sponsors (see Figure 12-1). Animated GIFs also have been used to rotate banner advertisements and add animation to the ads themselves.

The downside of animated GIFs is that they can quickly become large files. For example, if the animated GIF incorporates 10 images of 5 kilobytes (K) each, the resultant file will be 50K. Animated GIFs also can be a major irritant: If there are just a few images displayed in an endless loop, it may be viewed as the equivalent of a light flashing on and off—or the dreaded `<BLINK>` tag—and could be self-defeating.
The Ulead Systems PhotoImpact GIF Animator shareware software (Windows only) is one of several programs available that can be used to create animated GIFs. It's included in the Software directory on this book's Companion CD-ROM. For Mac users, BoxTop Software, Inc. (www.boxtopsoft.com) makes the PhotoGIF 2.1 plug-in for Adobe Photoshop 3.0 or greater, which can create animated GIFs. A good online resource for information on making animated GIFs is the CNET: The Computer Network Web site (www.cnet.com/Content/Features/Howto/Webanim/ss01.html), which includes links to other software sources.

**Vector-Based Graphics**

Vector-based graphics were introduced to the Web late in 1996 and hold the promise of providing high-quality animation without incurring a heavy penalty in terms of download time. Because the images are rendered with vectors rather than a static bitmap, they are scalable. That is, the dimensions can be expanded without a loss of resolution and without a proportional increase in file size. As a result, the animation can be achieved with relatively small file sizes when compared to animated GIFs. For example, the flashintro.swf file referenced in the HTML that follows is a mere 8K. The animation (shown in Figure 12-2) was created using Flash 2 software. To achieve the same effect with an animated GIF probably would require a file size at least 10 times larger. Another advantage of vector-based graphics is that Web site visitors can stop and restart the animation, if the developer sets it up that way.
Flash brings your Web pages instantly to life without the wait. Vector-based Flash movies break the bandwidth barrier with compact, interactive Web interfaces, animations, buttons, advertising banners, logos, maps, and more.

Figure 12-2: Flash 2 is a vector-based graphics format that can create animated graphics with relatively small file sizes.

On the downside, these animations require plug-ins to be viewed, which presents another hurdle to Web surfers. Additionally, the Web pages need to be set up with separate lines of code for Navigator and Internet Explorer. Software programs that create vector-based graphics for the Web include Flash 2 and LightningDraw/WEB.

Flash 2, Macromedia, Inc.
Flash 2 (formerly FutureSplash), which now supports sound, has received positive reviews. It's supported by Netscape Navigator version 2.0 or later and Internet Explorer version 3.0 or later. For more information, to download the plug-in, or to see examples of how it works, visit the Macromedia Web site (www.macromedia.com/software/flash). You can also refer to The Flash 2 Web Animation Book by Ventana.

The HTML for adding Flash 2 animation to a Web page is illustrated next. Note the two separate tags `<EMBED>` and `<OBJECT>`. The embed tag is for Navigator, the object tag for Explorer. The `<NOEMBED>` tag is similar to the `<NOFRAMES>` tag in that it provides an alternate, static image for viewers who haven’t installed the Flash 2 plug-in.
LightningDraw/WEB, Lari Software, Inc.

LightningDraw/WEB is another vector-based animation program. It takes advantage of the new QuickTime 3.0 video technology, which supports vector-based graphics. This means LightningDraw doesn’t require a plug-in of its own if you have installed the QuickTime 3.0 plug-in, which had not been released at this writing, however. For more information, to download the plug-in, or to see examples of how it works, visit the Lari Software Web site (www.electrifier.com).

Other Options

Animation can also be achieved with other software programs, as well as scripting and programming languages. Macromedia’s Shockwave is often used, and Lari Software’s Electrifier may be a cost-effective alternative. I’ll discuss them both in the “Multimedia” subsection, later in the chapter. The Java programming language, JavaScript, and ActiveX controls are also used to create animations; I’ll discuss them under “Budding Technologies.”

Some rudimentary forms of motion include animated buttons and scrolling text, or marques, which can be done with Java, JavaScript, and ActiveX. The animated bullets on the Gadgets Galore! home page, for example, give the
illusion of motion when the mouse pointer is positioned over them. This is
done with JavaScript. If you haven’t looked at this, use your browser to go to
the /Resource/HTML/ directory on the Companion CD-ROM and click on
Gadgets Galore! Home Page. Two images are required to achieve this effect,
which increases the page size and the load on the server proportionately.

The moving text, or marquee, demonstrated on the Gadgets Galore!
Redlight Specials page was also created with JavaScript. Keep in mind that
while you or your techno-junkie Web designer may view these things as
“killer apps,” visitors to your Web site may find scrolling text, marquees, and
constantly running animations to be major distractions. If your visitors can’t
turn them off, they may move on to a less obnoxious presentation.

Related Features

A few other features you can use to add variety to your Web site that are
loosely related to animation include random-image generators, random-link
generators, clocks, date stamps, countdown devices, and counters. These can
add value in specific circumstances.

A random-image generator, for example, will display a different image each
time a page is loaded. If you reload the page, a new image will appear. Travel­
oriented sites often use this feature. A related function will refresh an image
after a set amount of time has passed, in effect creating a slide show. The
images need to be relatively small, however, so those with low-speed access
can view one image before the next one is displayed.

A random-link generator is like reaching into a hat and randomly selecting
a slip of paper. It randomly selects a URL from a pool of URLs so that when
you click on the link, you don’t know where you’re headed. For marketing
purposes, you would want to limit this to links within your own site.

You can also place time and date stamps on a Web page. These display the
current time and date in a time zone of your choosing. Again, travel-oriented
sites often use these devices.

A counter is probably the most used, but least useful, of these features. It
simply displays the number of page downloads from a Web site over a given
period of time. You have probably seen them. They typically look like this:

You are visitor number 0002746 since July 22, 1996.

But what’s the point unless you’re giving away a prize to the one millionth
visitor or some such thing? Do you really want to advertise the fact that
you’ve had only 2,746 visitors to your Web site? Counters are also notoriously
inaccurate and can be manipulated easily unless the enabling script is sophisti­
cated enough to screen out those who simply click on the Reload button.
All of these features can be created with several different technologies, including Custom Gateway Interface (CGI) scripting, JavaScript, and Java. Matt’s Script Archive (www.worldwidemart.com/scripts/) is a good source of CGI scripts and the Gamelan Java Directory (www.gamelan.com/index.shtml) is a good starting point for Java and JavaScripts. Or you can hire a programmer to custom write the scripts for you.

Audio

Audio clips, or sound files, are an excellent method of enhancing and personalizing a Web site. Some people prefer listening to a voice recording to reading text or a transcript, and a melodic jingle can go a long way toward jazzing up a product promotion. If you’re selling recorded music, you don’t really have a choice, do you?

Audio capability manifests itself in two basic forms: (1) sound files downloaded from the server and then played back through the Web browser, either automatically or upon request; and (2) what’s known as streaming audio, in which the digitized sound information is fed to the browser in a stream of data that’s played back immediately without being saved to disk, similar to cable television. There are advantages to both technologies, but if you’re thinking of using audio clips that are more than just a few seconds long, you should consider using streaming technology.

To listen to sound on the Web, users must have a sound card installed in their computers, and their browsers may need to be configured to launch a helper application if they weren’t set up to handle sound during installation. In the case of streaming audio, a plug-in is required, and on your end you’ll need special server software to deliver it.

Conventional Sound

Sound files on the Web are typically in the form of voice recordings, special effects, or music. They are presented as either background sounds, optional features to which Web site visitors can choose to listen, or as sounds invoked in response to an event, such as passing your mouse pointer over an object on a Web page.

Conventional sound files are relatively easy to make with today’s personal computers, which often have sound cards and software bundled with them. Windows 95, for example, includes software you can use to make digitized vocal or musical recordings. You’ll need a microphone plus patch cords to
connect your computer to an analog device, such as a cassette or compact disc player, or you can take sounds directly from a CD played through your computer’s CD-ROM drive.

There are several different sound file formats used on the Web, and you may have to provide multiple options to enable everyone to hear them. The most common formats are:

- **AIF (AIFF).** The Audio Interchange File Format was developed by Apple Computer. Newer Macintosh computers are capable of sampling rates up to 64 kilohertz (kHz), with four channels. AIF is a common format for transferring files between Macintosh and Windows computers. The file extensions are .aif and .aiff.

- **AU or SND.** These interchangeable sound file formats are used by UNIX operating systems and now generally supported by Windows and Macintosh systems. The file extensions are .au and .snd.

- **MPEG.** The Motion Picture Experts Group file format is a compression technology that encompasses video, audio, and a combination of the two but uses different methods for compressing audio and video. It is gaining wider acceptance because of its smaller file sizes but may require a plug-in to use. File extensions are .mpg and .mpeg.

- **WAV.** This file format was adapted by Microsoft for the DOS and Windows environments. Such files often are called wave files.

To ensure cross-platform compatibility, I recommend using the AIF or AU/SND file formats. Sound files can be edited and converted to other formats using a number of sound editors, such as Gold Wave, a Windows program that’s relatively easy to use and is included on the Companion CD-ROM in the Software directory. Other editors worth a look include SoundGadget Pro 32-bit for Windows and SoundHack and SoundApp for the Macintosh.

As with graphics, there are sound clips available on the Web. A good starting point is the Sun Sounds page in the University of North Carolina’s Web site (http://sunsite.unc.edu/pub/multimedia/sun-sounds/).

The downside of wiring your Web site for sound is large file sizes. A recording just a few seconds long can require a relatively large file and take many times longer to download than to listen to. For example, a highly compressed, five-second audio clip may have a file size of 30K to 50K, depending on the format. So, if you’re planning on a 30-second welcome message from the company president, keep in mind that some of your Web site visitors will have to wait several minutes while the file downloads before they can listen to it.
You have three parameters that you can adjust when trying to keep file sizes small:

- **Bit rate.** This controls the dynamic range of the sound, the difference between the softest and loudest portions of the sound file. You can choose 8-bit or 16-bit sound. You'll need 16-bit to obtain CD-quality sound, but it doubles the file size, compared to 8-bit sound.

- **Sampling rate.** This controls how often, or the frequency at which the sound is sampled; that is, the number of times per second the computer grabs a piece of the sound, which is measured in kilohertz (kHz). The higher the rate, the better the sound, but you are penalized with larger file sizes. Typical sampling rates are 11, 22, and 44.1 kHz. Sound can be sampled at rates below 11 kHz, but the quality can become so muddy it may not be worth the effort.

- **Monophonic or stereophonic.** This formats the sound sample as one channel (mono) or two channels (stereo). Mono sound requires less data than stereo.

By using lower bit and sampling rates, combined with the mono format, you can reduce the size of a sound file significantly. For example, a 10-second voice clip saved as an 8-bit, 11-kHz, monophonic WAV file would be roughly 110K, which would take about 30 seconds to download with a 28.8 kilobits-per-second (kbps) modem. By comparison, a 16-bit, 44.1-kHz, stereophonic music clip (CD quality), would be almost 16 times larger, or 1.7 megabytes (MB) and would take about 10 minutes to download with a 28.8 kbps modem.

The trade-off is that as a file’s size is reduced, the quality of the sound also goes down. Depending on the purpose of your Web site, you might not be able to get away with shrinking your sound files to the minimum possible size or even much at all. For example, a site that promotes a band’s recordings would require high-quality sound files. If that’s the case, you can use the same technique we used with images: Offer a short sample people can preview to determine whether they want to download the entire file.

**TIP**

*As a general rule, voice can be sampled at a lower rate than music—11 kHz, for instance—and still be of acceptable quality. Use these guidelines to help determine the potential file sizes of your recordings:*

- 8 bits, 11 kHz, mono  
  roughly 11K per second of sound
- 8 bits, 22 kHz, mono  
  roughly 22K per second of sound
- 16 bits, 22 kHz, mono  
  roughly 43K per second of sound
- 16 bits, 44 kHz, stereo  
  roughly 172K per second of sound
To gauge the impact of various bit and sampling rates on download times, check out the mix-ulator at the CNET: The Computer Network Web site shown in Figure 12-3 (www.cnet.com/Content/Features/Howto/Audio:ss05.html).

Figure 12-3: The mix-ulator lets you calculate the download time for various bit and sampling rates.

Adding sound to a Web page is very straightforward. You simply link text or an icon to the sound file:

```html
<A HREF="audio/sound.aif">Sound File</A>
```

You can also provide background sound that will play automatically when the page loads. This requires two HTML tags, however, to accommodate both Navigator (embed) and Explorer (bgsound) browsers and their derivatives:

```html
<EMBED SRC="sndfile.au" HIDDEN=true AUTOSTART=true LOOP=false>
<BGSOUND SRC="sndfile.au">
```

The loop attribute in the `<EMBED>` tag lets you control whether it plays in a continuous loop (true) or just once (false). If you use background sound, which some people find annoying, place the HTML at the very bottom of the page so the visual elements on the page load first. However, you should give
some thought to whether you want to force your Web site visitors to listen to audio files. One faction of Web purists calls for allowing people to choose for themselves.

**MIDI**

An alternative to conventional audio files is the Musical Instrument Digital Interface, or MIDI, format, which is synthesized sound. MIDI files are much smaller than conventional audio files, although the format may not be appropriate for your application. These files are created by musicians playing MIDI-compatible instruments or with software programs such as CakeWalk and Band in a Box. The result is not conventional music, however. Rather, it is simulated music, with a computer mimicking, or synthesizing, the sounds made by musical instruments.

That said, MIDI is an effective method of adding sound to your Web site because of its small file sizes. And with a good sound card and a stereo speaker system at the receiving end, it can make for pleasurable listening. Netscape Communicator natively supports MIDI files, but not all browsers do, so a plug-in may be required by some Web surfers.

MIDI, like conventional audio, can be streamed, but it does require a plug-in to receive it, and it requires proprietary server software to deliver it. One of the pioneers in streaming MIDI is LiveUpdate (www.liveupdate.com), which produces Crescendo software. Crescendo has been adapted to Progressive Networks’ RealMedia streaming architecture (see the next section) so that Web developers now can combine MIDI with conventional audio and video in multimedia presentations.

**Streaming Audio**

Sound that is fed one packet at a time to the listener is known as streaming audio. The advantage of it is that there is almost no wait time, and with a connection of 28.8 kbps or higher, the quality can be as good as FM stereo radio. In fact, there are now dozens of radio stations on the Net using audio streaming technology to deliver their programming. With a computer capable of multitasking—running two or more software programs at once, such as Windows 95 and most Macintosh systems—you can listen to radio broadcasts while performing other tasks.

The leading player in streaming audio is RealAudio, developed by Progressive Networks (www.realaudio.com), which now offers the capability to provide live, streaming audio feeds—what is being called Webcasting. However, both Macromedia and VDOnet have introduced streaming audio and are heating up the competition.
As with other advanced technologies, streaming audio requires a player, or plug-in, to be heard by the end user. But that’s the least of your worries. Providing streaming audio requires proprietary server software licensed by the manufacturer, as well as heavy-duty server capability. The licensing fee starts at $495 for five simultaneous listeners and quickly jumps to thousands of dollars as the number of simultaneous listeners increases.

Streaming audio also eats up bandwidth as if there’s no tomorrow. If you’re seriously considering streaming audio, you’ll need to consult with your Internet service provider (ISP) to ensure the pipeline to the Net is big enough to handle the load—and to find out what it’s going to cost you. Alternatively, there are ISPs that specialize in hosting these services and could be an adjunct to your primary ISP.

**Video**

The popularity of television and VCRs leaves no doubt that people enjoy moving pictures, especially if sound is associated with them. Video can be a great tool for information delivery, demonstrations, instruction, and entertainment. But the Web is not television—at least not yet—and the medium exacts a heavy toll on video in terms of the bandwidth requirements and download time, as well as quality.

Adding video to your Web site needs to be a carefully weighed decision in terms of the production costs (up to $200 an hour for postproduction services) and the value it offers your visitors. It should not be relied upon as a primary source of information about your company or its products and services.

As with sound, video on the Web comes in a variety of flavors, but there are two basic methods of delivery: (1) conventional video files that are downloaded and then played back; and (2) streaming video, which is fed to the end user one pixel at a time, similarly to streaming audio.

**Conventional Video**

As with audio, digital video technology generally is described in terms of a format, or architecture. Because raw, or uncompressed, video consumes something on the order 27MB per second, it must be scaled down for use on the Web. Each of the various video formats has an accompanying technology that compresses the video, known as a compressor/decompressor, or codec. With the combination of a given format and the appropriate codec, an analog video recording made with a standard video camera can be digitized and compressed to a size suitable for delivery and playback over the Web. However, as with
everything, there is a trade-off: The more you compress a video file, the more the quality degrades.

The most popular video format on the Web is QuickTime (quicktime.apple.com), which was developed by Apple Computer and can be viewed with Windows as well as Macintosh operating systems. QuickTime typically is paired with the Cinepak codec, which has the most widespread compatibility. A newer codec for QuickTime is ClearVideo from Iterated Systems, Inc. (www.iterated.com), which creates files about one-third the size of Cinepak through higher compression, but it doesn't have the broad range of compatible computers that the older Cinepak does.

Audio Video Interleaved, or AVI, is a Windows-specific format that can be converted to QuickTime for viewing on Macintosh computers. We're seeing more use of MPEG technology, which produces a higher-quality image but typically requires high-end equipment to play it back. Windows 95 users can view MPEG, as well as AVI and QuickTime, with the NetToob Stream video player (www.duplexx.com) or VMPEG video player, available at Windows95.Com (www.windows95.com/apps/video.html). Macintosh PowerPC users can view MPEG videos with the QuickTime MPEG Extension plug-in.

Video files are downloaded and played back using a specific video player, which are generally free from the respective developers. To use QuickTime ClearVideo, you will need to install the QuickTime player first, then the ClearVideo plug-in.

The file sizes (and thus the download times) for video are much greater than for audio files, because of the visual, or graphic, element involved. For example, a 30-second ClearVideo file is roughly 1MB, which takes about six minutes to download with a 28.8 kbps modem. The same 30-second clip in QuickTime Cinepak format is roughly 3MB and takes about 18 minutes to download with a 28.8 kbps modem.

Preparing video for the Web is more complex than audio and requires more sophisticated equipment, but it can be accomplished with a high-end desktop computer (Pentium/166 mHz or Power Mac) with a video capture card and plenty of memory—300–500MB of free space on the hard drive and 32MB of RAM are recommended. The most popular software is Adobe Premier (www.adobe.com), though Media Cleaner Pro from Terran Interactive (www.terran-int.com) and MediaStudio Pro from Ulead Systems (www.ulead.com) have received high marks as well.

A video capture card sufficient for handling clips to be used on the Web will cost you roughly $200 to $1,000. The Adobe Web site has a computer compatibility chart listing several hardware vendors with products for both Windows and Macintosh systems.
Compressing video clips to appropriate file sizes involves video compression, frame rate, frame resolution, and audio compression. You establish the basic parameters at the time of capture, although you can reduce them later to obtain smaller file sizes.

Video compression is accomplished by selecting key frames as a reference, then putting the compression algorithm to work identifying and deleting repetitious data from the subsequent frames in the same scene. High compression ratios will get you smaller files sizes, but there is an accompanying loss of visual quality. A video editor, like a graphics editor, will give you several compression options. You can experiment with the settings and make your decisions on a case-by-case basis.

File sizes are compressed further by reducing the number of frames per second (fps). Television-quality video is 30 fps, but Web video generally is 15 fps or less, meaning it will appear jerky, like an old 8-millimeter home movie. I don’t recommend going below 10-12 fps.

Frame resolution refers to the size of the image displayed on the screen. The common size for Web video is 160 pixels wide by 120 pixels high, the equivalent of one-eighth of a 640x480 screen.

You also have control over the quality of the audio track, which directly affects the size of the video file. Experiment with 8 bits/22 kHz and 16 bits/11 kHz samplings to begin with.

As with large images and audio files, do your visitors the courtesy of offering a short sample they can preview to determine whether they want to download the entire file. You also may want to provide more than one file format. On the AmericaOne site, we offer both Cinepak and ClearVideo formats, illustrated in Figure 12-4. Note the small, 160x120 frame size. Full-screen video is not practical with the current Internet infrastructure and mainstream computer technology.

Video files without sound will be smaller than those with sound but may be of little or no value without an accompanying sound track. Good primers on this subject are available at Codec Central (www.terran-int.com/CodecCentral/geninfo.html) and Raley Communications (www.raley.com).

Video files are added to a Web page the same way audio files are. However, you should not embed a video file on a Web page. It will only make people angry. Give your visitors the option of watching it. The HTML will look something like this:

"<A HREF="video/video.mov">Video File</A>"
Chapter 12: Web Site Design: The Enhancements

Figure 12-4: Multiple video formats accommodate those with differing access speeds and computer systems.

Streaming Video

As with streaming audio, you watch streaming video while it downloads. Image quality may be degraded when compared to a conventional video file, but there's no wait. Some of the currently available proprietary video streaming formats are listed in Table 12-1.

<table>
<thead>
<tr>
<th>Format</th>
<th>Company</th>
<th>Web Site Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>InterVU</td>
<td>InterVU, Inc.</td>
<td><a href="http://www.intervu.com">www.intervu.com</a></td>
</tr>
<tr>
<td>RealVideo</td>
<td>Progressive Networks, Inc.</td>
<td><a href="http://www.realaudio.com">www.realaudio.com</a></td>
</tr>
<tr>
<td>VDOlive</td>
<td>VDOnet Corp.</td>
<td><a href="http://www.vdo.net">www.vdo.net</a></td>
</tr>
<tr>
<td>Vivo</td>
<td>Vivo Software, Inc.</td>
<td><a href="http://www.vivo.com">www.vivo.com</a></td>
</tr>
<tr>
<td>Vosaic</td>
<td>Vosaic Corp.</td>
<td><a href="http://www.vosaic.com">www.vosaic.com</a></td>
</tr>
<tr>
<td>Vxtreme</td>
<td>Vxtreme, Inc.</td>
<td><a href="http://www.vxtreme.com">www.vxtreme.com</a></td>
</tr>
</tbody>
</table>

Table 12-1: Some available video streaming formats.
All of these formats are proprietary, meaning a separate plug-in is required for each one. Which of these companies will survive the inevitable shakeout remains to be seen, so proceed with caution in terms of adopting one technology over another. On the AmericaOne site, we offer InterVU and VDO through third-party service providers, and have begun experimenting with Vxtreme.

As a hint of what’s to come, Microsoft may have ensured the survival of VDO.net by acquiring a minority stake in 1996 but then hedged its bet through a deal with Progressive Networks in mid-1997 to integrate the RealAudio and RealVideo players in its Explorer browser. Not surprisingly, Microsoft is also entering the media streaming market with its NetShow server, which will be compatible with Progressive Networks’ audio and video formats.

The video editors Premier, Media Cleaner Pro, and MediaStudio Pro support some of these streaming formats. Use the video capture guidelines detailed in the section “Conventional Video” for these streaming formats as well as for the conventional video files.

In terms of the percentage of Web users who can view streaming video, modem speeds below 28.8 kbps do not provide satisfactory performance, so the audience is limited at the outset. In addition, some formats, including RealVideo and Vxtreme, require a Pentium-class (x586) processor for the Windows operating system and a PowerPC for the Macintosh OS, further restricting the number of people who can view video in these formats.

As with streaming audio, streaming video requires proprietary server software licensed by the manufacturer, as well as heavy-duty server capability. I recommend using an ISP that specializes in video hosting, rather than trying to set this up yourself. InterVU, for example, is unique in that it provides a turnkey service, from digitizing to delivery, using its own technology. Fees are typically based on usage—the more popular the video clip, the more it costs you. To incorporate video hosting into your Web site, you merely establish a link from your page to the ISP’s server.

**Budding Technologies**

Moving beyond animation, audio, and video technologies, we are seeing the emergence of new software development tools, multimedia, and virtual reality on the Web, too. These technologies hold the promise of the highly interactive virtual environments that visionaries have been touting in recent years. However, these technologies, particularly virtual reality, are a long way from maturity.
What's happening is that technologies developed for high-performance computing systems and CD-ROM applications are being adapted to the Net and Web. But the underlying shortcomings of the Net's infrastructure, the wide variety of computing platforms in use, and a lack of open technology standards impede rapid adoption. Don't worry about missing the boat in this arena, because it's not finished docking yet.

In this section, I'll introduce you to multimedia applications, Java, JavaScript, ActiveX controls, and virtual reality. These are not new technologies, but they are still in their infancy. Their use is limited at this writing, and in the case of Java and ActiveX, their use is primarily within closed networks such as corporate intranets and extranets. These technologies have not gained widespread adoption across the Web for several reasons, including incompatibilities with operating systems and/or Web browsers, as well as security issues.

If you opt to incorporate these technologies into your Web site, just keep in mind the caveats I discussed at the beginning of the chapter. Use of these technologies needs to be carefully considered before spending development dollars on features that a significant percentage of your Web site visitors may not have access to or may block if given the option.

**Multimedia**

Multimedia is highly desirable technology in terms of marketing, entertainment, and educational applications. Not only can it provide a visual and auditory feast, but people can interact with it. The mix-ulator depicted in Figure 12-3 is an excellent example. It combines an intuitive visual interface with sound and user input to provide a valuable service to Web site visitors.

Another good application is the online demo of the Nokia 9000 Communicator (nokia-asia.com/ap/9000_shock.html), a cellular phone that incorporates fax, e-mail, personal assistant, and Internet browser capabilities (see Figure 12-5). By clicking on the image, the viewer can rotate the phone, open it, and click on keypad keys to view various screens, getting a quick overview of the product's capabilities—a strong selling tool.
Both of these examples were created using Macromedia's Shockwave, the leader—and until recently the lone wolf—of the multimedia pack. Shockwave presentations—euphemistically termed "movies" but which can be arcade-style games as well—are developed using the Director authoring tool.

Macromedia's Flash 2, described earlier, now has sound capabilities and also can be considered a multimedia authoring tool, though it has limited capabilities compared to Shockwave. For more information, to download the plug-in, or to see examples of how it works, visit the Macromedia Web site (www.macromedia.com).

Another multimedia authoring tool is the mBed Interactor, released in mid-1997. It doesn't have the power or flexibility of Shockwave, but it's more user-friendly and is likely to have a shorter learning curve. For more information, to download the plug-in, or to see examples of how it works, visit the mBed Web site (www.mbed.com).

Lari Software announced an Electrifier multimedia development tool, but at this writing, it had not been released. Electrifier is designed to work with graphics created with the LightningDraw software described previously in the "Animation" section. For more information, visit the Lari Software Web site (www.electrifier.com).
While multimedia technology is very compelling, it also has its downside. I hate to belabor the point, but it is important: This technology is still relatively new and is resource-intensive. That is, file sizes tend to be large—200K to 300K is not uncommon—and download times for low- to moderate-speed access are lengthy, although Macromedia has introduced streaming audio technology, which reduces the client-side load. In addition, multimedia programs require plug-ins to be viewed. These factors combine to make the technology, at this time, an option but not a must-have for most Web sites.

In addition, this software is not easy for neophytes to use. The Lingo scripting language used in Macromedia's Director is akin to programming, and mBed's Interactor requires the use of its mBed language to edit mBed text files for complex interactive sequences and to synchronize them with RealAudio. Unless you or someone on your staff is a programmer, you'll probably need to put multimedia development in the hands of professionals. Fees for such services typically range from $50 to $100 an hour.

Java

Java is a computer programming language developed by Sun Microsystems, Inc., and is used to create software programs, or applications, that have what technogeeks call cross-platform interoperability. The Netscape Communicator Help section, for example, was created with Java. Many of the Java applications created for the Web are very small, have limited functionality, and are prevented from directly interacting with a computer's operating system, so they're called applets.

The small file size is convenient because it keeps the download time from becoming excessive, but it's really a result of the limited functions that an applet can perform, rather than any altruistic motive on the part of the programmers. To keep an end user's computer secure from rogue, potentially harmful code, applets are designed to run within a virtual machine, commonly called a "sandbox." This isolates the applet from the operating system.

However, this built-in security also limits what the applets can do. To broaden their functionality, applets eventually will be allowed to step out of the sandbox and directly interact with some segments of a computer's operating system.

To circumvent the resultant security problems, VeriSign, Netscape, Sun Microsystems, and others are working toward the development of code-signing capability for Java applets. Software developers will attach a digital signature to their product as a guarantee that it will not harm or damage an end user's system, and the end users will have a chance to examine the certificate—and verify it—before allowing the applet to be downloaded.
Java can be used for a wide variety of applications, including animation, multimedia, and special effects. You may have seen animated icons or images at Web sites you've visited that were created with Java. Had you taken the time to view source code, you would have seen HTML that looked something like this:

```html
<APPLET CODEBASE="rotatemenu" CODE="rotatemenu.class" WIDTH="145"
HEIGHT="280">
<PARAM NAME="background" VALUE="000000">
<PARAM NAME="textcolor" VALUE="bf0000">
<PARAM NAME="platecolor" VALUE="ffbf00">

This particular applet, when combined with the necessary parameters, creates a navigation bar with signs that rotate when clicked. The applet is 9K of computer code, which is a smaller file size than even a static image of the navigation bar is likely to be, so there's a point in its favor right there. Does the animation add value? Not much, although it does indicate the computer is responding to your mouse click and the motion may distract you while the page you requested loads into your browser.

An example of the versatility of Java is the Fidelity News InSite page (personal.fidelity.com/82DEV/), which has a graph depicting the Dow Jones Industrial Average and a scrolling marquee that gives the current or closing averages for a number of stock and commodity indexes (see Figure 12-6).

Figure 12-6: Java is used to create graphs and marquees to provide financial market updates online.
The advantage of Java is that it's cross-platform capable. The disadvantage is that not all browsers support Java, and not all that do support the same Java specification (1.0, 1.1, 1.1.3, 1.2). Plus, users with limited amounts of RAM may disable Java because it slows down their computers. There also is some question about how broadly Java—which is notoriously slow and can crash some browsers—will be embraced on the Internet, even though it's already being used extensively in the development of intranet and extranet applications by some companies, including Netscape, IBM, Lotus, and Microsoft.

The difference is that corporate intranets—and to a great extent extranets—don't face the bandwidth or the security issues that restrict what can be done with Java on the Net. Plus, network administrators have control over the types of computers being used, whereas on the Net, there is no similar control.

If you decide to use Java to jazz up your Web site, keep these factors in mind. For example, you may not want to use it for mission-critical elements, such as something as fundamental as the navigation bar, unless you're prepared to offer your visitors a non-Java alternative. Without an alternative, you risk losing customers. Keep in mind, too, that an applet, being an separate file, adds to the download time.

Additionally, because Java is a programming language, it's the realm of programmers, and programmers don't come cheap. However, software tools are emerging that nonprogrammers can use to integrate ready-made Java applets into their Web pages, such as the navigation bar described earlier. An excellent online resource for Java-based animation and multimedia software tools is the Gamelan Java Directory (www.developer.com/pages/Gamelan.html).

**JavaScript**

JavaScript is a scripting language that allows you to embed special instructions in a Web page. When these instructions are triggered, they invoke the browser to perform specific functions, such as opening a new window or replacing one image with another.

Although JavaScript is a Java offspring, it is not Java. It has very limited functionality compared to Java. Nonetheless, it can perform a number of useful functions, ranging from something as rudimentary as animated navigation buttons to an expandable table of contents or simple database queries. JavaScript's advantage is that it's self-contained within a Web page, making it easier to add to a Web site than CGI because it does not involve the server.
JavaScripts are incorporated into the header section of the Web page itself, rather than being a stand-alone program or applet. Learning JavaScript is similar to learning CGI scripting and is much less complex than learning Java. But it's still programming and requires familiarity with programming syntax and protocols. It's also much less forgiving than HTML.

The disadvantage, as with Java, is that JavaScript doesn't work in all Web browsers, including the default America Online browser and older versions of Netscape. Explorer supports it in theory, but in reality it's intermittent. In addition, it adds to the size of the HTML file, and that can be significant with a long, complex script. Also, because it's language that must be interpreted by the browser, it can slow down older computers that don't have the processing horsepower of today's equipment.

Nonetheless, JavaScript has great potential because it can be used to enhance and add functionality to the design and layout of a Web site. I've included a few JavaScripts on the Companion CD-ROM in the /Resources/JavaScript folder. These are text files you can open in a text editor or word processor, then copy and paste into your Web page. You'll have to change the names of any referenced HTML, graphics files, and hyperlinks to match your own.

Here is a sample of how JavaScript looks in an HTML document. This script creates the animated buttons I described earlier.

```html
<HEAD>
<SCRIPT LANGUAGE="JavaScript">
<!-- // ************ hide script from older browsers
   function loadImage(imageName, imageLocation)
   {
     if (document.images) document.images[imageName].src = imageLocation;
     return true;
   }
   // *********** finish hiding script -->
</SCRIPT>
</HEAD>

The following snippet of HTML is placed within the <BODY> portion of the document to create a hyperlinked nav button, as described in Chapter 11, "Using Netscape Composer." However, the tag also has additional attributes, which will invoke, or call, the loadImage function specified in the JavaScript.

```html
<A HREF="homebody.html" onMouseOver="loadImage('homel', 'btnhome2.jpg');return true;" onMouseOut="loadImage('homel', 'btnhomel.jpg'); return true;"EMALE SRC="btnhomel.jpg" LOWSRC="btnhome2.jpg" WIDTH=100 HEIGHT=35 NAME=homel ALT="Home" BORDER=0></A>
```
Note that there are two graphic images—SRC and LOWSRC—for the nav button. They are similar in appearance but with enough variation that it gives the illusion of motion when they are swapped. What’s happening is the JavaScript is telling the browser to display, or load, the LOWSRC image when the mouse pointer is positioned over the nav button. When the pointer moves off the button, the primary image is reloaded. The function call is nested within the anchor <A> tag. Each nav button will have almost identical HTML. Only the target Web page and the image file names change.

Note, too, that the script itself is commented out with the <!- --> tag so the script will not be displayed in browsers incapable of responding to it. In such an instance, the viewer will see the standard navigation bar, but the buttons will not be animated.

This script (ANIMBTTN.TXT) is on the Companion CD-ROM in the /Resources/JavaScript directory. Other JavaScripts on the CD can be used to create a site map, a pop-up window for a special promotion, a ticker tape, and a collapsible table of contents. See Appendix A for specific information.

**ActiveX**

You may have heard about ActiveX, so I’ll comment on it briefly. Commonly referred to as an *ActiveX control*, it is a relatively small computer program, akin to a Java applet, developed and distributed by Microsoft. Web site developers can use ActiveX to enhance the interactivity and special effects of their Web sites.

However, ActiveX is not supported by Netscape, which at this writing still claims the highest share of browsers in use. In addition, ActiveX controls are used in only a small percentage of Web sites. Because of this, I don’t recommend using this technology at this time for anything other than experimental purposes. Netscape is supporting the use of Java to achieve the types of interactivity and special effects of which ActiveX controls are capable.

Moreover, there are serious security issues involved in the use of ActiveX because it uses native binary code, also called machine code. That is, it speaks the same language the computer does. Unlike a Java applet, it does not run within a sandbox. Rather, it interacts directly with a computer’s operating system.

This is good in that it greatly increases the range of things it can do, as long as the operations it executes are, at worst, benign. But it would be disastrous if an ActiveX control initiated hostile or malicious activities, such as erasing files, reformatting hard drives, or transmitting financial data to a scofflaw bent on criminal intent—all of which have been demonstrated.
To ensure the integrity of ActiveX controls, Microsoft, in conjunction with VeriSign, Inc. (www.verisign.com), created the Authenticode program. VeriSign functions as something of a cross between a credit verification service and a notary public for the Internet software industry. Publishers of ActiveX controls can obtain a digital certificate, also called a digital identification, which appears in the browser window as part of the ActiveX alert. The certificate contains links to the VeriSign database, where users can confirm that the publisher is registered and the credential has not been revoked. The existence of a valid certificate doesn't necessarily mean that nothing disastrous will happen if you accept the code, however. It merely means you can hold the publisher legally accountable.

Virtual Reality

Although many of the Web-based technologies discussed previously are in their infancy, virtual reality is still in the embryonic stage. But it has the potential for greatness. Imagine that instead of the two-dimensional, static nav bars visitors now use to wend their way through your Web site, you had a three-dimensional avatar (animated character) to act as a personal guide, opening doors and showing your visitors into the departments of your virtual place of business. It's already happening in the back alleys of cyberspace and is likely to become part of the mainstream—some day.

Virtual reality on the Web is achieved in a couple of ways. One is QuickTimeVR from Apple (qtvr.quicktime.apple.com). With it, you can create a 3D photographic or rendered representation of a person or an object and use the mouse and keyboard to rotate the objects, zoom in or out of a scene, have a 360-degree perspective, and/or navigate from one scene to another. Examples of uses include an online apparel catalog—where an article of clothing can be seen from all angles by simply rotating it onscreen, and real estate—where prospective home buyers take a virtual tour of a house for sale. Another is getting a driver's view of the interior of a new automobile, as offered by BMW (www.bmw.com).

The files for such applications tend to be very large (2MB is not uncommon), and the QuickTimeVR plug-in is required to view them. A plug-in is available for both Windows and Macintosh systems.

What most people consider virtual reality, however, is achieved with Virtual Reality Markup Language, or VRML. This is a cousin to HTML but is more complex in that it deals with interactive, 3D environments, or worlds in geek speak. VRML is more of a scripting language than a markup language and as such is more the realm of programmers than neophyte HTML hackers, in terms of implementation.
VRML version 2.0 (to be renamed VRML97) was ratified in 1996 by the VRML Consortium (www.vrml.org), which agreed to leave the standard alone for up to two years while developers began using it. But what gave VRML a real shot in the arm was an unexpected turn of events: In mid-1997, Netscape and Microsoft, the two companies butting heads in the browser war, agreed to support a common standard for 3D graphics. In addition, Netscape agreed to license the Cosmo Player from Silicon Graphics, Inc., and Microsoft agreed to license Intervista's WorldView player so both Netscape and Microsoft could incorporate VRML viewing capabilities into their respective Web browsers.

Currently, a browser plug-in is required to view VRML. Get SGI's Cosmos Player at cosmo.sgi.com, or Intervista's WorldView player at www.intervista.com.

The Mars mission provided some great material for creating 3D worlds. You can view some of it courtesy of Silicon Graphics (vrml.sgi.com/ worlds/models/), shown in Figure 12-7. An excellent source of VRML information and software is the San Diego Supercomputing Center's VRML Repository (www.sdsc.edu/vrml).

Figure 12-7: VRML is used to display photos from Mars as a 3D, 360-degree panorama that can be rotated with the click of a mouse.
Virtual reality holds tremendous promise, particularly in terms of product demonstrations and marketing, but I can't recommend the use of VRML at this time as anything other than a gimmick for your Web site. You should, however, keep your eye on VRML as it evolves in the coming years and take advantage of it when appropriate.

Moving On

There is a strong temptation to have the coolest special effects and killer apps on your Web site to demonstrate that you're on the cutting edge of Internet technology and to generate traffic to the site. But unless these features truly support your online marketing strategy—and they may—you need to carefully consider their real value before investing serious money in their development and deployment.

In the next chapter, I'll discuss online transactions and the issues involved in offering online services and sales, or what is commonly called e-commerce. This will include the three primary considerations of conducting transactions on the Net: processing the information, method of payment, and security.
Online Transactions & E-Commerce

The Net and Web are evolving from a marketing-oriented medium into a full-blown extension of business in the physical world. More and more businesses are using the digital world of cyberspace to streamline transactions by selling their goods and services online. This is known as electronic commerce, or simply e-commerce, which I introduced in Chapters 4 and 7.

The manifestation of e-commerce can range from initiating product orders online and then using traditional follow-up and delivery methods involving phone, fax, and shipping to conducting the entire transaction in the digital universe, where the order, payment, and delivery of products and services are handled online. In addition, back-office support in the form of inventory control, billing, account updates, customer service, and credit reports is being integrated into online transactions.

In many ways, e-commerce is an evolution of mail order—orders are submitted electronically rather than by mail or telephone. If you already accept orders or conduct transactions by mail or telephone, you're several steps ahead in the game. However, the advantage of conducting business online is that your store is open around the clock, day in and day out, to people all over the world. What's more, the entire process can be automated: The customers check inventory status and perform data entry for you, orders are placed, products are delivered, invoices are generated, and payments are made—with little or no human intervention on your end.
Keep in mind, however, that by moving your business online, you become an international business and part of the emerging global economy, like it or not. You will have to decide whether or not to accept orders from other countries, which may require dealing with currency exchange, increased shipping costs, import duties, and the laws and regulations of your customers’ respective countries. President Clinton has proposed making the Internet a global free-trade zone, which would relax some of the restrictions on international business transactions, but no action on the proposal is expected before mid-1998.

Establishing such a system is not an easy—or inexpensive—task. You must fuse the three fundamental elements that together comprise e-commerce: (1) implementation of online transactions; (2) electronic payment processing; and (3) electronic security. This chapter explores your options for incorporating these elements into your Web site to fully realize your online business objectives. In addition, I’ll show you what others are doing, pointing out Web sites that illustrate the key concepts. And I’ll touch on the subject of back-office support and systems integration.

### Implementing Online Transactions

The implementation of online transactions manifests itself in many ways, depending on the business model, the types of goods and services offered, and the depth of one’s pockets. It can range from offering a few products and a static order form, like what you’d find in a printed catalog, to a fully interactive electronic catalog containing thousands of items and incorporating real-time credit card authorization.

In this section, I’ll discuss your options for creating an electronic catalog as well as the alternative methods you can and should use for taking orders online and offline. I’ll also point you toward a number of businesses currently selling products and services online so you can see various manifestations of e-commerce and perhaps use one as a model for your own business.

### Electronic Catalogs

Selling more than just a few items online requires a catalog of some sort. This can be accomplished by coding the catalog pages with the items for sale or by creating a database for the items—if you don’t have one already—and generating the pages dynamically or on the fly. The latter is more expensive to set up, but it’s the most efficient in terms of maintenance and updates and is recommended for anything more than a handful of items.
Chapter 13: Online Transactions & E-Commerce

Creating hard-coded catalog pages is done in the same manner demonstrated in Chapter 11, "Using Netscape Composer." Once completed, they’re published on the Web server and the appropriate links from within the Web site to the catalog pages are established. However, maintaining the links quickly becomes a rat's nest as a catalog grows. That’s when having a database makes site configuration and management much more efficient.

There are a number of companies selling software—euphemistically called solutions—for creating electronic catalogs. Typically, the catalog is a component of an electronic shopping cart, which I’ll discuss in the next section. A typical catalog page will feature a few items for sale, with check boxes and other selection criteria so that items can be ordered immediately (see Figure 13-1).

![Figure 13-1: An electronic catalog makes it easy for customers to place an order immediately.](image)

**Taking Orders Online**

The range of methods used for taking orders online is largely a reflection of the economics involved in the implementation of the process. Some of the methods commonly used follow. They are listed from the simplest (and least expensive) to the most sophisticated (and most expensive) manifestations.
Noninteractive Form
A noninteractive, hard-coded form is printed by the customer and submitted by fax or surface mail or used as a reference for placing the order by telephone. The order is processed in the same manner as a traditional mail or telephone order. Keep in mind that although this method is relatively quick and inexpensive to get up and running, it will also be the most labor-intensive to process.

Interactive Form
Using an interactive form, the customer enters order information from his or her keyboard and submits it online. Underlying the form is a script, as described in Chapter 11, “Using Netscape Composer,” that passes the data to a Web server or a secure server. The data can be relayed as an e-mail message or funneled into a file, such as a tab-delimited file that can be read with a spreadsheet or formatted as a data record and placed in a preconfigured database.

Such a form can stand alone as a single Web page, which makes it easy to create, but it’s likely to be cumbersome for a customer to use if you have more than a handful of items for sale. In that case, the more effective method, in terms of customer use and satisfaction, is a series of forms that together constitute an electronic shopping cart.

Shopping Cart
An electronic shopping cart is a series of HTML forms that appear to the customer as catalog pages with check boxes, data entry boxes, buttons, and drop-down menus. The forms are used to gather and temporarily store purchase information for multiple items until the customer has finished shopping. Then the information is compiled for final review at the electronic checkout stand; changes can be made and the completed order is submitted to the merchant’s server (shown in Figure 13-2).

Once the order is received, the merchant’s server initiates a series of actions. Some merchants send an e-mail reply to the buyer requesting confirmation of the order. Once confirmed, the order is processed. If the product can be delivered electronically, the customer may be granted temporary access to a Web or FTP site where the item—such as software, a news article, or market research report—can be downloaded. If the item is a book, flowers, computer hardware, or an article of clothing, it obviously will be delivered in a more traditional fashion.

Depending on the sophistication of the back-office system integration, an electronic order may trigger the automatic creation of a new account record, invoice, packing slip, and shipping label, as well as obtain credit card authorization, track orders, and update the inventory control and sales records.
Offer a Choice

Because of the newness of the medium, many people are reluctant to conduct the entire transaction online. Do yourself as well as your customers a favor by offering a range of shopping and purchase options. For example, some people will request a printed catalog and make their purchases by phone or mail order. For those who do use the electronic catalog, you still need to give them several choices once the order is tallied:

- Toll-free number to call in the order for those don’t want to pay electronically.
- Opportunity to fax or mail the order form after printing a hard copy.
- Secure credit card transaction.
- Alternate method of electronic payment.
Business-to-Business Commerce Growing on the Web

The reluctance to entrust credit card numbers to the Internet primarily affects retail businesses. In the realm of business-to-business transactions—either wholesale or the procurement of supplies—this is not as critical, since credit is often prearranged and only account, purchase order, and invoice numbers are being exchanged. This is one of several reasons why online business-to-business transactions are experiencing rapid growth.

Tip

Regardless of the methods you use, you should establish a system for earmarking orders you receive online. Clearly identify online forms, use a separate toll-free number on the Web site, instruct telephone order takers to specifically ask if and how the Internet was used by the customer, or identify online orders with a specific code. Doing this will help you determine the effectiveness and profitability of this facet of your business, one of the topics addressed in Chapter 18, "Return on Investment."

E-Commerce Examples

Here are a few Web sites you can visit to see how e-commerce manifests itself:

- Amazon.com (www.amazon.com): books
- Art Cellar Exchange (www.artcellarex.com): fine art
- Chase Manhattan Bank (www.chase.com): financial services
- E-trade (www.etrade.com): investing
- Naturelle Cosmetics (www.naturalbeauty.com): beauty products
- Online Sports (www.onlinesports.com): sports-oriented mall
- PR Nutrition (www.prbar.com): nutritional supplement
- Recreational Equipment Inc. (www.rei.com): outdoor sporting goods
- Sharper Image (www.sharperimage.com): apparel
- Virtual Vineyards (www.virtualvin.com): wine and gourmet food
- West Marine (www.westmarine.com): boating supplies
- womensmedia.com (www.womensmedia.com): women-oriented items
E-Commerce Software

To implement a full-scale e-commerce program, you need software and support services that go far beyond standard Web site development. As discussed in Chapter 3, "Select a Web Site Host," you'll need to decide whether to do this in-house or contract outside services. I recommend using professionals to set it up or turning the operation over to a business that specializes in these services.

However, even if you hire professionals to set up and operate your electronic storefront, you should be aware of your options regarding the software that's available and the costs involved. Software can range from electronic shopping carts with limited functionality to e-commerce packages, or suites, that integrate an industrial-strength relational database application and back-office support. Prices will range from a few hundred dollars to a few hundred thousand dollars—for the software alone.

The cost of installing the software, customizing it to fit your specific needs, initial data entry, and, if applicable, system integration, covers a broad range. For instance, a low-end shopping cart combined with a small inventory can be built for less than a thousand dollars, where a complete e-commerce package providing back-office integration with an existing computer system may be well over seven figures.

Shopping Carts

An electronic shopping cart allows a shopper to browse through the items offered and make random selections, emulating a real-world store. Information regarding the selected items, quantity, and attributes such as size and color, is stored temporarily on the server in association with an identification number and/or on the shopper's computer as a cookie, a small piece of data passed back and forth between the shopper's computer and the server. When the shopper wants to check out, the items are tallied, sales tax (if applicable) computed, and shipping charges calculated. The order can then be submitted online, used as a reference for placing a telephone order, or printed and sent by fax or mail.

Available shopping cart software includes, but is not limited to, the products listed in Table 13-1. The price range is quite large, reflecting the underlying capabilities of each one. Those in the lower price range have limited functionality and typically will not support more than a few hundred items. The high-end products will support tens of thousands of items, and as is the case with Intershop Online, may be integrated with a relational database and have built-in back-office support, including inventory management, sales tracking, and Web site statistics. Software for calculating shipping costs may be extra.
Table 13-1: Some of the shopping cart systems available.

<table>
<thead>
<tr>
<th>Manufacturer (Web site)</th>
<th>Software (single-store license)</th>
<th>Approximate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>AutoCart, Inc. (<a href="http://www.autocart.com">www.autocart.com</a>)</td>
<td>Autocart</td>
<td>$199</td>
</tr>
<tr>
<td>lCentral, Inc. (<a href="http://www.shopsite.com">www.shopsite.com</a>)</td>
<td>ShopSite</td>
<td>$495</td>
</tr>
<tr>
<td>Intershop Communications (<a href="http://www.intershop.com">www.intershop.com</a>)</td>
<td>Intershop Online</td>
<td>$4,995 (Windows NT)</td>
</tr>
<tr>
<td>Mercantec, Inc. (<a href="http://www.mercantec.com">www.mercantec.com</a>)</td>
<td>SoftCart</td>
<td>$1,500</td>
</tr>
<tr>
<td></td>
<td>WebOrder (minicart)</td>
<td>$99</td>
</tr>
</tbody>
</table>

Table 13-2 shows some Web sites using the shopping cart systems listed in Table 13-1.

<table>
<thead>
<tr>
<th>Web Site</th>
<th>Shopping Cart System</th>
</tr>
</thead>
<tbody>
<tr>
<td>AmericaOne Ship's Store (<a href="http://www.ac2000.org">www.ac2000.org</a>)</td>
<td>WebCart</td>
</tr>
<tr>
<td>Bedford Wines (<a href="http://www.bedfordwines.com">www.bedfordwines.com</a>)</td>
<td>Autocart</td>
</tr>
<tr>
<td>Complete Health (<a href="http://www.completehealth.com">www.completehealth.com</a>)</td>
<td>Intershop</td>
</tr>
<tr>
<td>Replicarz (<a href="http://www.replicarz.com">www.replicarz.com</a>)</td>
<td>SoftCart</td>
</tr>
<tr>
<td>Under 99 Fine Jewelry (<a href="http://www.under99.com">www.under99.com</a>)</td>
<td>ShopSite</td>
</tr>
</tbody>
</table>

Before purchasing shopping cart software, determine its compatibility with operating systems and Web servers. They are not all equal. In addition, the low-end systems tend to use Common Gateway Interface (CGI) scripts for their functionality and store the data in flat files, which may not be as efficient as systems using a stand-alone database server.

You will also need to know the payment systems each one supports and whether they support secure transactions, because that's likely to influence your decision. Electronic payment systems will be discussed later in this chapter.
**Chapter 13: Online Transactions & E-Commerce**

**Commerce/Merchant Servers**

For high-end development with thousands of inventory items, you’ll need robust software developed specifically for e-commerce. Initially, custom software development was the rule rather than the exception. Now, however, a number of software vendors offer e-commerce software packages. The names you’ll recognize include Netscape, IBM, and Microsoft, but lesser-known software developers are also worthy of further investigation.

The software is commonly called a *commerce* or *merchant* server, which typically supports deployment of a product catalog, an electronic shopping cart, and integration with a relational database application as well as secure transactions. However, the terms commerce server and merchant server, and their prices, can be misleading. Some products are complete packages, while others may require additional software to be fully implemented. For instance, some products are just what they say they are—servers—but to be fully functional, they may require a database software application as well. Or there may be a need for some form of system integration through a *transaction server*—in some circles termed middleware—to tie a Web-based operation to existing back-office systems and legacy (existing) data.

You’ll need to discuss the details of your specific situation with software vendors to determine which products will best meet your needs. Table 13-3 lists vendors to consider, but there are more emerging as this book goes to press, so do your homework before you start writing any checks.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Web Site</th>
<th>Software</th>
<th>Approximate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>BroadVision</td>
<td><a href="http://www.broadvision.com">www.broadvision.com</a></td>
<td>One-To-One Commerce</td>
<td>$60,000</td>
</tr>
<tr>
<td>Connect</td>
<td><a href="http://www.connectinc.com">www.connectinc.com</a></td>
<td>OneServer</td>
<td>$100,000</td>
</tr>
<tr>
<td>Elcom Systems</td>
<td><a href="http://www.elcom.com">www.elcom.com</a></td>
<td>PECOS.net</td>
<td>$5,000</td>
</tr>
<tr>
<td>IBM</td>
<td><a href="http://www.ibm.com">www.ibm.com</a></td>
<td>Net.Commerce</td>
<td>$5,000</td>
</tr>
<tr>
<td>iCat</td>
<td><a href="http://www.icat.com">www.icat.com</a></td>
<td>Electronic Commerce</td>
<td>$3,495 (Standard Edition)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Suite</td>
<td>$9,995 (Pro Edition)</td>
</tr>
<tr>
<td>Intershop</td>
<td><a href="http://www.intershop.com">www.intershop.com</a></td>
<td>Intershop Online</td>
<td>$4,995 (Windows NT)</td>
</tr>
<tr>
<td>Communications</td>
<td></td>
<td></td>
<td>$7,995 (UNIX)</td>
</tr>
<tr>
<td>Microsoft</td>
<td><a href="http://www.microsoft.com">www.microsoft.com</a></td>
<td>Merchant Server</td>
<td>$14,995</td>
</tr>
<tr>
<td>Netscape</td>
<td><a href="http://www.netscape.com">www.netscape.com</a></td>
<td>Merchant System</td>
<td>$15,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Staging Server, optional</td>
<td>$53,000</td>
</tr>
</tbody>
</table>

*Table 13-3: Some vendors of commerce/merchant server software.*
The price tags on e-commerce software, as evidenced here, are all over the map. The broad range reflects, in part, the features and functionality of each system. Some come with a database application, others do not. Some come with back-office support, others do not. And as I said earlier, the cost of installing the software and customizing it to fit your specific needs can raise the total cost substantially.

For example, Recreational Equipment, Inc. (REI), one of the largest retailers of outdoor sporting goods in the world, launched its site (www.rei.com, shown in Figure 13-3) using Netscape's Merchant System and Enterprise Server, integrated with an Oracle database. More than 4,000 items were included in the online catalog at the outset, with an initial development cost "well into six figures," according to a case study published in Information Week magazine.

Figure 13-3: The REI electronic store now includes more than 5,500 items for sale.

However, to provide the interactivity that would achieve the level of customer service provided by store clerks and mail-order service representatives, real-time database interconnectivity was required. To achieve this, REI
procured the WebSpeed Transaction Server, a middleware product that provides back-office integration of the retailer's legacy order-processing system and corporate network, eliminating the problems associated with operating two separate networks. The WebSpeed software from Progress Software Corp. (www.progress.com) came with a $23,000 price tag, plus installation and development costs. REI officials declined to reveal the total cost of the project.

Forrester Research has reported that integrating legacy and e-commerce systems can cost anywhere from a few hundred thousand to several million dollars, depending on the scope of the project. Some consulting firms, such as Anderson Consulting and Cambridge Technology Partners, specialize in this type of systems integration. Although these numbers are large, it may be worth the cost in terms of increased efficiency and customer satisfaction over the long run.

Business to Business
If you’re more interested in business-to-business transactions involving product procurement, some of the e-commerce software described earlier will fill the bill, but there are additional products developed specifically for this arena. Table 13-4 has a partial list to get you started.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Web Site</th>
<th>Software</th>
<th>Approximate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lotus Development Corp.</td>
<td><a href="http://www.lotus.com">www.lotus.com</a></td>
<td>Domino.Merchant</td>
<td>$1,995</td>
</tr>
<tr>
<td>Open Market Inc.</td>
<td><a href="http://www.openmarket.com">www.openmarket.com</a></td>
<td>Transact</td>
<td>$250,000</td>
</tr>
<tr>
<td>Snickelways Interactive</td>
<td><a href="http://www.snickelways.com">www.snickelways.com</a></td>
<td>ComForce</td>
<td>$30,000</td>
</tr>
<tr>
<td>SpaceWorks Inc.</td>
<td><a href="http://www.spaceworks.com">www.spaceworks.com</a></td>
<td>Order Manager</td>
<td>$100,000</td>
</tr>
</tbody>
</table>

Table 13-4: Some e-commerce software specifically for business-to-business transactions.

Evaluating E-Commerce Software

When evaluating e-commerce software products, here are some things to consider:

- **Credit card processing.** Real-time credit card processing is a desirable feature, allowing you to approve or deny an online transaction immediately, but not all products provide this capability. Also determine what if any security protocols, such as Secure Electronic Transaction (SET), are supported.
Electronic payment. Determine what payment-processing options are supported—the more the better. The most common methods, besides credit cards, include CheckFree, CommercePoint, CyberCash, First Data Corp., First Virtual Holdings, GCTech, and VeriFone. These will be discussed in detail in the next section.

Database connectivity. Real-time database connectivity is a feature that allows customers to check your inventory to determine if a product is available. This is something to look for in e-commerce software, but it’s likely to cost you.

Database integration. If you want to incorporate an existing database, you’ll need to ensure the e-commerce software is compatible. For example, if you’re using a Microsoft database that uses the Structured Query Language (SQL)—a standardized language for defining and manipulating data in a relational database—you’ll want to know if a non-Microsoft product complies with the Open Database Connectivity (ODBC) standard. ODBC, developed by Microsoft, creates a uniform procedure for computer programs to access multivendor databases. Vendors of other popular database products include Informix, Oracle, and Sybase.

Cookies. Does the system require cookie technology to function? While this is not necessarily a bad thing, the use of cookies is being scrutinized and may be regulated to some degree. In addition, users may have disabled their ability to accept cookies. I’ll discuss cookies in more detail later in this chapter, as well as in Chapter 15, “Marketing Online: A Personal Matter.”

Back-office support. The level of back-office support will vary from one product to another. Some, such as Intershop and Open Market, incorporate back-office capability within the software; others do not, either offering a separate transaction server or nothing at all. You may be satisfied with your current back-office setup—accounting, shipping, inventory control—and want to integrate it with your e-commerce program, in which case you may need middleware. Find out what, if any, transaction servers and middleware products are available and/or supported.

Development tools. Some software comes with a basic structure that must be adapted to your needs, particularly to integrate back-office systems. This may require additional software known as application development tools. Are these tools included in the base price or are they extra?
Support for Java. Many of today’s software programs are integrating the Java programming language or are created solely using Java, which is taking the Net by storm. Support for Java is becoming a necessary component of robust software applications.

E-Commerce Services

You have a number of options for implementing an e-commerce program, similar to the options discussed in Chapter 3 regarding Web site hosting. You can set it up and operate it yourself, hire professionals to set it up for you, use an e-commerce or merchant hosting service, or join an online mall of some sort.

Many Internet service providers (ISPs) offer some form of e-commerce or merchant services as an adjunct to their Web hosting services. This may be more cost-effective for you, despite all those Web development skills you acquired in Chapters 10, 11, and 12. Services can range from a secure server for conducting credit card transactions to database services to a turnkey setup that incorporates a catalog, shopping cart, database application, and real-time credit card processing, as well as a secure server. If your Web site is to be dedicated to e-commerce, you may want to use an ISP that specializes in this area.

UUnet Technologies and Erols Internet, for example, are offering merchant services as add-ons to their Web hosting services. The aim is to furnish merchants with a complete e-commerce program, including shopping cart software, secure transaction services, optional database integration, and automatic electronic payments through secure, online credit card transactions. The services are available in shared and dedicated server configurations. Prices range from $500 to $3,000 per month.

Also, speak with your own ISP, which may offer similar services, and/or your Web site developer. You may decide to design your own e-commerce system and tailor it to your specific needs while reducing overhead by sharing resources offered by your ISP. San Diego Technical Books (www.sdtb.com, shown in Figure 13-4) is an example of such a system.

There are also a number of mall-style operations that offer hosting services for wholesale and retail sales operations. However, as I cautioned in Chapter 7, “Defining Your Online Strategy,” if you’re leaning in that direction because of the low initial investment, investigate the services thoroughly and solicit feedback from businesses currently using the services. It may not cost you much to get your store online, but if you’re buried in anonymity, it may not be worth it. A mall that specializes in one area, such as collectibles, sports, or boating, may generate more traffic than a mall that generalizes.
**Cookies**

A technology known as a *cookie* is often used to facilitate electronic shopping systems. Technically known as a "persistent, client-side-state token," a cookie is a small piece of information passed by a Web server, via a CGI script or JavaScript, to a user’s computer. There the information is set, or stored, so it can be used later when a user returns to that specific Web site. Depending on how the cookie is set up, it can be true to the persistent aspect of its label: It can reside on a user’s computer for years. (The origin of the term cookie has been lost. Maybe if you come up with a believable story others will accept it as fact.)

In terms of online shopping, a cookie allows servers to keep track of the selections of multiple shoppers connected to the server at the same time. This is accomplished by updating the cookie each time a new selection is made.
Chapter 13: Online Transactions & E-Commerce

The cookie, literally, is the shopping cart. The information is stored as a cookie in the shopper's computer, not by the server. When a final tally is requested by the shopper, the server retrieves the cookie and returns a Web page displaying a list of the selected items and the total cost. San Diego Technical Books and the Netscape Store provide examples of cookie technology at work.

You may have encountered a cookie or two in your Web browsings. If your browser preferences are set to alert you when a cookie is sent to your computer (Communicator's default setting), you'll be presented with a warning message, as illustrated in Figure 13-5. If the shopping cart system you choose uses cookies, you should explain this to your shoppers at the outset, because if they reject the cookies, it disables the shopping cart.

Figure 13-5: A cookie alert allows the Web site visitor to either accept or reject a cookie.

Although a cookie used in this context seems relatively benign, cookies have come under fire by privacy advocates and security experts. The use of cookies and similar technologies for gathering personal information are being investigated by regulatory officials and lawmakers. See Chapter 15, "Marketing Online: A Personal Matter," for a full discussion of the use of cookies and related policy issues.

Methods of Payment

It's been argued that sending encrypted credit card information to a secure Web server is safer than giving it to a stranger over the telephone. But surveys repeatedly show that consumers are wary of online shopping because of concerns over security and that online shopping will not truly take off until this fear is mollified.
As a result, improved security standards and alternative payment methods involving so-called digital cash or cybercash have evolved. Which of these alternative payment methods ultimately experience widespread adoption remains to be seen.

**Credit Card Transactions**

Most consumers prefer to use their credit cards when making purchases online, provided they believe their account information is safe. To that end, credit card giants Visa International and MasterCard International called a truce long enough to jointly back the development of a technical standard—Secure Electronic Transaction, or SET—for conducting secure credit card transactions on the Internet.

In addition to Visa and MasterCard, such heavyweights as GTE, IBM, Microsoft, Netscape, Science Applications International, Terisa Systems, and VeriSign participated in the development of the SET specification, which is based on an encryption technology from RSA Data Security (www.rsa.com). The SET technical standard was adopted in mid-1997, but as of this writing there had been little implementation of it. Because of the muscle behind it, SET is likely to be a pivotal element for enabling secure transactions online, so keep an eye on it.

**Electronic Payment Alternatives**

In the meantime, other payment methods are in use today, some using proprietary data encryption, others using intermediate means of identification, such as a personal identification number, or PIN.

**CheckFree (www.checkfree.com)**

The CheckFree programs fall under the category of online banking and are oriented toward electronic distribution and payment of bills, rather than online shopping or procurement. This may be a valuable service to you, however, and is worth investigating. The company works closely with Microsoft and Intuit, the maker of Quicken personal finance software.
CommercePoint (www.internet.ibm.com/commercepoint/)
CommercePoint (not yet available at this writing) is being developed by IBM and uses the SET standard. The consumer obtains an electronic wallet from the CommercePoint Web site, installs it on his or her computer, and stores credit or payment card information in it. The wallet also contains a personal digital signature, which I discussed in Chapter 6, "Belles-Lettres." When making a purchase, the credit information is passed to the merchant's server in encrypted form. From there, the data and certifications are forwarded to the merchant's bank via SET. This system is designed to work with the IBM NetCommerce and Lotus Domino Merchant servers.

CyberCash (www.cybercash.com)
CyberCash pioneered the use of the electronic wallet, which the user downloads from the CyberCash Web site. The system encrypts credit card information and stores it in the wallet. When making a purchase, the encrypted information is transmitted to the merchant's CashRegister software, where it is relayed automatically to a credit card authorization agency. The merchant then receives an authorization number and either concludes the transaction or disallows it. Unlike transactions in the physical world, the merchant never sees the customer's card number, nor does CyberCash.

DigiCash (www.digicash.com)
DigiCash has developed an electronic script, which it calls ecash, that can be used to make payments for goods or services to merchants participating in the program. Ecash is obtained by using client software to withdraw it from a participating bank. The ecash is then stored on the user's computer. Ecash is designed to overcome the hurdles of credit authorization and transmitting payment card information. The benefit to merchants is that it does not involve credit or debit card processing, but it must be exchanged for real cash. Ecash provides security by applying public-key, digital-signature techniques. However, ecash is not widely supported by e-commerce software vendors.

First Data Corp. (www.firstdata.com)
First Data is a credit card processing company that has taken its services to the Net and works in conjunction with other companies that provide online payment processing software including CyberCash, First Virtual, Microsoft, Netscape, Open Market, and VeriFone. You need to select a payment method before establishing an account with First Data.
First Virtual Holdings (www.fv.com)
Under the First Virtual system, the user establishes an account with First Virtual through conventional means (via the telephone) and is assigned a PIN. Once an account is opened, the consumer uses his or her PIN, which must be verified by e-mail, to make purchases charged against the credit card number on file with First Virtual. Critics admit the system is probably fairly safe—at least as safe as any system in which someone gives out a credit card number to a total stranger over the telephone—but cumbersome.

GCTech (www.gctech.com)
GCTech has developed the GlobeID Payment system, which allows electronic payments for goods or services with prices from 1 cent (micropayment) to thousands of dollars. When a consumer expresses an intent to purchase a product, a Payment Request Ticket is sent to the consumer through an Intermediation Server. The consumer response contains a confirmation code, authentication information, and payment instructions, which are sent back to the Intermediation Server as a Payment Proof Ticket. Upon receipt of the order, the Intermediation Server processes the payment and sends a Payment Proof Ticket to the merchant server. (Got it?)

VeriFone (www.verifone.com)
VeriFone is another service using the electronic wallet model. Consumers use the wallet to store information regarding credit cards, debit cards, and electronic cash or check, and to pay for merchandise offered by sellers using VeriFone's merchant software. VeriFone also offers Internet gateway software that enables transactions to be moved securely from the merchant to the payment processor's existing host, without changing the host system.

To use any of these online payment services, you need to contact the respective vendors to establish an account and obtain the necessary software. The software is generally free to consumers, but merchants typically are charged in one of three ways: (1) a one-time fee for the enabling software; (2) a monthly service fee; or (3) a percentage of the transaction. You also will need to provide clear instructions to new customers regarding the procedure for obtaining, installing, and using the necessary client software.
Chapter 13: Online Transactions & E-Commerce

Security

Although the Internet vanguard insists that doing business in the virtual world is safer than in the real world, headlines sensationalizing the latest cybertheft leave a lasting impression in the minds of the general public. It's akin to comparing the safety of flying versus traveling by automobile. Flying may be safer than driving, but when an airplane goes down, it's front-page news.

The Internet was built on the notion of the free exchange of information with a level of trust based on the assumption that no one would attempt to harm others. However, that idyllic domain fell by the wayside years ago. The term electronic frontier carries the same significance as any frontier region where law enforcement has yet to establish a sound footing. The same problems that exist in the real world exist in the virtual world, and increasingly tight security measures are the outgrowth of such incidents.

Fueling the fears of those already skeptical of the potential security problems surrounding electronic commerce were the headlines created when an Internet service provider had its customer credit card database cracked by cyberpirate Kevin Mitnick. Never mind that Mitnick lied, cajoled, and bribed his way through one locked door after another, as opposed to actually deciphering encrypted passwords or discovering security holes. There is little an electronic system can do to prevent a situation like this. It was as if a bank employee had unwittingly given a would-be bank robber not only the combination to the safe but also the keys to the front door.

Nonetheless, such incidents may be a blessing in disguise, says Stratton Sclavos, president and CEO of VeriSign, which provides digital authentication services and other security products for electronic commerce: "I think electronic commerce is already safer [than its real-world counterpart], and with this new technology, it makes it exponentially safer."

Another precaution you should consider is designing your system so that people cannot retry a credit transaction several times until they find a valid card number with an open balance. If you limit shoppers to a single submission, however, you should warn them in advance.

What follows is just a cursory overview of the many security issues involved when conducting e-commerce, particularly if you connect your public Web site to your back-office network. For a fuller treatment of these issues, I recommend reading Web Security & Commerce by Simson Garfinkel and Gene Spafford, published by O'Reilly & Associates. Spafford is one of the leading security experts in the United States.
Secure Sockets & Firewalls

There are two fundamental security issues regarding e-commerce: (1) keeping an operation secure from outsiders; and (2) guarding the consumers’ security in terms of personal and payment card information.

Security is achieved through various means. As illustrated earlier, there are a number of approaches to ensuring transactions between customer and vendor—client and server—are secure. On the client side, these include data encryption and the use of intermediate devices such as identification numbers and proxies for cash and credit information, as well as digital identification certificates.

On the server side, security is achieved in a similar fashion—encryption and digital ID. Server security commonly is provided by what’s known as a Secure Sockets Layer, or SSL, which provides data encryption, server authentication, message integrity, and optional client authentication for a Transmission Control Protocol/Internet Protocol (TCP/IP), or Internet, connection. In other words, SSL acts as a combination of a security guard and armored car. Typically, secure servers and commerce servers employ SSL, which provides the first level of security. But before paying for software or services, confirm this.

These same principles apply to the electronic communications between merchants and agencies providing support services for processing electronic payments for goods and services.

However, there are differences in encryption standards between the United States and other countries, even when the software—including Web browsers and commerce servers—is manufactured in the United States. For reasons of national security, federal regulations prohibit the export of strong encryption technology. The significance in terms of e-commerce is that shoppers outside the United States may be more reluctant to use credit cards than their U.S. counterparts.

Another level of security used by ISPs and corporate networks is a firewall placed between their private networks and the Internet. These firewalls separate the public side of a network—such as Web and FTP sites—from the private side where sensitive data are stored. Firewalls are critical in situations in which customers are given limited access to company information and data, such as inventory databases or financial accounts. In addition to requiring login protocols and passwords for access, security can be strengthened by requiring proof of identification.
Certificates of Authenticity

Certificates of authenticity are used to identify vendors and customers alike. Internet vendors, for a fee, can obtain a certificate of authenticity for their servers, which verify that they are who they claim to be and the server is secure or uses data encryption.

Two companies providing certification services include VeriSign (www.verisign.com) and Thawte Consulting (www.thawte.com). These firms review documents and conduct background checks before issuing a certificate. Once issued, the certificate, which is in digital form as well as represented by a piece of paper, is integrated into the server. When a consumer interacts with the server, a warning message will appear on the consumer's computer if the server has not been certified or if there is a discrepancy of some sort.

If you operate a dedicated secure server or commerce server, a certificate will cost you $125 to $350, with annual renewals priced in the $50 to $100 range. Fees vary with the issuing agency and whether you apply for the certificate yourself or have your ISP do it for you. The ISP may tack on a service fee or mark up the price of the certificate.

Certification firms also issue so-called digital "driver's licenses" or "passports" to individuals. These digital IDs will verify that the people conducting the transactions are who they claim to be. It's expected that at some point those without some form of digital ID will be barred from conducting electronic transactions altogether. This is particularly true for online banking.

Personal digital IDs range from $10 to $30, depending on the depth of the authentication. The highest level (and cost) of background verification requires the submission of notarized documents and is likely to be required by banks before permitting online financial transactions.

Certificates can be issued for software as well. For example, the authors of Java applets and ActiveX controls are being encouraged to obtain certificates to reveal their own identifies and to certify that their products are harmless.

See for Yourself

You can check for yourself to see if a server is secure by initiating the security feature. A simple way of doing this is going through the motions of making an online purchase. When you get to the checkout area, if not sooner, you will be notified that you've requested a secure document if your browser preferences are set to do so (the default setting). The Navigator alert reads: "You have requested a secure document. The document and any information you send back are encrypted for privacy while in transit" (see Figure 13-6).
You may also be alerted regarding a certificate of authenticity if your browser detects a discrepancy between the data in the certificate and the identity of the server. If this alert pops up, you'll be asked whether you want to continue. If you have reason to doubt the authenticity of the Web site, you may not want to continue.

In addition, when you connect with a secure server, there is a change in your Navigator browser. In the lower left corner is a padlock symbol (in older versions, it's a key) that changes from an unlocked position to a locked position. This indicates that you have a secure connection and the data being transmitted are encrypted. Compare Figure 13-2 to the other figures, and you'll see the difference.

### Smart Cards

Other technologies being adapted to Internet commerce involve card swipes or readers that obtain credit or debit card information from the magnetic strip on the back of the card or embedded within the card. This technology circumvents the need for entering the information with a keyboard—which under certain circumstances can be intercepted—but the logistics and cost of providing every computer user with such a device have not been resolved. Watch for keyboards of the future with such devices built in and the emerging use of so-called smart cards, which will contain personal information as well as credit and payment information.
The Price Tag

Moving from a strictly marketing-oriented online strategy and Web site into the realm of e-commerce is a major leap financially. Setting it up may cost you two to 10 times as much, depending on the path you take and how sophisticated an operation you want to achieve. However, where the marketing-oriented program is designed to reduce the overall cost of expanding and penetrating your markets, an e-commerce site is to be a profit center.

The examples in Table 13-5 are approaches to consider. The cost ranges are deliberately wide. They will vary from one company to another depending on the number of items in the catalog and the state of the information—whether it’s in a database that can be adapted to the system or if there is a great deal of time and effort required to convert it from the print to digital world.

<table>
<thead>
<tr>
<th>E-Commerce Plan</th>
<th>Description</th>
<th>Approximate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ECONOMY I</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td>No additional software needed</td>
<td>$150–$400</td>
</tr>
<tr>
<td>Security certificate</td>
<td>If needed</td>
<td></td>
</tr>
<tr>
<td>Setup</td>
<td>Hard-coded HTML pages for catalog with 10–20 items, CGI script</td>
<td>$500–$1,500</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Minimal catalog updates and additions</td>
<td>$0–$50/month</td>
</tr>
<tr>
<td><strong>ECONOMY II</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td>WebCart w/ database</td>
<td>$400</td>
</tr>
<tr>
<td>Security certificate</td>
<td>If needed</td>
<td>$150–$400</td>
</tr>
<tr>
<td>Setup</td>
<td>Install software, prepare product descriptions/depictions, set up page templates for dynamic delivery</td>
<td>$1,000–$3,000</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Catalog updates and additions, Web hosting</td>
<td>$50–$250/month</td>
</tr>
<tr>
<td><strong>MODERATE I</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td>Intershop Online</td>
<td>$5,000–$8,000</td>
</tr>
<tr>
<td>Security certificate</td>
<td>$150–$400</td>
<td></td>
</tr>
<tr>
<td>Setup</td>
<td>Software installation and catalog development</td>
<td>$5,000–$20,000</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Catalog updates and additions, Web hosting</td>
<td>$400–$1,500/month</td>
</tr>
</tbody>
</table>

...
<table>
<thead>
<tr>
<th>E-commerce Plan</th>
<th>Description</th>
<th>Approximate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODERATE II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td>Microsoft Merchant Server, w/ SQL server</td>
<td>$20,000</td>
</tr>
<tr>
<td>Security certificate</td>
<td></td>
<td>$150–$400</td>
</tr>
<tr>
<td>Setup</td>
<td>Software installation and catalog development</td>
<td>$7,500–$30,000</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Catalog updates and additions, Web hosting</td>
<td>$1,000–$3,000/month</td>
</tr>
<tr>
<td>HIGH TICKET I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td>Netscape Merchant System, with staging server</td>
<td>$60,000</td>
</tr>
<tr>
<td>Setup</td>
<td>Software installation, catalog development, systems integration</td>
<td>$200,000–$500,000</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Catalog updates and additions, system administration/management</td>
<td>$6,000–$8,000/month</td>
</tr>
<tr>
<td>HIGH TICKET II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td>Open Market</td>
<td>$250,000</td>
</tr>
<tr>
<td>Setup</td>
<td>Software installation, catalog development, systems integration</td>
<td>$500,000–$1,000,000</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Catalog updates and additions, system administration/management</td>
<td>$10,000–$15,000/month</td>
</tr>
</tbody>
</table>

Table 13-5: Approximate cost of launching e-commerce at various levels.

The figures do not take into account the labor costs of processing the orders. Suffice it to say that the more automated the process, the less labor there will be in processing the orders. At least that's the theory. In the Economy I plan, for example, there is no automation of order processing, so those costs, in relative terms, will be higher than for the others.

I do not recommend hard-coding catalog information for more than 10 to 20 items unless the catalog is unlikely to change a great deal—for instance, a small furniture store or specialty shop selling a limited line of collectibles. But stores selling items with a relatively high turnover rate—books, music CDs, videos, and clothing—will need a database application in which catalog changes are made through a fairly common data entry process and the preprogrammed HTML created on the fly.
Moving On

This chapter covered a lot of territory regarding the implementation of e-commerce and online transactions—electronic catalogs, shopping carts, commerce servers, merchant services, electronic payments, and security issues. However, it's information you need to go into the e-commerce arena on a solid footing and to obtain the products and services necessary for implementing your online business model.

This chapter also closed the door on Step 4: “Develop a Well-Designed Web Site” and leads us into Step 5: “Launch the Web Site & Get It on Course.” In conjunction with this fifth step, I’ll discuss methods you can use to promote and publicize the existence of your Web site and begin generating traffic through your digital doorway. I will also introduce Internet marketing techniques, privacy and regulatory issues, and steps you can take to keep your online business moving forward.
Simply building a Web site doesn’t mean anyone will come by for a visit. It’s like opening a shop in an unlit back alley. Unless you promote and market it effectively, no one will know it exists.
Beware of the field of dreams delusion: The notion that if you build it, they will come. That's the stuff of Hollywood, not the real world—or the virtual world.

Anyone who's been in business for even a short time knows that having the best thing since sliced bread isn't likely to get many takers unless it's well promoted. If you don't take the initiative—if you're not proactive—your Web site will drift through cyberspace in anonymity.

In this chapter, I'll discuss the steps you need to take, as well as steps you may wish to take, to develop an effective marketing strategy for your new online venture. I'll show you how to shout, "Hello, world!" to get the word out about your electronic storefront. ("Hello, world" is traditionally the first program someone writes when learning computer programming.)

Here are five fundamental steps you can take to get the word out about your Web site and get people coming through your digital doorway:

- Publicize your URL (Uniform Resource Locator).
- Establish reciprocal links with other businesses or organizations.
- Formally launch the site.
- Cross-promote the site using both online and traditional media.
- Advertise.

I have condensed the highlights of this chapter into a checklist form, which you can retrieve from the Companion CD-ROM. The file is LAUNCH.DOC, and it's in the /Resources/Checklist/ directory.
Here a URL, There a URL, Everywhere a URL

The first step in launching and promoting your new Web site is getting your URL—your Web address—in front of as many eyes as possible. And your e-mail address, too. This is accomplished in a number of ways, some involving online activities, others involving more traditional methods. Some are so self-evident they get overlooked.

Update MarComm Materials, Ads

I can’t count the number of times I’ve come across business cards, marketing communications materials, and advertisements that did not contain the electronic addresses of their respective companies. This is inexcusable. If you’re going to the expense of taking your business online, don’t hobble it right out of the starting gate by failing to take one of the most important steps.

Business Cards, Letterheads

At the risk of being accused of stating the obvious, let me emphasize this point: Put your Web and e-mail addresses on your business cards, letterheads, and any other distributed materials, immediately, if not sooner. I wouldn’t stress this point if experience hadn’t taught me that it needs to be said.

Case in point: I met a man at a business meeting who proudly told me his company had recently launched a Web site. But when he handed me his business card, the glaring omission jumped out at me. There was no Web address on the card; there was no e-mail address on the card. Why not? Well, he just hadn’t gotten around to it. Besides, he needed to use up his existing cards before ordering new ones. He hadn’t even bothered to handwrite the addresses on the card or purchase an inexpensive rubber stamp to place the addresses on the back of the card.

I fully expect that the next time I run into him he’ll bemoan the poor response he’s gotten from his Web site and suggest that the Information Superhighway is really a dead-end wagon road created by Silicon Valley wizards wielding smoke and mirrors. Had I suggested that he remove his telephone and fax numbers from his business card, he would have quickly walked off, shaking his head and muttering under his breath about what an idiot I am.

At the other end of the spectrum, a client of mine had new business cards printed the day his domain name was registered because he was attending a critical business meeting the following day. Never mind that he had no Web
site and that his e-mail address was not functional. Better to explain that the e-mail address would be working within a couple of days and the Web site would be accessible in a couple of weeks than to have to notify all those with whom he'd made contact.

Even before your Web site is ready for prime time, you can begin laying the foundation for spreading the word. That way, when D day arrives, the troops have been marshaled and are ready for action.

**Marketing Materials**

The same applies with regard to your marketing materials. Once you have a confirmed domain name, you can begin updating your brochures, product literature, and catalogs with your Web and e-mail addresses, readying them for distribution.

While this may seem self-evident, I continually run across real-world examples of businesses that miss the point. While attending a major Internet trade show, I was handed a press kit that did not contain Web or e-mail addresses on any of the materials therein. This from a company selling—you guessed it—Internet-related software. I was tempted to grab the guy by the shirt and give him a good shake.

If you’re concerned about the expense of reprinting these items, use a rubber stamp to hand stamp the e-addresses on the materials. Or better yet, print some self-sticking labels and slap them on. They’ll stand out and are more likely to be seen. And do this in advance of launching your Web site so that these updated materials are waiting in the wings for the big day. This way, you won’t be scrambling to get it done at the last minute or playing catch-up once you’re online.

**Advertisements**

At the same time, you need to update your advertisements—be they print, radio, or television—with your Web address. And maybe an e-mail address, if it can be effective. You can mitigate the cost of these updates by reducing the size or length of the ads and rely on the Web site to provide more in-depth information. The important thing is to let people know you have a Web site.

Also, contact your local phone company. Many phone directories now include e-mail and Web addresses in addition to the traditional address and telephone and fax numbers.
Submit Your URL to Search Engines & Directories

Once the Web site is on the cyberspace frontline and ready for action, you need to get the URL into the generalized Web search engines, or directories, as well as directories that specialize in business and/or industry-specific lists of Web sites. Most of these are free (as shown in Figure 14-1), although some charge for premium services.

There are three basic ways to go about submitting your URL:
1. Submit it to one directory at a time—a laborious and tedious process.
2. Obtain software that automates the process.
3. Hire a service to do it for you.

However, before you conclude that options 2 and 3 are the obvious choices, understand that their effectiveness is limited. The reality is, you’ll end up doing a combination of the three.
Regardless of how you go about it, you should prioritize your submissions because there are hundreds of directories out there, many of which are narrowly focused and have little or no bearing on your line of business. Make sure you get into the most popular ones first, then worry about the others. Here are my Top 10, listed in alphabetical order:

- Alta Vista (altavista.digital.com)
- Excite (www.excite.com)
- HotBot (www.hotbot.com)
- Infoseek (www.infoseek.com)
- LinkStar Business Directory (www.linkstar.com)
- Lycos (www.lycos.com)
- Open Text (index.opentext.net)
- Starting Point (www.stpt.com)
- WhoWhere? (www.whowhere.com)
- Yahoo! (www.yahoo.com)

There has been some consolidation in the Web directory sector, so submitting a URL to one directory may cover others as well, which is a bonus for you. For example, Lycos is the repository for both Point Communications and Magellan, and Excite handles URL submissions for AOL NetFind and Webcrawler. World Pages, an online white pages directory, gets its URLs from Alta Vista.

You can get more submission ideas from Netscape’s Net Search page (home.netscape.com/escapes/search/), which we visited in Chapter 4, “Exploring Cyberspace.” In addition, Yahoo! has an entire section devoted to Web directories. To see it, go to Yahoo!, type searching the web in the query box, and click on Search.

Unlike printing materials ahead of time, be careful about jumping the gun with your online submissions. Some of these services, such as HotBot, index new listings immediately, so your Web pages must be online when you make your submission for the URLs to be picked up. That said, most business-oriented directories will accept listings whether you have a Web site or not. You can enter your company’s information, including e-mail address, in advance of launching the Web site, then return later and add your URL.

Also, avoid overkill. In an effort to get the entire contents of their sites indexed immediately, some individuals—as well as commercial submission services—bombard directories with the URL of every page in their sites—not just once, but multiple times. On the surface, this seems to be a smart tactic. But in a backlash from directory operators, you risk having your submissions rejected.
Some business-oriented directories, such as ComFind (www.comfind.com), Companies Online (www.companiesonline.com), and Mallpark (www.mallpark.com) offer free listings but then charge for upgraded or premium listings. That is, if you pay, your listing will be higher on the list than those who don’t pay—the more you pay, the higher you’ll be listed in your category—or there may be separate free and paid listings.

These services charge anywhere from a few dollars a year to several hundred dollars a month, depending on the directory and how much exposure you want. Personally, I’m skeptical about the success of such things—based on conversations with business owners—because the organization of these sites can place another hurdle between your Web site and the Web surfers, unless you pay full freight. There is also the matter of how well, if at all, the directories promote themselves.

Other directories are modeled after yellow page phone directories—and often use the term “yellow pages” in their names. These, too, may offer a free listing, but for decent positioning you’ll need to cough up some cash.

Some online directories, such as World Pages (www.worldpages.com), are compiled directly from phone books. If you have a phone number, you are probably already listed, but the listing may not include your Web URL. Follow the instructions for updating your listing.

**Tip**

Many business directories require that you complete a registration form; then you’re issued a password so you can update your listing later. If you sign up with any of these sites, start a file with directory names and your respective usernames and passwords in case you need to change the information later.

**Web Spiders**

Several of the Web directories use what are known as spiders to index Web sites. A spider is an electronic robot sent to specific Web sites anywhere from two seconds to two weeks after submission of a URL. It then relays the URLs of the Web pages back to the directory’s database. The spiders also roam the Web looking for new Web sites and pages. The directories using spiders include Alta Vista, Excite, Hotbot, Infoseek, Lycos, and Open Text.

In all likelihood, your Web pages will get picked up by these spiders eventually even if you don’t submit your URL. For example, as an experiment—and a spoof—I created a couple of Web pages entitled Naked Ladies and added them to my personal Web site. These pages contained pictures of
flowers in the lily family (amaryllis belladonna, for you horticultural types) known colloquially as naked ladies. I did not submit the URLs to any directories or search engines. Yet, within a few weeks, I began getting vile, vicious hate mail from people looking for the real thing but landing at my flower pages instead.

However, you don't want to leave something as important as your business to chance. Some directories, most notably Yahoo!, do not use spiders. These directories rely solely on submissions. The point is you need to make a conscious effort to get your Web site into as many directories as possible.

### Robot.txt

You may not want all the pages in your Web site to be indexed in a public directory. For example, you may have site statistics accessible online, preview pages not yet ready for prime time, or CGI scripts you want to keep private. You can instruct the Web spiders to ignore specific pages and directories by placing a file named `robot.txt` in your site's primary directory, or folder.

In the `robot.txt` file, you list the directories and/or Web pages you do not want to be indexed. The file should look like this:

```
User-agent: *
Disallow: /cgi-bin
Disallow: /stats
Disallow: /meetings.html
```

You can create the file using a word processor, but you must save it as text only. An excellent source of additional information on this subject is available online (naturally): A Standard for Robot Exclusion (info.webcrawler.com/mak/projects/robots/norobots.html).

### Seek Out Specialized Directories

Although the directories mentioned earlier are good starting points—and cannot be ignored—you also need to ferret out directories that specialize in specific categories or geographic regions relevant to your business. People looking for hotels in faraway places are probably going to look for travel-related Web sites and hotel directories. Listings in these directories may cost you, as do targeted print directories, but the improved focus may be worth it.

The reality is you'll have to try some things to see which ones get you the best results and then narrow the focus of your resources to those areas that work well.
Fine-Tune the Details

Before submitting your URL, do a final check of your Web site to make sure everything is in order. Here are some things you should do if you haven’t done them already.

Page Title

Every Web page, particularly the home page, should have a succinct title enclosed within the <TITLE></TITLE> HTML element, or tag. In most Web directories, the title of the home page is used as the name of the Web site, so the title should begin with the name of your business, followed by a short descriptive phrase, if appropriate. Titles should be limited to 64 characters (roughly eight to 12 words), otherwise they may be truncated.

The page title also is the identifying label in a bookmark, and it’s the only reference people will have after bookmarking your Web site. Yet, I’ve seen business home pages with no title at all or with meaningless titles including Home Page, Page 1, and “Welcome to the greatest . . . ” (I’m serious, folks. I don’t have to make up this stuff. Ironically, one of the culprits was a company ostensibly in the business of promoting Web sites for others.)

Actually, you’re better off with no title at all compared to something meaningless or misleading. If you omit the title, the Web address (http://... ) will show up instead. At least that includes your domain name, which is more helpful than “Home Page.”

Remember: This is about marketing. And marketing on the Net is tough enough without erecting hurdles for yourself. I hammered home the point in the previous chapter that it’s critical to identify yourself on every Web page. It’s also critical that each page have a meaningful title. I recommend having your company name at the beginning of every page title, followed by a word or phrase that further clarifies the contents of that particular page. For example:

- Inappropriate: <TITLE>Corporate History</TITLE>
- Appropriate: <TITLE>Gadgets Galore!—Corporate History</TITLE>

In addition, I recommend not prefacing your title with “Welcome to . . . .” If others are anything like me (heaven forbid!), they organize their bookmarks alphabetically. Do you want your site bookmarked under “Welcome,” along with several dozen others? Yes, people can change the titles of their bookmarks if they make the effort, but you shouldn’t count on it.
META Tags

In Chapter 11, “Using Netscape Composer,” I mentioned META elements, or tags. A META (short for meta-information) tag is a hidden element contained, along with the title, within the <HEAD></HEAD> portion of an HTML document, or Web page. META tags are used to describe the properties of the document, such as author, content, expiration date, keywords, and so on, which are used, in turn, by Web servers and browsers to identify, index, and catalog Web pages. META tags can be useful marketing tools, if used appropriately.

Here’s how to create them. META tags have two fundamental attributes: NAME and CONTENT. The NAME attribute specifies the property name, and the CONTENT attribute specifies the property value. (Caution: In this context, CONTENT refers to the content of the META tag, not your Web page, except when the META tag is a “description.”) For example:

```html
<META NAME="author" CONTENT="Larry Edwards">
<META Name="description" Content="Gadgets Galore is your gadget source. We manufacture a full line of gadgets, including MechGadgets, E-Gadgets and X-Gadgets."
```

A third attribute, HTTP-EQUIV, can be used in place of the NAME attribute. Web servers and browsers may use the property name specified by the HTTP-EQUIV attribute to create a specific response. For instance, keywords may be referenced by search engines to call up pages relevant to a specific query, and specifying an expiration date allows Web browsers to determine when to fetch a fresh copy, rather than a cached copy, of a requested Web page.

```html
<META HTTP-EQUIV="keywords" CONTENT="gadgets, gadgets galore, mechgadgets, e-gadgets, x-gadgets, gadgetry, tools, tool sets, manufacturing">
```

Note: In the “keywords” META tag, words or phrases must be separated by a comma. Also, the end, or close, tag—</META>—is optional.

The use of keywords is a well-intentioned component of the Web technical specifications, but it has been abused to the point that some Web directories now disregard keywords. Misleading words are often included in the keywords section so that pages will be listed for specific queries, even though they have little or nothing to do with the subject of the queries. For example, someone selling children’s clothing may include the terms “day care” and “child care” as keywords so that a parent searching for day care services will see the link to the clothing site.
Excite, for one, has stopped using keywords to index Web sites. Instead, it uses the text elements within the body of the home page to identify the content of a Web site. So, keep this in mind when choosing the words and phrases that appear on your home page.

Another META tag, the "PICS-label," is used to rate the content of your Web site or specific pages within the Web site. The Platform for Internet Content Selection (PICS) is an industry-developed technical standard that enables Internet browsers equipped to read PICS labels to block access to material based upon the values of those labels. Parents, teachers, and supervisors can activate the blocking capability of their browsers to selectively block Internet resources from their computers based upon the content labels.

There are several rating systems, some self-rated, others developed by third parties, so you'll need separate tags for each one. Following is an example of the tag created (through an online form) for the Recreational Software Advisory Council (www.rsac.org):

```html
<META http-equiv="PICS-Label" content='(PICS-1.1 http://www.rsac.org/ratingsv01.html 1 gen true comment "RSACi North America Server" by "larry@larryedwards.com" for "http://www.larryedwards.com" on "1997.09.10T08:00-0800" r (n 0 s 0 v 0 1 0))'>
```

You can combine several labels into a single label. For more information and the technical specifications on PICS labels, visit the PICS home page (www.w3.org/PICS).

A quick word about frames, which I introduced in Chapter 11: Some spiders have trouble with frames and don't do a very thorough job of indexing sites that use frames. To overcome this, make sure the META tags are included in the index.html document and use the <NOFRAMES> option without targeted links.

An excellent online resource on how spider-based search engines work is Search Engine Watch (searchenginewatch.com). The site also contains links to a number of other sites that address the inner workings of META tags.

### Prepare for Submission

Some directories want only your URL and e-mail address—and maybe a brief description—and will generate the listing, or listings, from the information contained within your pages after sending a spider to index the site. Other directories, particularly the business and specialty directories, ask for detailed information, including site name, business name, street address, telephone and fax numbers, e-mail address, type of business, and names of principals, in addition to the URL, e-mail address, and description.
It's best to have this information on hand before you begin making submissions. I organize the information in a word processor and save it as a data file. Then, with both the word processor and browser open at once, I can copy and paste the entries, particularly the descriptions, into the submission forms. This saves a lot of time and helps prevent typographical errors.

Your Web site description should be 25 words or less. Some directories will reject submissions with descriptions that are too long. I use the same description—or an abbreviated version—as the one in the home page META tag.

If you make the submissions yourself, I suggest you block out two or three hours to do it, or turn it over to one of your employees. You also need to return to the directories periodically to make sure the submissions were accepted. The popular directories receive thousands of submissions daily, and yours could fall through a cybercrack. I've had to make submissions to some directories two and three times over a period of weeks before the URLs began showing up in search responses.

**Spider Software**

If you want to automate the submission process, shareware programs are available to give you a hand. You can try them for free, but functionality is limited. The cost of the software ranges from about $50 to $100, depending on whether you buy the standard version or the professional version. Upgrades generally are free. Here are two that have received positive reviews:

- SoftSpider (www.softspider.com)
- Web Promotion Spider (www.beherenow.com/spider)

I tested the Web Promotion Spider (WPS), shown in Figure 14-2, and obtained mixed results. Yes, it submitted my information to some 250 directories in less than 30 minutes, but the majority of them were not directories I would have bothered with otherwise, nor do I expect my URL to be included in their databases. Thirty of the submissions were rejected outright. Just because a submission is accepted it doesn’t necessarily mean it gets listed. It means it’ll be considered.

What’s more, submissions to some key directories, including a couple in the Top 10 list earlier in this chapter, were not accepted. In addition, WPS recommends making manual submissions to Yahoo! and the more specialized directories—which you have to discover for yourself. On the upside, the software did tell me which submissions it perceived as being rejected so I could either try again or make the submissions manually. You can also print a report.
Figure 14-2: The Web Promotion Spider software automates the URL submission process.

**URL Submission Services**

Some services will perform directory submissions for you or facilitate the process. Submit It! (www.submit-it.com), one of the first, offers both free and fee-based services. The free service (shown in Figure 14-3) consists of an online form linked to 20 or so of the more popular directories. You still enter the information I detailed earlier, but you have to do it only once. You then go down the list and click on the directories to which you want your URL submitted.

The fee-based service, as with many of the other services, includes several hundred directories, although the majority of the directories may have little or no relevance to your business or industry sector, and your URL may be rejected by the directory operators as irrelevant or inappropriate.

Today, there are scores of these services. I must get a dozen e-mail messages a week from outfits offering to submit my Web site URL to as many as 500 Web directories. Fees for these services typically range from $50 to $100, though “gold” and “platinum” levels of service may be offered at substantially higher rates.

These operations use the shotgun approach under the theory that if you contact enough directories a few are bound to add you to their databases. Some of them may use the same spider software I described earlier. Yet, I can tell you from personal experience that even hands-on submissions don’t always work—it can take two or three tries, and you have to check each one to make sure it is actually added to the database and comes up in searches.
For the kind of money most of these services charge, they cannot afford the time it takes to follow up and ensure the submissions were successful. That falls on your shoulders—provided you know to which directories your information was submitted.

To Submit It!'s credit—and some of the other services as well—the current list of directories is published online, although the names, cleverly, are not linked to the Web sites. I spoke to an account representative at one of the $49 operations and was assured that if within three to six weeks my Web site did not show up in certain directories, additional submissions would be made, at no charge to me, until I was satisfied.

Some of these operations “guarantee” not only a listing but also your positioning in the top 10 of a search response. Yeah, and the moon is made of green cheese.

My suggestion is this: You decide what your time, or an employee’s time, is worth. It may well be that at $49 the price for the service or the software is too low to pass up. But it still requires follow-up and resubmission, either by you or the service, if the first attempt fails to net satisfactory results. Keep in mind,
however, that the industry-specific directories, which may be of equal or greater value to you than the general, most popular directories, are not likely to be on the service’s list. If you do decide to try out one of these services, ask to see the directory list before signing up and find out what the policy is regarding resubmissions.

**Reciprocal Links**

Another technique for getting your URL in front of people is by establishing reciprocal links with other Web sites. That is, you contact Web site operators and ask them to create a link to your site in exchange for your placing a link to them within your site.

For example, you may find consultants, professional organizations, special interest groups, or hobby-oriented organizations relevant to your products, services, or industry that would be interested in establishing such mutually beneficial links. You’ll have to do a little poking around the Web to find these, but it could be well worth the time spent.

**Cool Sites**

There are many Web sites devoted to identifying so-called “cool” sites, the most well known being Cool Site of the Day (cool.infi.net), which set the standard in 1994 and remains the granddaddy of them all. Others that followed include Cool Page of the Day, Cool Lynx . . . , Funky Site . . . , Mediocre Site . . . , Spider’s Pick . . . , and so on. Some of these are no longer updated.

I can’t speak for the entire category, but I know firsthand that being selected as Cool Site of the Day can generate a lot of traffic to a Web site—for that day, at any rate. When our America’s Cup On Line site was named Cool Site of the Day, traffic soared to 10 times what it had been, then dropped over the subsequent two days to a level roughly double what it was prior to being selected Cool Site.

Being selected as a cool site is not a foregone conclusion, and generally you get only one shot at it, so don’t count on it as an integral part of your Web site promotion. Still, you should request a site review. If you’re selected, it’s frosting on the cake. A comprehensive, if somewhat dated, list of these Sites of the Day/Week is available online at krusty.eecs.umich.edu/people/kurtas/Lists/sotd.html.
Mix & Match the Marketing Message

You must integrate your Internet presence with existing sales and marketing programs. It’s what I call the double-barreled approach, and it applies to your site launch as well as ongoing promotional and publicity efforts, discussed in the next chapter.

The important thing to remember is that you cannot rely on the Net and Web alone to publicize and promote your Web site and online activities. They need to be combined with your current marketing, public relations, and advertising programs. Yes, more people are using cyberspace, but most still rely on television, radio, magazines, and newspapers for their news.

To that end, you will need to employ some very traditional publicity methods, including a press release, press kit, press conference, special offers and promotions, and advertising. These can be implemented online as well through as real-world channels.

While this double-barreled approach may appear self-evident to you—after all, your Web site and online activities are simply another facet of your overall marketing campaign—many businesses have missed the connection. This section examines methods of integrating the two to ensure a successful site launch.

Site Launch, Grand Opening

Ships are launched and stores have grand openings. Why not do both for your Web site? Depending on your style—and budget—this can range from a low-key announcement aimed at a targeted audience to a full-blown media event. I do not recommend cracking a bottle of bubbly over your computer monitor, however. (The bottle will probably come out ahead. But if it does break, even Noah won’t be able to rescue your keyboard from the flood.) A ribbon cutting may be more appropriate.

The launch/grand opening should be real-world as well as virtual. Mail out formal invitations to important clients, business associates, and the news media. You may wish to have a special offer, giveaway, contest, or real and virtual door prizes. People like freebies. The word will spread.

Tip

If you serve food and adult beverages, you’ll get better attendance, particularly from the news media.
For the real-world side of things, you'll need a traditional press kit as well. This should include a press release, screen shots of the home page and key secondary pages, a site map, and a site summary or overview, as well as a list of site highlights. You should also include the traditional press kit items: company backgrounder, profiles and pictures of company executives, and relevant news clips from earlier publicity. If some reporters can't attend for one reason or another, mail it to them, even if they have an e-mail address. There's nothing like having something solid sitting on a desk to get someone's attention. Make the press kit available online as well.

Your launch celebration will need to be coordinated with a general announcement to the news media, targeted industry publications and newsletters, special interest groups, and other interested parties. If it's in your budget, consider the Business Wire and PR Wire. Try for all the free and quasi-free publicity you can muster. Many newspapers and magazines now have regular features, columns, and inserts with news of online activities and Web sites, so you may get spotlighted in one of these.

This is also worthwhile news for industry publications. For example, a commercial painting contractor specializing in condominiums had his announcement published as an article in a magazine distributed to condominium management firms—his customers.

If you have no experience in public and media relations, I suggest using a PR agency or advertising agency. Use one with experience not only in your line of business but also in the online world.

If you (and your budget) are more in tune with the low-key approach, you still need to announce the launch of your Web site. This means, at a minimum, having a press release, which can be issued to the news media, as well as other organizations and individuals that may benefit from the information, such as trade magazines, industry newsletters, and special interest groups.

**Online Promotion: The Cyberwars**

One of the more obvious ways to promote your Web site is through the tens of thousands of discussion groups and mailing lists, with their millions of participants, right? And since electronic messages cost almost nothing, why not send an announcement to them all; that ought to get some response—or so the thinking goes.
Press Release

If you've never written a press release, here are the fundamentals you need to know:

It should read like a news article, not a sales brochure, and it should be written in what's known as *pyramid style*—the most important information goes at the beginning. For example, the lead sentence would begin with something like this: "Gadgets Galore, Inc., the leading manufacturer of gadgets and gadgetry, opened its doors today in cyberspace with the launching of its Web site (www.gadgetsgalore.com)...."

The release should be printed on company letterhead or a special letterhead indicating it's a press or news release. Get right to the point, and use no more than two sentences to a paragraph. Keep the hyperbole and superlatives to a minimum. Include a quote from a VIP or two, typically in the third paragraph, then summarize the important aspects of your announcement. Use bullet points to itemize key features, if appropriate. Conclude with a boilerplate statement about your company—its fundamental business and when it was founded—followed by contact information. Limit the release to two pages, double-spaced.

Your options for distributing your press release include surface mail, fax, and e-mail. The news media are slowly moving into the wired world but still rely on traditional methods of communication. Outside of those covering the Net, you'll get the best results with surface mail and fax. A cover letter suggesting two or three story angles is also a good idea.

Regardless of the distribution method, you need to follow your release up with phone calls to see if it was received and what, if any, coverage you may receive—and to give your pitch on why this is important news.

Indeed, it will get a response, but not necessarily the response you're looking for. The process can backfire on you. In a worst-case scenario, your Internet service provider (ISP) may block your connection to the Net. It happens. In addition, those opposing such practices have organized and are lobbying lawmakers to enact legislation to restrict the distribution of unsolicited commercial e-mail.

There are several issues involved—of a technical, legal, and ethical nature. On the technical side, the Internet has a fragile infrastructure. Mass mailings (derisively called *spam*) can cause massive traffic jams and even service brownouts, at the ISP level as well as at Internet hubs. Because of this, system resources capable of handling the traffic must be in place to ensure that mailings do not cause service disruptions. If you plan a bulk e-mailing, talk with your provider first.
In addition, there’s the matter of forged message headers. That is, the information detailing who sent the message and the reply address are deliberately forged so that responses to the perpetrators are impossible—leaving the ISP to take the brunt of the inevitable backlash.

One of the outgrowths of the torrent of commercial messages flooding the discussion groups is that a second Usenet, dubbed “net *” and formed by a group calling itself the Usenet II Cabal, has been proposed. The new network is being designed to do a better job of filtering out unsolicited commercial messages. Discussion groups that don’t comply with the stricter rules will be banned.

On the legal front, unscrupulous bulk mail service operations have been known to hijack an ISP’s mail server and illegally use it to distribute their mailings. These are literally fly-by-night operations that make a quick buck, then move on. Meanwhile, the hapless ISP is left to pick up the pieces. What happens is the ISP’s mail server is taken over by the sheer volume of messages from the bulk mailer, often shutting out its regular customers.

But what’s worse is the backlash from the disgruntled recipients of indiscriminate, unsolicited messages, who are known to send flames (inflammatory messages) and mail bombs (huge data files or a never-ending series of mail messages) back to the ISP. This, too, can overwhelm or shut down the ISP.

In mid-1997, Inter@ctive Week magazine reported that of the approximately 500,000 messages posted on the Usenet each day, about half were either spam or return flames. UUnet Technologies Inc. one day found all its Usenet postings canceled when it incurred the wrath of discussion group administrators vexed over its failure to stop discussion group spam on its network.

So, the ISP becomes an innocent victim caught in the crossfire between the two warring factions. Lawmakers at state and federal levels have initiated legislation that would make server hijacking and forged message headers unlawful.

On the ethical front—there are legal issues here, as well—is the notion of an individual’s right to privacy and to be free from an avalanche of unsolicited electronic junk mail. Direct marketers argue they have a first-amendment right to distribute commercial information to whomever they please. In terms of surface mail, they won that battle, and they believe the same principles apply in cyberspace.

However, with regard to fax transmissions, the direct marketers lost the battle and are prohibited from sending so-called junk faxes. Those opposing the use of direct e-mail believe the same should hold true on the Net. One of the primary arguments is that with surface mail, the sender bears the cost of
distribution through buying postage. But on the Net, the recipients get a double whammy: They not only get unwanted mail but also must bear much of the cost of distributing these commercial advertisements because they pay for their access to the Net, too.

The war in cyberspace is still being waged, but the bulk mailers, the spammers, are suffering the most casualties, having lost on the battlefield as well as in the courts. The most notable instance was the donnybrook between America Online (AOL) and Cyber Promotions, Inc., arguably the largest bulk mailing operation online. Responding to complaints from its subscribers, AOL began blocking messages from Cyber Promotions. Cyber Promotions president Sanford Wallace—dubbed “the king of spam”—sued AOL in an attempt to force the online service to accept his mailings. But he lost that battle, which made headlines nationwide and caught the attention of politicians.

Proposed legislation includes Senate Bill 875, the Electronic Mailbox Protection Act, which addresses the issue of unsolicited bulk e-mail by levying civil penalties on senders of such mail in violation of the policies or preferences of recipients or their Internet service providers. It also criminalizes the use of header forging while preserving the right to send anonymous e-mail in small amounts.

At this writing, Cyber Promotions and others in the business have agreed to work with regulatory officials, lawmakers, and privacy advocates to come up with a compromise solution that would allow bulk mailers and others in the direct marketing business to continue operating, while at the same time see that some protection is offered to the mail recipients who want to see an end to the deluge.

In an effort to police themselves, bulk mailing industry leaders have established a trade organization—Internet EMail Marketing Council (www.iemmc.org)—that provides a clearinghouse where people can ask to be removed from electronic mailing lists.

To keep up to speed on these issues, here are some Web sites you can visit:

- Coalition Against Unsolicited Commercial Email (www.cauce.org)
- Direct Marketing Association, Inc. (www.the-dma.org)
- Electronic Messaging Association (www.ema.org)
- Junkemail.Org (www.junkemail.org)
I Heard it on the Grapevine

So, if you can’t use direct mail to publicize your Web site, what can you do? Do your homework. Some discussion groups and mailing lists accept—tolerate may be a better word—commercial messages when relevant to the group’s purpose and when worded appropriately.

However, you should contact the operators of the discussion groups or mailing lists beforehand to determine their policies regarding what will and will not be accepted. This will pay off in the long run.

The same holds true of the commercial online services. There are thousands of chat groups and forums on AOL, CompuServe, Microsoft Network, and others that offer the potential for extending your customer base online. But as described earlier, there are technical, ethical, and legal issues to sort out before you indiscriminately bombard these people with your announcements.

Advertising

The tried-and-true method of publicizing one’s Web site is advertising—in the virtual as well as the real world. The downside of it is a significant cost, so it doesn’t have nearly the appeal of the inexpensive bulk mailings described previously. However, it may be more effective.

Yahoo!, for example, offers a WebLaunch feature (www.yahoo.com/weblaunch.html), where new Web sites can be announced and neophyte Web site operators can test the Net’s advertising waters. For $1,000 a week, your company logo is portrayed on a rotating banner, combined with a description of and link to your Web site on the page below (see Figure 14-4).

Figure 14-4: Yahoo!’s WebLaunch offers an economical advertising alternative when launching a new Web site.
Yahoo! guarantees 120,000 page views for the week. That works out to a maximum cost of $8.33 per thousand page views, or impressions, which is a reasonably good deal. Rates for banner-type ads on the Web range from $10 to $85 per thousand for the more popular sites, and a typical minimum buy is $2,500.

Advertising on the Net has some unique and very positive characteristics when compared to its real-world brethren. I'll discuss them in detail in Chapter 16, “Update, Upgrade & Promote.”

And don't rule out traditional advertising. Although I previously discussed the need for adding Web and e-mail addresses to your existing advertisements, consider at a minimum a one-time upgrade in your ads to announce the Web site and the new online facet of your business. You should be able to justify the cost by reducing the size or frequency of your ads over the long run with the addition of the Web site to your marketing mix.

**The Price Tag**

Publicity and advertising don’t come without a price, and it’s important that they’re included in your budget at the outset. I included a few numbers in the overall budget in Chapter 8, “Planning Your Online Budget,” which I’ll elaborate on in Table 14-1.

<table>
<thead>
<tr>
<th>Publicity Plan</th>
<th>Description</th>
<th>Approximate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ECONOMY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Relations</td>
<td>Press release written and distributed to narrowly focused special interest and trade publications, follow-up phone calls</td>
<td>$1,000</td>
</tr>
<tr>
<td>Advertising</td>
<td>Targeted ads in special interest or trade publications</td>
<td>$2,000</td>
</tr>
<tr>
<td><strong>MODERATE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Relations</td>
<td>Press release written, press kit updated and distributed to special interest, trade, and some general news publications; follow-up phone calls; small press conference; limited-distribution PR or Business Wire service</td>
<td>$3,500</td>
</tr>
<tr>
<td>Advertising</td>
<td>Targeted ads in special interest, trade, and/or Web publications</td>
<td>$6,500</td>
</tr>
</tbody>
</table>
Keep in mind that these examples are for expenditures that exceed the money you’re spending already, not a substitute for it. The marketing and promotion of your Web site needs to be integrated with your overall marketing and advertising programs.

Remember, too, that this is a subjective matter, and these figures are examples of what has been done, not hard-and-fast rules that must be followed. Some companies are spending much more, others are spending very little.

### Moving On

You now have your Web site launched, the digital doors are open, and presumably, you’ve got serious customers perusing your Web pages. It’s been a long road getting to this point, and you deserve sincere congratulations: Give yourself a hearty pat on the back. As Mark Twain put it: “When you can’t get a compliment any other way, pay yourself one.”

But don’t overdo it. There’s much more work to be done. You’ve made it to the fabled promised land, erected your cybershanty (okay, chateau), and the crop’s in the field. Now it’s time to nurture the investment you’ve made in terms of time and money so you can reap a successful harvest.

In the next chapter, I’ll discuss the importance of maintaining, updating, and marketing your Web site so it grows and moves forward—so you can achieve the objectives you established for your online enterprise. I’ll show you how to add value to your Web site, beyond the information regarding your products and services, to keep people coming back. I will also discuss privacy as it pertains to the compilation and use of personal information gathered from those who visit your Web site.
Maintain, Update, Move Forward

A Web site, unlike a print publication or video tape, is an evolving entity. To keep it current and to keep traffic coming through the digital doorway, it needs continual care, feeding, and attention. However, the manner in which this is achieved can raise questions regarding invasion of privacy and unethical business practices.

This step consists of two chapters. In Chapter 15, “Marketing Online: A Personal Matter,” I’ll discuss market research and the serious privacy issues involved. In Chapter 16, “Update, Upgrade & Promote,” I’ll introduce you to strategies you can use to personalize your Web site, keep it fresh, and increase interactivity.
Personalization and community-building depend upon users feeling secure enough to submit personal data online, so it behooves marketers to create environments that will facilitate this goal.

—Jupiter Communications

With your Web site launched and on course, it’s time to turn your attention to making it and your online venture pay off. That means getting bona fide customers and prospects coming through the cyberdoors—and seeing that they return at a later date. You do this by making each individual’s visit to your Web site as personal an experience as possible. You must provide value by giving them what they want and what they need. But to do this, you need to know something about them. And therein lies the rub.

The Internet offers a tremendous opportunity for precisely targeting one’s marketing and advertising, because the underlying technology takes market research to a new level. However, there is a great deal of concern over not just the amount of market research data being gathered but also the manner in which the information is being gathered, as well as how it is being used.

In this chapter, I’ll discuss how market research is being conducted on the Net and how the information is being used. I also will discuss the potential problems market research poses as it relates to personal privacy and why honesty is the best policy when it comes to collecting personal information.
online. Privacy has become the hot button issue on the Net in terms of commercial Web sites and market research. If you're going to do business online, you need to know what the issues are, what you can and cannot do, and what the potential fallout may be if you cross the line between what is ethical, what is unethical, and what is or may become unlawful.

### Getting to Know You . . . All About You

A seeming paradox of the Net is this: It allows a business or organization to reach potentially millions of people around the world, yet still interact on a one-to-one basis with each individual, not unlike the fabled small-town grocer.

This is possible because the Net also provides a platform for conducting market research like it never has been done before. The electronic medium allows you to gather data cost effectively and with relative ease, when compared to its real-world counterpart. As a result, you also can target your marketing and advertising to a greater degree than ever before.

In addition, you literally can create a unique experience for every person visiting your Web site. You can personalize customer visits, tailoring them to an individual's wishes and needs—instantly reorganizing the store layout so the items they're most likely to need are placed near the checkout stand and alerting them to new items and special offers of interest—if you know enough about them and you have the budget. Both parties benefit. You get the personal and demographic information you're seeking, and your customers get better service and more personalized attention.

Obviously, this cannot be done in the physical world. But online, news and information services are doing it already. Product-oriented businesses also are getting in on the act.

### How You Get the Goods

Simply put, market research is about gathering information, which then is used as a foundation for a marketing program. Gathering information is accomplished in several ways: The most straightforward is asking people to volunteer their opinions as well as information about themselves. Trade or barter is also used as a means of data gathering—the information is obtained by offering something of value in return. Yet another means of research is observation, by monitoring and recording people's actions, which can be done openly or covertly.
**Ask for It**

People like to express their opinions, and getting them to do so is not difficult. The Net, particularly through the interactivity afforded by the Web, makes it possible to collect data more easily and for less cost than by traditional means.

A survey can be integrated into a Web site and visitors asked to complete it. Such surveys tend to be self-selecting, however, so results may be skewed. To increase the objectivity, a group of randomly selected people could be contacted by e-mail—the online equivalent of a telephone survey. Focus groups can be assembled online, with options for gathering input ranging from e-mail to live chat sessions. Or consider doing a combination of traditional and online.

However, obtaining personal information, information that will allow you to match a demographic profile to someone’s buying habits for instance, is more problematic. People like their privacy, particularly on the Net. As a result, obtaining such information is likely to cost you.

**Trade for It**

Few people do things for nothing. After all, if there’s nothing in it for them, what’s the incentive to cooperate? However, if there’s a carrot dangled in front of them, particularly one they know they can get their hands on, then they become much more willing participants.

The carrot can take many shapes. It may be the prospect of a gift or free service or the prospect of winning a prize of some sort in a drawing or contest. Or it may be the promise of a personalized Web presentation or discounted merchandise.

**Let’s Make a Deal** Trading personal information for something of value is the trend on the Net. By taking a moment to answer a few questions, to divulge demographic information, or to relinquish their names and e-mail addresses, people receive an improved, more personalized level of service, price discounts, free access to news and information, or the chance to get something—seemingly—for nothing.

For example, when well-established, respected (and some not-so-well-respected) print publications first migrated to the Web, they got no respect. The Netizenry, accustomed to getting information for free, refused to pay even low subscription fees. The fees were quickly dropped, and the information was made available at no charge. Instead, a fee of another kind was imposed: In return for access to news, magazine articles, and photographs, people were required to divulge demographic information.
Yet, such services quickly went beyond providing mere access to information. The information could also be customized, tailored to the interests of each individual subscriber. This is now the trend in Web site deployment in general.

The Web directories, or search engines, offer customized Web pages incorporating links to new Web sites as well as news articles, based on an individual's professed interests. Specialty Web sites that have a narrower focus in terms of the information, products, and services they offer also are providing personalized services.

Other sites sponsor contests, drawings, and free services in return for personal information. Push-type services allow people to specify areas of interest and receive news updates throughout the day.

**Personalized Services** The Firefly Network (www.firefly.net) is one of the leaders in personalization, employing what is known as profile management. Upon subscribing to the service, a Firefly member is issued a “Passport,” which contains his or her age, gender, zip code, and e-mail address. Additional information may be disclosed if the subscriber is so inclined. The passport is good at all sites in the Firefly Network, including Barnes & Noble, BigNote, FilmFinder, and My Yahoo!. These sites automatically personalize their pages when a Firefly subscriber connects.

The Passport—in effect, a demographic profile—accomplishes two objectives: It gives a person immediate access to areas that otherwise would require a manual log on and, more important, it allows Firefly and its affiliates to personalize their services for each individual. The services include Community Navigator, which helps subscribers identify others with similar interests, and Catalog Navigator, through which businesses can tailor a product catalog to the demographic profile in the Passport.

Personalization doesn’t have to be taken this far to be effective, however. If you’re on a limited budget, simply providing fresh, focused material in your Web site will go a long way toward getting return visits and realizing growth in the volume of traffic to your site.

**Take It**

Although market research can be done overtly by inviting feedback or requesting information in return for personalized services, price discounts, or other rewards, it also can be conducted covertly—some would say surreptitiously. Information can be gathered, and is, without the individuals being monitored knowing about it.
Referring URL The activity logs of Web servers can be configured to capture what's known as the referring URL. The referring URL (Uniform Resource Locator) is the link on which a visitor clicked to get to a page within your site. This link could be from another Web site or it could be a page within your own site. The referring URL is formally known as the HTTP_referrer (HyperText Transfer Protocol).

Note, however, that there are different log formats and they don't give you identical data. For example, the National Center for Supercomputing Applications (NCSA) format supports HTTP_REFERRER which is transmitted in the environment of the HTTP request. However, the Conseil Européen pour la Recherche Nucléaire (CERN) format creates a separate file for the referrer information, which records the referring URL, but not the page that was requested.

Using the referral information, you can identify from which Web sites your visitors come to reach yours. In addition, you can trace the paths that your visitors travel within your own site. This information gives you an indication of the likes and dislikes of your Web site visitors.

In addition, the referral information can be associated with personal and demographic data, then funneled into a database for analysis. From those data, you can develop a profile of the visitors to your site.

What has some people concerned, however, is that these data-harvesting techniques can be performed automatically, without the knowledge of the Web site visitor. This raises ethical, as well as legal, issues, which I will discuss in the section on privacy and ethics.

As a caveat, it should be noted that most Web site operators do not capture the referring URLs in their log files. Doing so adds an additional load on the server, decreasing its performance, and it significantly increases the size of the log files, requiring more memory, or storage capacity. If you want to log the referring URLs, it's likely you will need to specifically request it. I'll discuss this in greater detail in Chapter 17, “Web Site Monitoring & Management.”

Filtering Technology Truly personalizing an individual's site visit is accomplished using matchmaking, or filtering, technology. There are two basic types of filtering technology, collaborative filtering and observational filtering.

Collaborative filtering is literally a collaboration between an individual and the Web site operator. The visitor's personal preferences are matched to specific features of a Web site. Firefly uses this type of technology. So does online bookseller Amazon.com, which employs a system developed by Net Perceptions (www.netperceptions.com).
Observational filtering, on the other hand, uses a more subtle approach. It monitors the links on which a visitor clicks as well as the keywords entered in search queries, then delivers information based on the visitor’s apparent interests.

A common application of this technology is in selecting banner advertisements for a Web page. For example, Infoseek’s UltraMatch program employs an observational filtering system developed by Aptex Software, Inc. (www.aptex.com). Based on neural network technology, the Aptex product dynamically targets ads based on the conclusions the software reaches regarding a visitor’s interests. For example, a response to a sports-related query may be paired with an ad for outdoors equipment, whereas a response to a financial investment-related query may be paired with an ad for a stockbroker.

**Cookies** To be fully functional, filtering technology requires more than just information about an individual. There must be a way for the Web server to identify each visitor and engage in a dialog of sorts with the visitor and his or her computer. This requires the visitor’s computer to be tagged with a unique identifier so the personal information is associated with specific actions or mouse clicks. A technology commonly used to do this is cookies, which I introduced in Chapter 13, “Online Transactions & E-Commerce,” in relation to electronic shopping carts.

A cookie is a small piece of information that the Web server asks the browser to place on the visitor’s computer that enables the server to recognize the user’s computer the next time it reconnects to the Web site, whether it’s a few seconds later or a few years later. (Remember: The server recognizes only the computer, not the person seated in front of the computer, unless that person has volunteered personal information.)

**Privacy at Risk** As you can see, these technologies have the potential for gathering valuable market research data with which to make decisions regarding products, services, advertising, and marketing campaigns. Not everyone sees it as a benign application of cutting-edge technology, however. There is a great deal of concern that by combining the use of collaborative and observational filtering technologies, then mixing it with cookies, a recipe for a monstrous invasion of privacy will be created.

Here’s why: When a match is made between personal information and the preferences shown by actions taken within a Web site, much can be learned about an individual. Cookie-like technology can track an individual’s path through a Web site, as well as the number of times a particular site is visited, then funnel the data into a database for analysis. It’s the online equivalent of a wire-tap. This will be discussed further in the section on privacy and ethics.
Chapter 15: Marketing Online: A Personal Matter

From Their Browser to Your Database

With computers being the very foundation of the Net and the Web, data collection is the rule, rather than the exception. The question then becomes: How much information shall we gather and by what methods?

As with most things, it comes down to what you can afford. I'll describe your options and give you an idea of the costs involved. Predictably, the more you're willing to spend, the more information you can gather, and the more precise the data analysis will be. But there are trade-offs regardless of the direction you go. You can choose to make a small capital investment, but you will receive less-specific information and data analysis is likely to be more labor intensive. Or you can choose to invest heavily in equipment and services up front; the machines will do all the number crunching for you and you will get more useful reports.

The overall cost will be relative to the amount and type of data you are collecting. The more variables involved, the more complex the analysis will be—requiring sophisticated software and equipment to accomplish it.

The Inexpensive Way

At the low end, you can conduct basic market research using an online form or survey that funnels the input data into a tab-delimited file on the server. The file can be retrieved periodically and opened in a spreadsheet program such as Excel for a very fundamental level of analysis. Or the data can be imported into a database program such as Access or FoxPro, which can be used to create data analysis reports.

On the server end of things, this can be set up in a few hours by an experienced programmer and may cost you $200 to $500. Alternatively, the survey form and Common Gateway Interface (CGI) script described in the next chapter can be adapted for this purpose.

The real expense in this type of setup is in the data processing and analysis itself, which will require human resources. How much time is involved will depend on how much data you collect and how many different ways you choose to look at it. It may require one day a month; it may require one day a week.

The downside of this type of program is that there is no direct correlation between the survey data and your server's log files, which keep track of the activity at the site. Log file analysis is discussed in detail in Chapter 17, "Web Site Monitoring & Management."
The Moderately Expensive Way
Moving up a notch, you can integrate the database activity with the Web site itself. Retrieving and analyzing the data can be done online or off. Online, a query mechanism can be established so that you use your Web browser to generate reports. Offline, the data would be analyzed and reports created using the standard database interface.

You can keep costs down by piggybacking off a database server operated by an Internet service provider (ISP). This will limit your expenses to development costs and monthly usage fees. Development costs will depend on how much data you want to capture, but it's unlikely you can get the necessary scripting done for less than $1,000, and it could be several thousand. Server usage fees will vary, but expect something in the range of $50 to $100 a month.

If you decide to set it up yourself, or place it as a stand-alone operation with an ISP, you will spend several thousand dollars for the software and installation alone. You also are likely to need a separate computer to house it, since running the database server on the same machine as your Web site could result in unsatisfactory performance of the Web server. So, figure on at least another $2,000 to $3,000 for a PC or Macintosh, unless you have a computer you can use for this purpose.

The Expensive Way
For a system that integrates your data input with the operation of your Web site to deliver personalized content to site visitors, you're going to need high-performance computational power and programming expertise. The computer alone will cost you $4,000 to $25,000. The software and programming required to set it up are likely to be another $5,000 to $10,000, and operating fees are likely to be $2,000 to $6,000 a month.

Mind you, this type of operation should be done in conjunction with your initial Web site development, so some of these costs, such as the computer and monthly operating fees, are one and the same, not additional, unless in your initial budget you have specified a less-costly machine and a lower level of service.

If you tie log file analysis to it, the set-up and administrative costs will increase somewhat, depending on how sophisticated you want the operation to be. This is discussed in greater detail in Chapter 17, "Web Site Monitoring & Management."

If I seem to be overly vague on this front, it's on purpose. This level of sophistication in Web-based services is just emerging and should be considered experimental. Therefore, costs are going to be uncertain and variable until the wrinkles are ironed out and software developers come up with some prepackaged, or shrink-wrapped, products.
Prefabricated Solutions
An alternative to going it alone is joining an existing program, such as the Firefly Network, so you’re not shouldering the entire development cost. If your primary focus is oriented toward advertising, consider commercial services that monitor advertising. They are discussed in the advertising section of the next chapter.

Making a Choice
The approach you take for conducting market research and integrating that research into your business will depend largely on your business model. If you simply are seeking a basic profile of the people visiting your Web site, you can get by with the low-to-moderate option. But if you want to actively tie the data to a specific response from the server in order to personalize the pages or target advertising, you will need high-performance equipment and high-level services.

Whatever you decide, you will need to deal with the issue of privacy. Market research and collecting personal data on the Net are under scrutiny by policymakers and lawmakers alike.

Privacy: A Very Public Issue
Privacy is one of the most sensitive subjects relating to the Net—in part because it has become a political hot button, and elected officials, ever cognizant of the direction the political winds are blowing, are jumping on the bandwagon. That does not diminish the importance of the issue, however. The concerns and fears of privacy advocates are legitimate and need to be addressed. And they are being addressed.

At this writing, privacy policies and legislation directed at the Net had been proposed but had not been enacted. This is something you need to keep an eye on because it will have an impact on your business in terms of what you can and cannot do. Overstep the bounds and it could cost you—not just in terms of lost business but in legal repercussions. In this section, I’ll explain the issues and how they’re being handled.

The Issues
The right to privacy is a fundamental principle of many nations, but if privacy is a more fanatical issue anywhere than on the Net, I don’t know where that is. It’s not without reason. With the broad capabilities of electronic technology to
improve our lives come greater capabilities to gather and misuse information about one another.

Maintaining anonymity on the Net is simple enough because people are faceless and can choose to be nameless. Unless, that is, they want something for free—another mainstay of the Net. Personal information is the stock-in-trade of online bartering. And that has set off alarm bells for many people, particularly when the information concerns anyone under 18 years of age. Industry organizations and privacy advocates are now working toward both voluntary and mandated solutions to protecting privacy on the Net.

The dilemma of protecting privacy involves another “P” word: personalization. In order to enhance and personalize the interactivity between buyers and sellers, personal information is required. The question is: Where is the line drawn? Many argue that a person’s identity is sacrosanct. It’s one thing to divulge demographic information, but it’s an entirely different matter to hand over one’s name and contact information.

**Surreptitious Data Collection**

Cookies have the dubious distinction of sparking much of the privacy controversy. The storm clouds gathered when it was discovered that Web site operators, notably Netscape, were using cookies without telling anyone. Netscape’s use of cookies began innocently enough, initially to track the market penetration of its browser, and later to implement the shopping cart feature of its online store. But it was the fact users were not told about the cookies that caused the uproar.

Moreover, because of security gaps in the early manifestation of cookie technology, cookies set with JavaScript were used to obtain personal information the user had entered into the browser, including name and e-mail address. These security holes since have been plugged, but the bitter aftertaste lingers on, and many people still are wary of cookies. The outcry led Netscape and other software developers to include a cookie alert in their browsers.

**Information for Sale**

Another sensitive area pertains to how personal information is being used once it’s in the hands of marketers, who historically have reputations that are only a notch or two above those of used car salesmen. The question is: Does divulging the information genuinely benefit the individual who has, in effect, paid a price for personalized service? Or, like so many real-world data-gathering techniques, is the service merely a thinly disguised ploy to obtain contact information so the person can be bombarded with advertising not only from the information gatherer but also from a third party, or parties, to which the information has been sold?
Lexis-Nexis was raked over the coals for including Social Security numbers in the information it was selling on the Net. And America Online (AOL) subscribers howled in protest when it came to light that the online service intended to sell its subscriber information to other organizations. The backlash was such that AOL put the matter on hold while it was debated in Congress. I doubt we've heard the end of it, however. Such information has become a commodity to be bought and sold like so many pork bellies.

One company already planning to buy and use personal information on the Net is Imgis, Inc., a Web advertising service. Beginning early in 1998, Imgis will match advertisements to personal information culled from a database of more than 100 million consumers. Privacy proponents, including the Center for Media Education, have decried the plan, calling it a significant threat to privacy. The fear is that confidential information, such as an individual's political inclinations, religious affiliations, and health concerns—not to mention reading habits—could be revealed.

### Children Targeted

One area in which market research truly has crossed the line into the realm of the unethical, in many people's minds, is when it concerns children. For example, the Kids.Com Web site, established by a market research firm in conjunction with several major manufacturers of consumer goods, was harshly criticized by the National PTA and other organizations for the information it demanded of children lured to the site by the prospect of winning prizes.

In order to play games and win prizes, visitors to the site had to complete a somewhat lengthy survey, which included questions about parents as well as the children themselves. Children, it's argued, don't have the sophistication nor wisdom to comprehend the pitfalls of responding to such in-depth questionnaires.

### Full Disclosure is the Best Policy

Research is the foundation of a successful marketing program, and the Net provides a platform for gathering data at a relatively low cost. But it must be done responsibly.

There's no ethical reason for not making it clear to people why you want the information and how the information about them will be used, then letting them make the decision as to what they wish to divulge about themselves. The online community is beginning to demand it—and Congress may mandate it.
The fact of the matter is, the exchange of information helps both parties. You use it to improve your level of service, and your customers benefit by receiving better service. Breaching that agreement, violating that bond of trust, is not good business over the long haul. And if you don’t disclose why you want personal information and what you’re going to do with it, you could end up losing business, and that has a direct impact on your bottom line. Perhaps my grandmother—and yours, too, no doubt—said it best: Honesty is the best policy.

Industry Solutions

In an effort to stave off the intervention of lawmakers, a number of companies are rallying around a proposed standard for sharing personal information. The Open Profiling Standard (OPS), originally proposed by Netscape, VeriSign, and the Firefly Network, has been endorsed by dozens of other companies, the Electronic Privacy Information Center, and the Federal Trade Commission, and it has been submitted to the World Wide Web Consortium (W3C) for consideration as a component of the Platform for Privacy Preferences. It’s such a big deal, rivals Netscape and Microsoft are working together to implement it.

The OPS technology permits individuals to create personal profiles that would be recognized by servers throughout the Net. The advantage to the users is that they need complete the profile only once, eliminating the need to fill out separate registration forms at individual Web sites. Plus the user has control over what’s in the profile. One’s personal identity need not be disclosed, and the profile can be changed at will.

Firefly, with its Passport program, has taken the lead in this regard. A Passport may be changed or even revoked by the user. But what truly distinguishes Firefly from most other operations is that it publicly discloses its privacy policy. And it is just such a course of action that will be a boon, not a detraction, to business according to privacy advocates and market research analysts alike. The quote from Jupiter Communications at the beginning of the chapter makes the point succinctly.

In addition, in an effort to circumvent a legislative backlash, the Electronic Frontier Foundation (www.eff.org) and CommerceNet (www.commerce.net) linked up to sponsor a program originally called eTRUST and now named TRUSTe (www.etrust.org). The TRUSTe program provides a positive way for businesses to build informed consent and trust into their online business models and ensure that consumers’ civil liberties are protected.

The organization believes that by enhancing consumer confidence, the volume of electronic transactions over the Internet will increase, which, in turn, will expand the market for members’ products and services. One of its objectives is to thwart knee-jerk legislation from uninformed lawmakers.
Members of the TRUSTe program display symbols on their Web sites, much like manufacturers putting the UL Labs and Good Housekeeping "seals of approval" on their goods as a sign of product quality. These trustmarks symbolize a company's commitment to full disclosure of its data-gathering activities. The TRUSTe site also provides a model privacy statement (shown in Figure 15-1).

![Figure 15-1: The TRUSTe site has a model privacy statement.](image)

In addition, the W3C is considering a proposal to use the Platform for Internet Content Selection (PICS, discussed in Chapter 14, "Hello, World") for rating privacy levels as well as content. Web site visitors would be alerted as to whether the site honors their privacy.

**Bottom Line**

The Internet and World Wide Web provide marketing opportunities the likes of which we've never seen. Potentially, this benefits both buyers and sellers—the buyers because they have an opportunity to receive more personalized service from the sellers; the sellers because they can tailor their offerings to buyers’ needs and desires, thereby increasing sales.
However, with increased opportunity comes increased responsibility. For business, it means laying the foundation for long-term relationships with one's customers and giving some thought to their concerns and well-being beyond a short-term financial gain. Wise, responsible use of the technologies afforded by the Internet can help you grow your business and create a climate in which your customers are willing to provide you with personal information in exchange for an increased level of service.

But abusing these resources and the information obtained from your customers has the potential to hurt you where it hurts most—your pocketbook—not only in terms of lost business but also in the form of increased government intervention and regulation. This idealistic rhetoric is not from a wide-eyed moralist. The proposed regulation of unscrupulous direct marketers, detailed in the previous chapter, are firsthand evidence of the inevitable backlash that not only will occur but already is being felt, when the online community says it won't take it any longer.

Even if you choose not to participate in the TRUSTe program, or programs similar to it that are likely to emerge, you can take a proactive stance by publicly declaring your privacy policy in your Web site. In Chapter 10, “Web Site Design: The Essentials,” I recommended placing a copyright notice in your Web site. If you're requesting personal information, do the same regarding privacy. Making a commitment to your Web site visitors to respect their privacy will go a long way toward gaining their cooperation. It will benefit you both in the long term.

Cookies, filtering technologies, and the proposed OPS can provide value to Web surfers as well as Web site operators when used responsibly. The concerns over privacy and information abuse are legitimate and are being addressed in a thoughtful and productive manner. How will this all pan out? If you’ll pardon the cliché, I guess we’ll just have to wait to see how the cookie crumbles.

The Law

The Internet is a legal quagmire. This was demonstrated in 1997 by the overturning of the Communications Decency Act, which was an attempt by Congress to limit the distribution of pornographic materials over the Internet.

The problem lawmakers face in attempting to regulate commercial activities on the Net is that principles that apply in the real world may have little or no bearing in terms of the Net. Had the CDA been upheld, for example, the law would have affected more than just the purveyors of illicit materials. Internet service providers could have been held liable and punished for allowing the
materials to pass through their networks, even if they had no direct ties to either the buyer or the seller of such materials nor any knowledge of the materials being transmitted. It's unlikely we've seen the last of that issue, however. In addition, at this writing there were several bills relating to privacy and the Internet before Congress.

**Where It Is Today**

At the federal level, virtually all the bills relating to the Internet stalled late in the summer of 1997 as the budget debates began. But the measures, or ones similar to them, are likely to be rekindled when Congress reconvenes in 1998.

In addition to the proposed legislation with regard to unsolicited commercial e-mail, discussed in Chapter 14, "Hello, World," is a measure regarding the sale of personal information: the Consumer Internet Privacy Protection Act of 1997. If it becomes law, online and Internet services would be required to get written permission from their customers before disclosing information to a third party. It also would give consumers access to the information and allow them to correct it.

**Where It May Go**

Following the CDA fiasco, Congress has been reluctant to move quickly to place regulations on the Net. However, pressures are mounting for action that would restrict the sale of personal information and regulate how such information is gathered.

It behooves anyone doing business online to keep abreast of these issues. They will have an impact, even if indirectly, on anyone doing business on the Net. Online sources of information on privacy issues, regulation, and legislation include:

- Center for Democracy and Technology (www.cdt.org)
- Electronic Frontier Foundation (www.eff.org)
- Electronic Privacy Information Center (www.epic.org)
- National Consumers League (www.natlconsumersleague.org)
- National PTA (www.pta.org)
- World Wide Web Consortium (www.w3.org)
Moving On

Conducting market research, personalizing information, and creating an interactive dialog between you and the visitors to your Web site are important components in the success of your online venture. But these need to be done in a responsible manner so we all can capitalize on the strengths of this new frontier.

In the next chapter, I'll discuss specific things you can do to personalize your Web site, keep it fresh, increase interactivity, and create a high-quality customer service environment.
Once your Web site is online, it needs to be nurtured and cultivated to make it blossom in the ever-changing climate of cyberspace. You need to accommodate changes within your company, advances in technology, and the fickle culture of cyberspace. In short, your Web site needs to be updated, upgraded, and promoted on a continuing basis.

You can accomplish this in a number of ways, depending upon your online strategy, business model, and budget. Here are the fundamentals:

- Remain cognizant of demand for change.
- Provide good customer service.
- Review and update the content as needed.
- Invite feedback.
- Make the site interactive.
- Incorporate new features that add value to the site.
- Establish an ongoing promotional program.

In this chapter I'll discuss these concepts, describe steps you can take to implement site upgrades, and show you what others are doing with their Web sites to keep people coming back and instill customer loyalty.
A Culture of Constant Change

It's easy to fall into the trap of believing that once a Web site is online you can forget about it . . . that it will take care of itself. It won't. Things change.

Changes will occur within your own organization that must be reflected in the Web site—products and personnel, for starters. Integrating such changes into a Web site is what I call minimal maintenance. It's the very least you should do.

Beyond that, if you have a calendar of events or a periodic newsletter, they will need to be updated on a routine basis. Press releases and new marketing materials will need to be added to the site. If your business is somehow tied into the seasons of the year or holidays, these recurring events will need to be accommodated. If you have an extensive product catalog on line, it could need attention on a daily basis.

Yet, it's not just change within your own organization that you must accommodate. If the Internet exemplifies anything, it is the concept of change. The Net is in a constant state of flux and has spawned a culture that feeds on change.

If It Can Change, It Will Change

On the technological level, change is occurring at such a rapid pace that keeping up with it becomes a part-time job in itself. That doesn't mean you need to accommodate every gadget, gizmo, or whatchamacallit that makes its debut. But you do need to be cognizant of these technological advances, and if it makes sense to incorporate them into your own program, then do so.

However, the most critical aspect of change—and the most difficult to comprehend—is the sociological component. There is a different mind-set in cyberspace. As I stated in previous chapters, the flexibility of a Web site is a blessing and a curse. On the one hand, you can make changes and updates at any time and as often as you wish. On the other hand, people come to expect it. Call it childish, call it self-centered, call it what you will. The fact of the matter is, the mind-set in cyberspace is this: "It can change. Therefore, it should change."

Impatience & Instant Gratification

It is a culture of impatience and instant gratification: Change can occur quickly, so why doesn't it? Hypertext breeds hyperactivity. If the answer isn't in one place, they're on to the next. You get the flick with a single click.
Accommodating such an attitude, should you decide to do so, becomes a matter of resource management. You will have to determine what you can afford in terms of capital outlay as well as personnel. Forrester Research at one point estimated that the budget for annual Web site maintenance and upgrades should be roughly 30 to 50 percent of the development cost.

Accommodating the culture of change also is a matter of maintaining a competitive edge. Remember: Your virtual-world competition may be—is likely to be—greater than your real-world competition. In cyberspace, your competitors are a mere mouse click away. Once you’re online, it’s no longer just the guy down the street or across town with whom you’re butting heads; it also is the one at the other end of the state, on the opposite coast, or on another continent.

**Lure Them to Your Site**

The question becomes: What am I going to do to keep people coming to my place of business rather than my competitors’ places of business? To a degree, it means doing the same things you’re doing now in the physical world: Provide incentives for them to be there. Lure them into repeat visits with the promise of new information, new products, special offers, or the opportunity to get something for nothing—which is always a big draw. In short, provide value. And do it quicker and better than your competitors. Then get the word out.

For instance, with the AmericaOne site, it’s our policy to offer, at a minimum, something new every Monday morning. The new items range from news articles to photographs to the naming of a contest winner to holiday gift suggestions from the online store. Certainly, we update it more often when circumstances demand it.

We chose Monday morning based on a review of traffic patterns at the Web site, the subject of Chapter 17, "Web Site Monitoring & Management." Our busiest time of the week is on Mondays between the hours of 9 a.m. and 1 p.m., with the peak about noon, Pacific time. That means the new items would get the broadest exposure on the day they went online. If additional items were added to the site on other days, the Monday morning regulars would see them on the What’s New page and realize that in the future maybe they should check in more often than once a week.
Combat Hyperactivity With Interactivity

Here's another way of handing the change mentality: Respond to hyperactivity with interactivity. Create an environment in which visitors to your site have something to do in addition to window shopping through your marketing materials or product catalog.

This doesn't mean you need a game arcade. It can range from something as simple as a feedback form or survey to a calculator that generates a mortgage loan amortization schedule to a chat group.

Consistency Required, Too

There is a fine line you must walk in dealing with change, nonetheless. Too much of it can be counterproductive. Despite what people say and demand, they also need a degree of consistency. Radical changes to your home page on a weekly or even monthly basis may do greater harm than good.

Underlying the "it should change" mentality is the notion of instant gratification. The two can be at odds with each other. Trying to decipher a new Web site layout or a new means of navigating through a site can be an impediment to visitors reaching the information they seek.

Forward Ho

Understanding the culture of change is important to your success online. But you also must act on your knowledge to reap benefits from it.

In the following sections of this chapter, I'll illustrate steps you can take to accommodate the demand for change. I also will discuss the need for high-quality customer service, keeping your Web site fresh, adding value to your site, and promoting your site. And I will give you examples of what others are doing.

Are You Being Served?

The most frustrating aspect of being a consumer, whether business consumer or household consumer, is the feeling that no one is listening when you have questions about or there are problems with a product or service. The Net, through a combination of e-mail, discussion groups, and the Web, provides a great platform for providing high-quality service. And that, in turn, leads to people returning to your site and to your business.
Your Web site plays two roles in terms of customer service: The primary role is providing a high level of service to your Web site visitors. The secondary role is the Web site as an extension of your real-world customer service program.

Providing high-quality service to your Web site visitors is accomplished through several means: Keeping your information fresh and up to date, informing them of new items and features, offering them a mechanism for contacting you and submitting feedback, and responding quickly to their questions, concerns, and complaints.

In your real-world operation, one of the chief roadblocks to good customer service is not having sufficient human resources to respond to the demand. But by being online, you can put technology to work for you. You can include Web pages containing contact information, a feedback form, business policies, answers to frequently asked questions, troubleshooting guides for electronic and mechanical devices, and an auto-response mechanism that provides an immediate e-mail reply to those requesting additional information. Such features can free up human resources while providing quick responses to your customers.

**Tip**

*If you truly want to impress your customers, provide links to Web sites of consumer organizations and regulatory agencies. It’s the online equivalent of the “How am I driving?” sign on commercial vehicles.*

**Keep the Stock Fresh . . .**

It’s important to update your site: Don’t let it become stale. One of the most frustrating things about Web surfing is arriving at what seems to be just the Web site you’re looking for, only to discover that it hasn’t been updated in months, if not years, and the information is so out of date it’s worthless. If you have information with a limited shelf life, rotate that stock to keep traffic coming through your digital doorway.

Of equal importance is letting visitors know what’s new. Two methods you can use to do this are a **NEW!** tag and a What’s New section.

**NEW!**

The **NEW!** tag is just what it says. It’s a tag or label—text or graphic image—placed adjacent to the links to new items in your site. Visitors can see at a glance that there are new products, information, or features that deserve their attention.
However, you need to monitor the use of these tags to make sure they're removed within a reasonable amount of time. The length of time a NEW! tag is valid will vary depending on how often you update your site. If updates are made daily, the NEW! tag shouldn’t last more than a day or two. But if the updates are weekly, remove the tags from the previous week’s updates and attach them to new items.

Using a NEW! tag beyond two to three weeks needs to be reconsidered because it will lose its value. If your product line changes infrequently—seasonally or annually, for example—consider a tag that makes that clear, such as NEW for 1998! Sites created dynamically from a database have an advantage in that the NEW! tags can be put in place and changed according to a pre-programmed schedule.

**What’s New**

Another simple feature you can easily add to your Web site is a What’s New section or page (see Figure 16-1). It costs you nothing but a small amount of time. If you update your Web site regularly, make What’s New an ongoing feature. It can be part of your home page or a high-profile link from the home page to a separate page.

![Figure 16-1: A What's New page keeps visitors informed of recent additions to your Web site.](image-url)
Even if your site is updated sporadically, invoke the What's New feature temporarily to let visitors know you have new information or features at the site. This way, visitors won’t have to figure it out for themselves—because in most cases they won’t bother.

... & the Wall Calendars Up to Date

You also need to update time-specific information such as calendars and materials that have relative, rather than fixed, dates. In addition, make yourself a reminder note to delete announcements about events that have come and gone. For instance:

- If you have a low-budget, marketing-oriented site, you can take preventive measures at the outset by not publishing information that goes out of date at the end of the calendar year or every time someone has a birthday. For example, in your company background, don’t say how many years you’ve been in business—this changes every year. Instead, say “... founded in (year) ...” and let the readers do the math. The same holds true for people. In personal profiles, don’t state an individual’s age. Rather, state the year of birth, or just leave it out altogether.

- If you have archived materials that are date specific, such as press releases, newsletters, and articles, make sure they all have publication dates so visitors don’t mistakenly believe they’re reading current information.

- If you publish technical information about a product, put a date stamp on the page so the reader knows how current it is. You may have released an upgrade or replacement product in the meantime that limits the information to the older product.

These are small things, I know, but they will improve your image and credibility. If you do offer a calendar of events—particularly one in which recurring events don’t change, just the dates—consider using a database and dynamic delivery of the calendar. This will make updating much easier and quicker. In fact, it can be set up so that the updates can be done remotely using a Web browser. An online form can be used to add or delete calendar items and dates. It may cost you a few hundred dollars in programmer time to get it set up, but the savings in reduced labor costs over the long term will more than pay for it.
What's more, entire sites—text oriented to fully graphical—can be completely maintained via a database. No single step will ensure updatability more than placing the site into a database. However, as I discussed in Chapters 9 and 10, this requires a greater development cost. But if you have a site that requires frequent updates, it is likely to be more cost effective in the long run.

**Put Out the Welcome Mat**

You can put out the proverbial welcome mat to your visitors by inviting feedback, responding quickly to inquiries, having a guest book, or by asking visitors to sign up for your mailing list.

**Feedback**

Inviting feedback from visitors is a tremendous gesture of goodwill. You’re telling them that their observations and opinions are important to you, as they should be. The feedback will help you not only improve your Web site but also improve your business. It provides you with direct input from those who matter most: your customers.

You can facilitate the feedback process in several ways: One is using the simple mailto element that’s built into most current Web browsers, which I demonstrated in Chapter 11, “Using Netscape Composer.”

A better method is using a feedback form. This is more personalized, and you can tailor it to your needs by asking specific questions that will garner you the type of responses you’re seeking. There are three types of feedback forms that vary in their approach to getting the information but are technologically identical:

A feedback form and the accompanying Common Gateway Interface (CGI) script needed to implement it are included on this book’s Companion CD-ROM. You will find them in the /Resource/Formsandcgi/Feedback directory. Read the accompanying README.TXT file for instructions on how to use it.

Feedback also can be solicited through the use of a survey. Technically, it functions the same as the feedback form. The difference is the manner in which you present it. A survey asks more direct questions.

For example, we conducted a couple of surveys at the AmericaOne site. The feedback we received allowed us to fine-tune the design and layout of the Web site—optimizing it for the equipment the majority of our visitors were using—as well as improve the content of the Web site and the offerings in the online gift shop.

We also asked for personal information so we could define our audience. In exchange for the information, we selected names of participants at random to
receive a colorful autographed poster illustrated by a well-known marine artist. A sample survey form and CGI script are included in the /Resource/Formsandcgi/Survey directory on this book’s Companion CD-ROM.

Another option is presenting the feedback mechanism as a suggestion box. Whatever you call your feedback mechanism, the fundamental concept tying these options together is the fact that people like to express their opinions. Giving them the opportunity to do so is a positive move. And there certainly is no harm in attempting to put the opinion in perspective by asking for demographic information. However, if you do ask for personal information, keep in mind the privacy issues I discussed in the previous chapter.

Q & A
Another form of feedback is a question and answer format. You can invite visitors to ask questions that relate to your line of business or the Web site, then post the answers on a separate Web page. This provides a great service to your visitors, enhances your image, and gives the visitors a reason to return. The feedback form can be adapted to this purpose, or you can use the mailto option.

Moreover, once you have a reasonable sampling of questions, you can use it as a basis for a Frequently Asked Questions (FAQs) page. This provides immediate answers to those visiting your site and requires no additional action on your part.

Rhonda Karayan of Naturelle Cosmetics (www.naturalbeauty.com) said the most beneficial aspect of being online is the interactivity she can create with people from throughout the country. She has a section within her Web site where visitors may submit beauty-related questions. The answers are published online a few days later.

Guest Book
A guest book is another way to show your visitors you’re glad they stopped by. It’s a very basic level of interactivity, yet one that can raise the prestige of your site. Visitors can sign in and make a brief comment, and then the input is immediately added to a published register listing all of those who have signed the book.

You also can make the guest book function in a manner similar to the feedback form by inviting people for suggestions on how to improve the site or your product line or by inviting them to join your mailing list. A sample guest book form and CGI script are included in the /Resource/Formsandcgi/Guestbook directory on this book’s Companion CD-ROM.
Any time you invite feedback and publish the comments automatically—without human review or editing—you're creating a double-edged sword. The majority of people will not cause you any embarrassment. However, there may be a few hecklers, disgruntled customers, or unscrupulous marketers who give you a few headaches. The guest book script on the Companion CD-ROM (see Chapter 11, "Using Netscape Composer") contains filters you can invoke to weed out expletives and individuals who harass you.

Mailing List
If you have a small budget but have the time, consider establishing a manually administered mailing list. (I'll discuss automated mailing lists later on.) This is a relatively simple and inexpensive method of adding a degree of interactivity to your site and for establishing an avenue for promoting your site. You create this list by inviting people to subscribe so they can receive periodic announcements regarding your company and its products, services, and activities.

In the /Resource/Formsandcgi/Maillist directory on the Companion CD-ROM are a form and CGI script you can use to capture names and e-mail addresses in a HyperText Markup Language (HTML) file. The file then can be imported into the Communicator Message Center as a mailing list. See the accompanying README.TXT file for instructions on how to install and use these items.

Respond to Input & Feedback
The key to making interaction work between you and your visitors is a timely response on your part, whether it's a generic form letter, placing the responses on a Web page, or a personal reply. This will have an impact on your budget, however. You will need to allocate time for yourself or an employee to respond to the input you receive.

If you already have a similar program in place for responding to surface mail, it may be a simple matter of budgeting a few more hours a week for the person responsible. Otherwise, you will need to establish a policy and program for handling the input and appoint someone to be responsible for getting it done.

Budgetary Options: Labor vs. Cold Cash Up Front
When adding interactive features such as these to your marketing mix, you need to ask yourself: Can I afford to integrate it into my existing program? Rhonda Karayan said she was unprepared for the positive response she
received to her question-and-answer forum and had to reassess how she budgeted her time and the time of her employees. The human, as well as financial, resources must be allocated to handle the additional workload; otherwise, these programs lose their value.

On the other hand, you need to ask yourself: Can I afford not to do it? If the visitor response to such a feature is positive, it may be a great public relations move. An executive at Federal Express told me that placing its package tracking service online was worth it in terms of public and customer relations value alone.

Budgeting such activities is likely to be a trial-and-error process at first while you determine the amount of input you receive on a weekly or monthly basis. Once you have some time under your belt, then you can evaluate the quality of the program and budget accordingly. But you should, at a minimum, budget an hour a day at the outset, then monitor the activity to see if it’s sufficient.

There are alternatives to having a labor-intensive input-and-reply mechanism. You can automate the process, putting the power of computers to work for you so they become the labor-saving devices they were designed to be. For example, a computer can be set up so that an e-mail response is triggered automatically when input is received.

### E-mail on Autopilot

You can reduce the labor involved in responding to queries about your business by using what’s known as an autoresponder—e-mail on autopilot. For example, a common method is having an e-mail address like this: info@yourbiz.com.

Typically, when someone sends a message to an “info@” address, a prepared reply is generated automatically. You can do this for very specific items, such as current prices on your products and services—e.g., prices@yourbiz.com. This way you’re identifying people truly interested in the product—they took that extra step to contact you—and you can capture the e-mail address to add to your lead sheet for a more personalized follow-up.

Talk to your ISP or network administrator about configuring the mail server to perform these tasks. It’s a relatively straightforward procedure and should cost you very little to implement.

One company promises to take the process a step farther by incorporating what it terms “case-based reasoning” in its software. BrightWare, Inc. (www.brightware.com) offers Bright Response and BrightAdvisor, marketing and sales applications that not only automate responses to customer inquiries but also tailor the responses based on keywords in the inquiry.
Other labor-saving alternatives include establishing your own discussion forum or automated mailing list. (This type of mailing list, introduced in Chapter 4, "Exploring Cyberspace," is akin to a discussion group and sometimes is referred to as a listserv. Messages are sent to the list, then forwarded to all the subscribers on the list.)

These activities can be moderated or unmoderated. If they’re moderated, you must designate a moderator and allocate the time to do it. With an unmoderated activity, you run the risk of receiving embarrassing or inappropriate submissions. So, even unmoderated activities need to be monitored and action taken to delete vulgar comments, inappropriate political rantings, unvarnished commercial endorsements, or pitches for get-rich-quick schemes and porn sites—all of which are the bane of established discussion groups and mailing lists.

Again, begin by allocating an hour a day and see how it goes. It may be that you can get by with two or three hours a week, or you may need to bump it up to two or three hours a day.

Whether you opt for a discussion forum or mailing list, you’ll need special software and the cooperation of your ISP to set it up. The software is available commercially from a number of well-known vendors—Netscape’s SuiteSpot family of servers includes discussion group and mail servers, for example—and as freeware and shareware. Programs commonly used to administer mailing lists include Majordomo, distributed freely throughout the Net; Fog City Software’s commercial LetterRip (www.fogcity.com); and Listserv, a commercial product sold by L-Soft, Inc. (www.lsoft.com). Good starting points for freeware and shareware include:

- CGI Scripts . . . To Go!: www.virtualville.com/library/scripts.html
- Gamelan: www.gamelan.com
- Matt’s Script Archive: www.worldwidemart.com/scripts/
- Shareware.com: www.shareware.com

In terms of cost, freeware, obviously, is free, and shareware is inexpensive (generally less than $100 and often under $50). Commercial servers, such as Netscape’s products, generally are several hundred dollars. You also need to budget the time for installing and testing the software. It may take an experienced individual two to four hours to do this—adapting a shareware script may take longer. However, you will see cost savings over time by the automation you achieve and the reduced labor costs of trying to provide this type of interactivity manually.
More Than Just a Store

An important lesson the operators of commercial Web sites have learned is that you can increase the value of your site—and realize an ensuing increase in traffic and sales—by adding peripheral features and services that go beyond your marketing and sales programs. Typically, these features are not related directly to your business, but they are valued by your customers—Web site visitors you hope to convert into established customers.

Special Features Add Value

An excellent illustration of the type of features that can be added is the L'eggs Women's In.Site (www.leggs.com, shown in Figure 16-2), which provides an array of women-oriented articles, advice columns, and services. These include online calculators so women can chart their mortgage payments and heart rates, useful career and child-care tips, as well as a brief history of panty hose.

Figure 16-2: L'eggs adds value to its Web site by providing an online loan amortization calculator.
The Fidelity Investments Web site (www.fidelity.com) provides financial news updates and stock market reports that are updated hourly. Book sellers Amazon.com (www.amazon.com) and Barnes & Noble (www.barnesandnoble.com) include book reviews and publish reader comments.

The Wingspread Art of New Mexico and Southwest site (www.wingspread.com) is ostensibly the online counterpart to a printed guide to art galleries and related events in the southwest region of the United States. But in addition to the gallery guide, articles pertaining to Southwest-style art, artists, points of interest, and tourism are included in the Web site. Visitors to the site not only have an opportunity to buy art but also can educate themselves about the art style, plan a trip to the region, and make a reservation at a bed-and-breakfast inn.

Some sites have puzzles, contests, and games their visitors can play. The HomeArts Network (http://homearts.com) offers interactive crossword puzzles, and Bumble Bee Seafoods (www.bumblebee.com) has several arcade-style games and contests aimed at children.

HomeArts, as well as number of other sites on the Web, offers electronic postcards, which Web site visitors can send to others. The recipients are notified by e-mail that they have been sent a postcard, along with a URL for retrieving the card. This draws the card recipients as well as the senders to the Web site.

News & Newsletters
People are always hungry for news, particularly news that rarely, if ever, makes it into the mainstream media. Providing industry news is a way to add value to your site. This doesn’t have to be a daily or even a weekly thing.

You can take it step farther and make it a formal newsletter, with news about your company as well as the industry. A proactive manifestation would be distributing the newsletter via e-mail or sending mailing list subscribers announcements containing the highlights of the most recent edition and the Web site URL.

Floating Index or Table of Contents
Those who have browsers that support JavaScript can offer a floating index or table of contents. By clicking on a link or button, the visitor opens a new window that contains links to all the pages within your site. (Remember, this is in addition to your primary navigation links, not a replacement.)
The window, sized significantly smaller than the regular browser or screen window, can be repositioned onscreen wherever the user chooses. Using text-only links keeps the file size and window size small. A script you can use to implement this feature is in the /Resource/JavaScript/Tableofcontents directory of this book’s Companion CD-ROM.

Chat Group
Consider adding a chat group to your site. A large part of the success of the commercial online services is their chat groups and special interest forums. This is not something that needs to be available every day. It could be offered weekly, biweekly, or monthly. It provides a forum for direct and immediate interaction between you and your Web site visitors, as well as a forum for your visitors to interact with one another. Consider inviting a special guest to participate.

Commercial and shareware programs are available, with improved and new products becoming available regularly. As a starting point, visit the Web sites I listed earlier in conjunction with discussion groups and mailing lists.

Live Video
With the cost of video technology dropping like the proverbial rock, consider adding a live video feed for a special event. However, doing so may require infrastructure upgrades, which I’ll discuss in a later section.

Webcasting
Webcasting is a euphemistic term for what’s known as push technology, or dynamic information delivery. In plain English, it means that information is sent, or pushed, from the source to the end user, as opposed to the Web-site model of making information available to anyone who takes the initiative to come see it. As such, Webcasting mimics the broadcast industry.

Although this is not a new technology—PointCast pioneered the concept—it was just beginning to mature at this writing. New software was coming to market that would make it practical for businesses to use it to promote their products and provide additional services, as well as for internal communications.

For example, Netscape Communicator includes the Netcaster component, which is the client software used to receive information from a Webcaster. Because this technology is as new as it is, I’ll discuss Webcasting and Netcaster in greater detail in Chapter 19, “The Potholes Ahead.”
**The Cost of Adding Value**

The cost of adding special features to your Web site will vary with the implementation. Some features will cost you little beyond a few hours labor and maybe a small increase in the monthly fee you pay for storing the information on a commercial Web server. Other features will require the services of a computer programmer and may run into thousands of dollars.

To establish a budget for new features, you need to consider two basic items: the labor and the technology required to put your idea into action. For example, adding a monthly or quarterly newsletter to your site may cost you very little other than a few hours labor for each edition. But if you want to provide a weekly news digest, that may require three to four hours a week in labor costs if it’s done in-house. If you hire a free-lance writer to do the work, expect to pay $25 to $50 an hour for the service. If the same individual writing the news digest can do the necessary HTML—using Netscape Communicator’s Composer, for example—then there will be little or no additional cost. But if you hire someone else to do the HTML—which may take up to an hour—you will incur additional costs ranging from $25 to $75 an hour.

If your feature requires additional software, such as a server, CGI script, JavaScript, or Java applet, then you’re likely to need the services of a professional Web administrator and/or programmer. Expect to pay $50 to $100 an hour for such services for a minimum of eight hours.

Without knowing the details, it’s difficult to say what a specific feature will ultimately cost. But if it involves complex programming, such as a game, it could take several days or even weeks. Even at $500 a day, you’re probably looking at a price tag well into four figures, if not five.

The cost of video technology has come down to the point that it’s feasible to consider offering live video in your Web site. For less than $1,000, you can obtain hardware and software that will allow you to capture and transmit an acceptable video presentation.

However, there is a catch. If you set the camera up at a remote location, you will need a computer, modem, and telephone line (or wireless modem), in addition to the video camera and computer card. Moreover, it’s likely you can do this only on a limited scale unless you or your ISP invests in infrastructure upgrades. Even 15 frames per second requires a fair amount of bandwidth. If the video becomes popular and there are many simultaneous users, you could quickly fill up several T-1 data transmission lines (T-1 capacity is 1.54 megabits per second). Some smaller ISPs have just one or two T-1 lines for their Internet connections. The reality is, you may have to settle for four to five frames per second.
Timing Your Upgrades

If you decide to upgrade your site with value-added features like those discussed here, you also need to consider the timing of such moves. I recommend taking a gradual approach rather than doing it all at once. That is, add one feature at a time. This serves three purposes: it will spread the cost out, let you evaluate the response to each feature individually, and give visitors more reason to return later.

For example, begin your online presence by launching a marketing-oriented site that doesn't require a huge investment at the outset, then solicit feedback from site visitors. They will give you some ideas and direction. From there, you can develop a plan, budget, and schedule for upgrading and enhancing your site.

If you try to predict what people want and put all your bytes in one basket before testing the waters, it could backfire on you and require a complete—and costly—overhaul of the site. That's what happened to Disney, among others.

Starting Over

In the opening section of this chapter, I said people expect change and that you will need to accommodate this to one degree or another. Adding to or replacing certain aspects of your Web site is likely to improve its reception. But I also pointed out the danger of complete makeovers, particularly to the home page. There needs to be an element of continuity over time so repeat visitors are not disoriented every time they return to the site.

Nonetheless, you may discover from the feedback you receive that you took the wrong path at the beginning and need to revamp the entire site, perhaps starting from ground zero. Disney is perhaps the best-known example of this. Initially, a great deal of money was sunk into "killer" multimedia presentations. But a large number of Web site visitors refused to view them because the huge data files took so long to download using 14.4- and 28.8-kilobit-per-second modems. We can only guess what it cost to rebuild the site, but it's likely it was well into six figures.

However, such a move requires careful consideration and should be the last option on your list. When it comes to redeveloping a Web site, there are few, if any, economies of scale. It will require an investment of time and money on the same order as the original development. The value of your first effort may be limited to the lessons learned.
The Ongoing Campaign

It’s critical to the success of your online activities that you follow up your Web site launch with an ongoing marketing and advertising program. As I emphasized in Chapters 7 and 14, taking your business online is the equivalent of opening up shop in an unlit back alley that never sees the light of day. It’s very difficult for people to window-shop in cyberspace as they do in malls and business districts. To get people coming to your site (and to keep them coming back), you must promote it. This can be done at any number of levels, depending on how the Net fits into your overall business plan and budget.

Building Traffic

When people ask me how they can generate a lot of traffic to their Web sites, I tell them to publish pictures of naked women—at no charge to the viewer. Granted, this is a flippant answer. But the point I’m making is this: Having a ton of traffic to your Web site is not necessarily going to help you achieve your objectives. In fact, it could get in the way if the traffic becomes so heavy that legitimate customers can’t connect.

You have to balance quantity with quality. Yes, you can create a stampede to your Web site through a number of means, naked women happening to be one of the best, but unless you’re in the business of selling such things, you want visitors who will become repeat customers, not those who are looking for nothing more than a cheap thrill or handout, never to return. The consensus among businesses on the Web is that they’d rather see less traffic and more business.

Proven Marketing Techniques

There are a number of successful techniques you can use to bolster traffic to your Web site and enhance your overall online marketing program. Some ideas to consider follow.

Fire Both Barrels

Remember to continue using the double-barreled approach I discussed in Chapter 14, “Hello, World”—combining traditional and new media—in your overall marketing program, particularly when unveiling new products, services, or Web site features. Whenever discussing marketing issues and proposals, integrating the Net and Web site should be automatic. One of the first items on the agenda of every marketing and sales meeting should be: How and where do the Net and our Web site fit into this proposal?
Chapter 16: Update, Upgrade & Promote

Cross-Promotion
Continue to seek opportunities to cross-promote your products and services and establish reciprocal links with business alliances that also are online. Oft-seen illustrations of this are the software and hardware manufacturers who display one another's logos and link to one another's sites.

The HomeArts Network and Cosmopolitan magazine have teamed up through the Cosmo Connection feature. Visitors to the Web site submit their "confessions," some of which are selected for publication in the magazine. HomeArts also has a certificate program in which it provides access to information ranging from antiques to astrology—all of which is provided by separate commercial services that receive exposure on the HomeArts site in return for their contributions.

Taking the concept a step farther is initiating a revenue-sharing, or revenue-partnering, program in which your revenue partners pay you for the qualified sales leads they receive via your Web site and vice versa.

Signature File
A signature file, introduced in Chapter 6, can be a powerful marketing tool. It's your electronic business card. Your company name, contact information, and Web site URL should be at the bottom of every e-mail message you send. This is especially useful when participating in discussion groups and mailing lists.

Discussion Groups & Mailing Lists
Monitor and participate in relevant discussion groups and mailing lists. This can be done without spamming.

For example, if you sell sporting goods and outdoors equipment, discussion groups oriented toward such interests as camping, fitness, hiking, running, or mountain biking are likely to be interested in an offer to subscribe to a mailing list so they could be notified of new products, special offers, and discount coupons. Maybe you're cosponsoring a participatory sporting event, such as a 5K charity race. It's likely that discussion group participants will be interested in the details.

If you see questions you can answer, step in and do it without turning it into a strong-arm pitch for your product or service. You can also contact people individually by sending them private messages outside the public forum. The operator of a marine hardware store began his online activities this way. Eventually, there was such a demand for his services and products, he put up a Web site, too. The key to the success of this approach is that it must be done in a responsible, service-oriented manner.
Direct Mail—Build Your Own Mailing List

I introduced the controversial topic of direct mail in Chapter 14, "Hello, World," by noting the abuses of those doing bulk mailing—the so-called spammers—over the Net and the resultant backlash. What’s more, although the volume of direct mail messages traversing the Net numbers in the tens of millions daily, the medium has yet to prove itself as an effective marketing strategy. The response is estimated to be well under one percent. My experience is that the majority of the mail relates to get-rich-quick schemes, credit restoration, and multilevel marketing, all of which are among the Top 10 Internet scams, according to the National Consumers League (www.natlconsumersleague.org).

As a result, most legitimate businesses are sitting back and waiting for the situation to sort itself out, despite the extremely low cost. I suggest you do the same.

However, one of your priorities should be building a mailing list of people who have shown an interest in your products and services and have asked to receive information. (In this context, I’m using the term mailing list in the traditional sense, not as a forum for discussion and interaction.) Mailing information to people who have requested it is not in the same league as paying a service to send your promotional message to 45 million e-mail addresses.

The most straightforward method of establishing a mailing list is asking people to sign up for it. A low-budget approach is to use the form I described earlier in this chapter and use Communicator’s e-mail component to send a message to everyone on the list. You may want to consider using mailing list software, which I described earlier.

Also, consider offering an incentive for people to sign up. You can establish a mailing list in conjunction with other promotional efforts, including special offers, free products or services, gifts, contests, and special events. Simply place a check box on a reply or sign-up form. The Web site visitors can check the box to indicate they do want to receive periodic announcements about your products and services.

However, this does not guarantee that you won’t receive hate mail from the people who have forgotten that they signed up. In all your mailings, you should include instructions explaining how the recipients can remove their names from the mailing list. In addition, if your mailings are infrequent, consider sending out an occasional probe. This is a small message with instructions on how to be removed from a list and that states the receivers need not reply if they want to remain on the list. This procedure also reduces the number of returned messages you receive from addresses that have expired.
Special Offers & Incentives

Special offers and incentives are not unique to cyberspace, but the methods of employing them are. For example, you can offer discounts available only at your Web site, or publish discount coupons in your Web site that are redeemable at your real-world store(s), reducing your printing and distribution costs.

To draw attention to these offers, you can use a pop-up window that appears when someone connects with your site. On the AmericaOne site, we used a pop-up window to announce the grand opening of the Ship's Store (see Figure 16-3). This was created using JavaScript (introduced in Chapter 12, "Web Site Design: The Enhancements"). The script and accompanying files are in the /Resource/JavaScript/Popup directory of this book's Companion CD-ROM. Add the script to the page where you want the announcement to appear. It can be the home page, but it doesn't have to be.

Freebies

Earlier, I spoke of the change mentality of the Web. Netizens also want something for nothing. And they're getting it. Giving something away is no longer an option. It doesn't have to be a toaster, however. It can be information or a special feature, such as those I described previously in this chapter.
The thing is, people love freebies—or at least the perception that they’re getting something for nothing—and this will generate traffic. It’s then up to you to keep them coming back.

HomeArts, for instance, gave away subscriptions to its newsletter. The Virtual Florist (www.virtualflorist.com) lets people send a bouquet of virtual flowers at no charge. After the flowers are sent, there’s a pitch to send the real thing—for a fee, of course.

Plus, you can demand a price of sorts. You can require that they register their name and e-mail address and other demographic information, a common procedure software vendors use. As mentioned earlier, you also can include a check box on the registration form to let visitors sign up for your mailing list at the same time.

Contests & So On

Contests, raffles, drawings, treasure hunts, and scavenger hunts are perennial game plans for market research and promoting new products and services. When AmericaOne offered a free sailing vacation in the Caribbean as part of a fund-raiser, traffic on the Web site went through the roof as people scrambled to get their names in the hat.

Again, this is an approach to use in building your own mailing list. However, these devices can be a legal minefield. If you’ve never sponsored a contest, consult your attorney first. I couldn’t be more serious. It takes just one disgruntled participant to land you in a real-world courtroom.

On a more positive note, you’re relatively safe offering a prize in return for filling out a survey, as long as none of the participants is required to contribute any money or buy anything and as long as the names are selected randomly. But don’t construe this as legal advice. You still need to consult an attorney to make sure the rules are worded properly.

Net Events

If your company is involved in producing or sponsoring an event of some kind, don’t miss the opportunity to promote and publicize it online. For example, master sand castle builder Gerry Kirk—yes, he actually has made a career out of building sand castles (www.sandworld.com)—used the Web to chronicle the construction of his world-record-breaking Lost City of Atlantis in 1997. The online promotion included sequential photographs showcasing the daily progress, as well as a “SandVideo” providing live video coverage of the event.

Visitors to the Web site were encouraged to visit the sand castle and take a real-world tour. The event even landed a listing in Yahoo!’s high-profile Net Events section, increasing the exposure of the Web site and the event itself.
Advertising

Advertising is something you need to examine seriously. Having a Web site does not mean you stop advertising. It means you change the way you go about it.

Pierrette Van Cleve, the owner of the Art Cellar Exchange (introduced in Chapter 7, “Defining Your Online Strategy”), told me that even though the majority of her business is now conducted online, it would be suicide for her not to advertise in specialty print publications. The critical element is that her ads contain the URL of her Web site and an e-mail address. This cuts several financial corners: She can run smaller ads at less cost, she has reduced significantly the need for printed matter, and her telephone and fax bills are much less.

I won’t belabor the issue of traditional advertising here—you already know what works and what doesn’t work for you in that arena. What I will do is show you how advertising is being done on the Net and the advantages it offers over traditional methods.

The Online Advantage

Advertising on the Net, and particularly on the Web, has the advantage of immediacy and tracking you can’t get anywhere else, whether the ad is embedded in an e-mail message, is a classified ad, or is a hyperlinked image, or banner, on a Web site, which is where the real action is taking place.

The hypertext protocol, the fundamental Web technology, allows Web servers to identify and record what’s known as the referring link. This means that when people connect to your Web server, you can identify the site containing the links on which they clicked to get to your site. The significance of this is that if the link was a banner advertisement, you know that I not only saw your ad, but that I clicked on it, too.

This is known as a click-through, and the number of times that ad is clicked is the click-through rate or click-stream. Armed with this information, you can determine the effectiveness of an ad at one Web site compared to an ad at another site. If one site continually lags behind the other, you can rethink your strategy.

What’s more, the immediacy of this information allows you to change the appearance of the ad and compare the effectiveness of one layout to another in a small space of time. This process is known as trial-and-repeat. The operator of an adult-oriented site explained to me that porn ads may change as often as every few hours. The advertisers in this high-volume environment know in that short amount of time whether a particular ad layout is effective. For mainstream advertising, it may take several days to make such a determination.
It is this ability to analyze the click-stream that provides the foundation for agencies specializing in online advertising management, including Focalink Communications (www.focalink.com), DoubleClick, Inc. (www.doubleclick.com), Internet Profiles Corporation (I/Pro, www.ipro.com), NetGravity (www.netgravity.com), and others. Their customers know quickly how well an ad is working.

Combine that technology with cookies (described in Chapter 15, "Marketing Online: A Personal Matter"), and you can develop a highly targeted advertising campaign. Focalink’s SmartBanner program, for example, uses cookies. Through a cookie, a dedicated advertising server, or ad server, “remembers” which ad graphic has been sent to which site visitor and then can rotate the ads so that visitor isn’t bombarded with the same ad over and over again. In addition, if a visitor clicks on the ad graphic, the ad server will take two actions: It will refer the client to the specified Web site, and it will record the URL of the referring Web site.

This allows Focalink to create a report for an advertiser that shows not only the number of times a banner ad is displayed—the number of impressions registered—but also how many times users actually clicked on the ad. This is known as click-stream analysis and lets the advertiser know which ads are more effective than others. The programs of the other agencies are similar.

Banner Ads
A typical banner ad is a graphic image 468 pixels wide and 60 pixels high. Some sites sell smaller banners for a lower rate. For the smaller banners, common sizes are 120x90 and 120x60, but there are no standard dimensions as there are in the print world. Standard ad sizes are coming, but we’re not there yet.

Traditionally, banner ads have been a static graphic image, but so-called rich media banners also are appearing. These incorporate animation, video, and/or multimedia. Whether these catch on or not remains to be seen, however. Focalink reported that adoption of rich-media ads is “sluggish.”

Advertising Costs
This banner-style advertising is not cheap, however. Rates effective September 1997 ranged from $10 to $85 per 1,000 page views, or impressions (CPM).

The large spread in rates has to do with how closely targeted an ad is. The more targeted it is, the higher the rate. Web directories such as Alta Vista and Infoseek can link an ad to a keyword search for a highly targeted audience. For example, a keyword search for airfares could display an ad for an airline
or an airfare consolidator offering cut-rate packages (see Figure 16-4). A less closely targeted media buy may display an ad for a hotel chain or a rental car agency. A non-targeted ad would simply be shown in rotation with others, with no relevance to the search.

![Figure 16-4: The Infoseek Web directory matches ads to the keywords used in searches.](image)

According to link's August 1997 "Online Advertising Report," the average CPM for the more popular Web directories was $40.85, up 13 percent from July. In terms of real dollars, this means that a half-million impressions over the course of the month would have cost you just over $20,000.

Across the Web, the average CPM was $39.11, down slightly from $39.53 in July. Large corporate Web sites, including AOL, Microsoft Network, and Netscape, averaged $47.25 CPM, up 17 percent from July, according to the report. The figures were based on the ad rates from 938 Web sites.

For those of you with a business model that calls for selling advertising, this gives you an idea of the going rates. It also gives you an idea of what your competition is.
Online Yellow Pages
You don't have to be a big spender to advertise online. There are several yellow-pages-style directories on the Web, including LinkStar (www.linkstar.com), Big Yellow (www.bigyellow.com), and the New Riders’ WWW Yellow Pages (www.mcp.com/nrp/wwwyp/), that offer listings beginning in the $100-a-year range.

There also are classified ads offered by online newspapers and magazines, as well as Web sites that specialize in classifieds. These may cost you less than $100 a year.

E-mail Ads
You may want to consider placing ads in e-mail messages. This is not the same as direct mail. In an e-mail ad, your promotional statement is appended to personal e-mail messages of people who get free e-mail service from such companies as Juno (www.juno.com) and HotMail (www.hotmail.com). Juno, for example, charges 2.5 cents per impression for untargeted ads, 5 cents for semitargeted ads, and 7.5 cents for custom targeting. This translates to a CPM of $25 to $75.

For a comprehensive list of Web sites accepting advertising, see Jupiter Communications' AdSpace Locator (www.jup.com/interact/data/sponsors/sponsors.shtml). If you want to sell advertising, you should get on this list.

Co-op Ad Programs
In addition, there are advertising options that won't cost you anything. The pioneer in this is the Link Exchange (www.linkexchange.com), which is a cooperative advertising program. You display on your site a rotation of ads of other members of the program, and in exchange they display your ad on their sites. Ad rotation is handled automatically once you place the required HTML in the designated Web page within your site.

LinkExchange does not accept sites containing adult material, links to adult material, nor what it terms "inappropriate content." The program claims more than 100,000 members. For a fee of up to $1,200 for 80,000 impressions ($15 CPM), you can have your ad targeted. Similar programs are offered by Looplink (www.looplink.com), BannerSwap (www.bannerswap.com), TradeBanners (www.resource-marketing.com/banner.html), and SmartClicks (www.smartclicks.com).
Intermercials
A new concept in advertising on the Web is *interstitial* advertising, also called an *intermercial*. An ad pops on the screen while the Web surfer is waiting for the next page to load—a period known as the *interstitial delay*.

The concept is being implemented in a number of ways. Some intermercials are merely Web pages wedged between two other pages—and they actually delay the download of the page the site visitor is trying to reach. Other forms require special software to view, leaving some advertisers wondering why anyone would bother. The intermercial is in its embryonic stage. It’s a concept you want to keep an eye on, but I wouldn’t rush to embrace it just yet.

Proceed With Caution
Whatever you decide regarding advertising on the Net, do your due diligence before spending any money on a specific program. The Net is not called new media for nothing, and the waters are still largely unsettled.

Unlike television, radio, and print publishing, the Net does not have a sophisticated system for accurately measuring the number of eyes that see an ad. In the traditional media, Nielsen (TV) and Arbitron (radio) ratings and figures from the Audit Bureau of Circulation (print) have a direct impact on what a network, local radio and television stations, and print publications can charge their advertisers. But such systems are not nearly as well developed on the Net, and Web site statistics often are viewed with skepticism. For example, some people argue that page views are artificially inflated by spiders indexing Web sites. A hit is recorded on a page, but no human actually viewed the page—or the ad.

Beware of the “Hit Man”
A common way of measuring Web site traffic is by the number of hits, or requests for data files, that a server receives. But these numbers are dangerously deceptive because they’re directly proportional to the number of graphics embedded in a Web site’s pages.

For example, at our America’s Cup On Line site, we received almost 15 million hits during the five-month competition. However, our best guess was that that translated into roughly 250,000 individuals who visited the site multiple times. It goes without saying that there is a huge difference between the two figures. Nonetheless, from the perspective of the Web site being a specialty magazine, we had a circulation of 250,000, and our top sponsor garnered well over a million impressions in less than six months.
Monitoring & Ratings Services
The need to distinguish between the sheer number of hits and a realistic body count has spawned several monitoring services, including Nielsen Media Research, I/Pro, Interse, Netcount, iAudit, and Webside Story, among others. The costs of these services range from several thousand dollars a month to free, but the level of sophistication, service, and accuracy of measurement varies with the price. I’ll discuss this in greater detail in the next chapter.

Web site ratings services are emerging, too. The PC Meter Co. (www.pcmeter.com), owned and operated by Media Matrix, Inc., was the first out of the blocks with its service, which monitors the Web surfing habits of some 10,000 households. RelevantKnowledge, Inc. (www.relevantknowledge.com), began a similar ratings service late in 1997, promising real-time audience measurement based on roughly 25,000 households. Ironically, Nielsen is late to the party, with plans to launch its Web ratings service early in 1998. Nevertheless, I would be somewhat leery of the numbers from these services early on, considering that most people do their Web surfing from the office, not the home.

Numbers You Can Trust
As an advertiser, you want numbers you can trust. You also want to know more about the people looking at the ads. How old are they? What gender? What is their income and level of education? What kinds of cars do they drive? What are their buying habits? How much time does the typical visitor spend at the site?

Until research and measurement systems are developed that match the sophistication of their counterparts in traditional media, you need to go into it with your eyes wide open. When making a new-media ad buy, you want stats that are audited by an independent third party. You don’t want inflated, overstated figures from the Web site operator. You especially don’t want raw hit counts.

For additional information on advertising on the Net, here are a few resources for you:

- Advertising Age: www.adage.com
- Advertising Media Internet Center: www.amic.com
- Adweek Online: www.adweek.com
- American Advertising Federation: www.aaf.org
- CyberAtlas: www.cyberatlas.com
- Jupiter Communications WebTrack: www.webtrack.com
Moving On

This chapter covered a lot of territory in terms of the changing mind-set of Netizens and the upgrading and marketing of your Web site. As you have discovered, there are many unique characteristics that must be taken into consideration when using the Net and Web as a marketing vehicle, particularly if you’re interested in advertising in this new medium. The key to success is moving forward steadily but with due caution and carefully considering each move you make before you make it, not after the fact.

Once you have your Web site on course and your marketing programs in place, it’s time to begin evaluating the success of your online venture, which is Step 7: Evaluate Your Internet Program. In the next chapter, I’ll show you how to monitor, track, and analyze the activity at your Web site and in Chapter 18, “Return on Investment,” I’ll show you how to analyze your return on investment.
An Internet program is only as good as its execution. Once you have things rolling, it's time to begin evaluating the progress you've made and take corrective action as necessary.
WONDER
(what went wrong)
SITE
There are three kinds of lies: lies, damned lies and statistics.
—Mark Twain

Mark Twain died almost 60 years before the Internet was born, but while he was alive, he embraced technology—although it ruined him financially—and doubtless would embrace the Net were he alive today. After reviewing a Web server’s log file, however, he probably would quote himself.

The statistics gleaned from a log file—which records the comings and goings of visitors to your Web site—are essential to performing an objective evaluation of your online activities. However, there are many misconceptions about how traffic is measured and what those measurements mean. If you misinterpret them, even out of ignorance, they become, if not lies, then certainly half-truths.

In this chapter, I’ll put these measurements into perspective. I’ll explain what data are available to you and how you can use them to obtain an objective analysis of the traffic at your Web site. I will also discuss Web site management and tools used to perform critical administrative tasks.
Traffic Analysis

Determining who is visiting your Web site, where they come from, how long they stay, and what they view while there, is critical to the success of your online marketing and sales program. Yet, coming up with statistics that accurately reflect these things has confounded Web site operators from day one.

I emphasized the word accurately for a reason. Historically speaking, Web site stats are more often off target than on, in terms of providing a precise measure of Web site traffic. However, thanks to an expanded (extended in industry parlance) log file format, more processing power at the desktop, and data-analysis software, great strides have been made. Still, we have a way to go before we can relax on this issue and truly see the realization of all the ballyhoo about how great the Net is for quantifying traffic patterns and capturing demographic information.

It's not as if no one is trying, however. In fact, traffic analysis is an exploding sector of the software industry. More than 60 products were available at this writing, with more on the way. This is a great benefit to you, because the competition is breeding better products at lower prices. In this section, I'll introduce several of these products, as well as services that can do the number crunching for you.

Whether you do it yourself or hire someone else, it's imperative that you track the visitors at your site. Otherwise, you'll be wandering blindly through cyberspace, not knowing for certain which way to turn—like the proverbial sightless sow searching for succotash (or is that acorns?).

When a Hit Is Not a Hit

Newbies on the Web exclaim over the number of hits their Web sites are getting, naively believing a hit represents an individual visitor to the site. But it's a classic case of blissful ignorance.

The reality is that one visitor almost always generates multiple hits. Here's how it works: A hit represents a request for information—a request for a data file of some sort—such as a HyperText Markup Language (HTML), image, or multimedia file, or a Common Gateway Interface (CGI) script or a Java applet. Moreover, every file that's part of a single Web page generates a separate hit. So, a visitor viewing a single Web page is likely to record several hits. For example, on the Gadgets Galore! home page, there are 10 graphic files. A single request for that page will generate 11 hits—one for the HTML file and 10 for the graphics.

If the visitor drills into the site, the scenario will be repeated for each page request. A visitor can rack up several dozen hits during a single visit. For
instance, I determined that the average visitor to my sailing magazine recorded roughly 25 hits. I know of some sites where the average visitor records 100 hits or more.

Given these denominators, 20,000 hits a month suddenly doesn't seem such a big deal, does it? You also have to consider the impact of repeat visits. More hits are generated, but they're by the same people. And when someone hits the Reload button? A duplicate entry for that Uniform Resource Locator (URL) is logged. When trying to determine the number of unique visitors to your site, the value of this very basic information quickly diminishes.

Without help from a cookie (discussed in Chapter 15, "Marketing Online: A Personal Matter") or a digital browser tag of some sort, you cannot identify unique visitors to your site. And even cookies can't be relied on to give you an accurate count. When visitors reject cookies, their visits are recorded in the log file, but it's unlikely the hits can be attributed to unique visits. And only by identifying unique visits can you get an accurate measure of how many distinct individuals have visited the site and how often, if ever, they return.

You can see the dilemma this poses for doing body counts, which is critical to evaluating the use of the site, particularly where advertising is concerned. Whether you're buying or selling advertising, you need accurate numbers. You also need to be able to track the paths people are taking through the site—the click-stream analysis concept introduced in Chapter 16, "Update, Upgrade & Promote."

What's the solution? Let's go for a partial solution for now and in the meantime keep pressuring the gnomes in the Silicon Valleys of the world to come up with a better system.

**Log File Analysis**

The most common method of acquiring traffic data is through log file analysis. This means analyzing the data the Web server collects in its activity log. Because computers are good at counting, they can generate volumes of data. But unless these numbers are crunched in a well-founded manner, they are nothing more than an information avalanche.

Analyzing data is easier said than done, however. That's because different Web servers store the information in different formats. The NCSA and CERN servers, for example, essentially log the same data, but in a different sequence. A third format, typically used by commercial Web servers, such as Apache, is the common (or combined) log format. This format offers more options in terms of the data collected and how it is stored. Apache, for example, automatically stores the referrer information in a separate file.

There is also a difference in how servers handle virtual domains—multiple Web sites housed on the same computer. Apache allows the creation of
subdirectories so separate files can be created for each domain. But Microsoft’s Internet Information Server lumps all the data together, whether the data are stored in a flat text file or as a database.

Typically, a server will log, or collect, dozens of statistics for every URL that’s requested. And remember, every page in the site has a unique URL, whether it’s a static page or one created on the fly. The numbers pile up quickly. Nonetheless, these data allow you to compile a variety of valuable statistics, including:

- Total number of requests.
- Average hits per hour, day, week, month.
- Total bytes of data transferred.
- Average bytes of data transferred per hour, day, week, month.
- Busiest times of the day, week, month.
- Most-requested URLs.
- Most common referring URLs (the URL of the page containing the link clicked on to get to the requested URL).
- Internet Protocol (IP) address and domain names of the visitors’ host computers or access providers.
- Type and version of browser software being used.

To see a list of just some of the data being logged and an explanation of what some of the terms mean, go to www.sandiego.com/services.html and click on the Browser link. This will display all the data that your browser sends to the Web servers it contacts. (Caution: If you’re at all paranoid about your privacy, this may frighten you.)

However, the statistics alone reflect only the volume of traffic through the server. This is great for system administration but not very helpful in determining the actual number of visitors you had and how long they stayed. To obtain this information, the data need to be analyzed, which allows you to determine the following:

- Total number of visits (unique IP addresses but not necessarily unique visitors).
- Average number of visits per hour, day, week, month.
- Rank of visits by domains or organizations (e.g., att.net.com).
- Rank of visits by country.
- Length of visit.
- Most common point of entry to site (home page versus underlying pages).
Most common point of exit from site (final pages viewed, jumping-off points).

Most- and least-requested files (Web pages, images, audio, video, multimedia, and so on).

Rank of referring domains or organizations (e.g., excite.com, infoseek.com).

Rank of referring URLs.

Rank of browsers in use.

Rank of operating systems in use.

These data give you a rough idea of where your visitors are coming from, how they found your site, what they looked at while there, how long they stayed, where they went when they left, the type of browsers they use—or whether it's a search-engine spider indexing your site—and the type of computers they use. The data also allow you to identify the most popular—and least popular—pages in your Web site, where your visitors came from, the most common access providers (e.g., aol.com), and the most common browsers being used (see Figure 17-1).
However, note that you can draw only broad conclusions to get a rough—some would say very rocky—demographic profile of your visitors. For example, if you see “aol.com” near or at the top of the list of domain names, that means a significant percentage of your traffic is coming from America Online. Nowhere in the data and data analysis are there any indications of who these visitors are.

Site Visitors & Visitor Sessions
The true value of this number crunching lies in identifying visitors and visitor sessions. Having this information will improve your marketing program and increase sales. You accomplish this by tracking the path a visitor takes through the site and how much time elapsed between the viewing of one page and the next.

Visitor
First, let’s define a visitor. A Web site visitor is any person who visits the site at least one time. A stupid statement? Maybe not, because it begs the question: How do you identify each visitor so he or she—or in the case of a Web spider, it—can be counted? Answer: You can’t. At least not from standard log file data.

Here’s the problem: All the server can do is identify the referring host computer by its IP address. But that IP address may represent hundreds, if not thousands, of individuals. AOL is a perfect example. When an AOL member goes to the Net, he or she is assigned a unique IP address dynamically from a pool of available addresses. When that person disconnects from the Net, the IP address goes back into the pool and is issued to someone else later on. The next time the server logs that IP address, it’s probably a different person, but in a log file analysis it would be considered the same person.

Since most commercial Internet service providers (ISPs) assign IP numbers dynamically, the problem is endemic, and it results in meaningless statistics in terms of identifying unique visits. In this example, the only thing you would know for certain is the number of visits—but not visitors—from AOL. That’s not a bad thing—it’s useful information—but it’s not the kind of information you need to truly target your marketing and sales pitches.

To identify unique visitors to the site accurately, you need to either add cookies to the mix and capture the cookie data in the log file or require visitors to register and log in each time they visit the site. Or you can do both—require registration but store the login information in a cookie so the visitor is admitted automatically in subsequent visits. The visitors, in turn, must accept the cookies and volunteer demographic information about themselves—typically age, gender, postal code, and e-mail address, as well as level of education and income.
That said, another practice that can distort your statistics is *proxy caching* by ISPs. In order to speed the delivery of the more popular Web pages, an ISP may set up a proxy, or intermediate, server that stores requested domain names and Web pages so that subscribers making those requests don't have to wait in line at the point of origination. However, if you have a popular site, this will cause your figures to be low.

**Visitor Session**

A visitor session is a series of consecutive file requests made by a visitor. The session is considered complete when a file request has not been made for a given period of time, generally 30 minutes. A report on a visitor session would identify the requested files, which can be used to map the path the visitor traveled within the site and give you some perspective on the visitor’s interests. If you have items for sale, you can identify which sessions—and what percentage of sessions—culminated in sales.

You can track visitor sessions without identifying the visitor. However, the visitor session data is much more useful when associated with specific demographic information. Which is where visitor registration and the use of cookies tie in.

**Mixing Cookie Dough**

If you really want to get a handle on who’s visiting your site and their respective likes and dislikes, consider using cookies, if you have the budget to implement the program and follow it up. This is what sophisticated Web site operators do.

I'm not going to teach you how to mix up a batch of cookies here, because it goes beyond the purpose of this book. Again, this is the realm of programmers. I suggest you contact your Web site developer or host and explore your options for implementing such a program.

If you want to be one of the cooks, the best place to get the recipe is where it all began—at Netscape. Start with the *Persistent Client State HTTP Cookies Support Documentation* (www.netscape.com/newsref/std/cookie_spec.html).

Another page worth a visit is the *Form Test Results for Netscape Cookie* (www.research.digital.com/nsl/formtest/stats-by-test/NetscapeCookie.html), put together by some neighborly folks at Digital Equipment. The page lists the results of tests conducted using scores of different Web browsers to identify those that are compatible with cookie technology and those that are not. This is useful in determining the percentage of visitors to your site who couldn’t accept a cookie even if they so desired.
But the real issue is not whether you can or should put cookie technology to use. What’s important is doing something with the data that are collected. The more data you collect, the more intense the number crunching is going to be. This takes more sophisticated analysis tools and additional human resources. Cookies themselves are not budget busters. Your Web host should be able to knock one out for $100 or so. The much greater cost will be in analyzing the data on a regular basis. I’ll discuss these options in the sections that follow. Please recall, however, that not everyone is fond of cookies, which have sparked a controversy over privacy and data gathering on the Net. This was covered in depth in Chapter 15, “Marketing Online: A Personal Matter.”

Log Analysis Software

If you have a virtual domain—sharing a Web server with other sites—your ISP may have installed software that allows you to view your stats using your Web browser, but it may not be anything more sophisticated than hit counts for a given period of time. To truly analyze the statistics, you’ll need software specifically designed for that job, and you may need a separate database application as well.

As I mentioned earlier, there are dozens of software programs available capable of providing reams (or megabytes) of traffic reports for you. Some products are more sophisticated than others. The best ones offer a broad array of reporting options and use powerful database applications. But those features generally come with a higher price tag.

Some programs must be installed on the server itself; other programs are installed on a remote desktop computer. Either way, you can obtain your report remotely. The advantage of having the software on the server is that you can do real-time analysis and actually watch the action as it happens. This is useful if you want immediate feedback on a new product promotion or advertisement. Some programs, such as Accrue, run independently of the server’s log file, which reduces the load on the server, allowing it to operate more efficiently.

In the tables that follow, I’ve listed several traffic analysis programs to consider. The list covers a range of budgets. The majority of the server-based products are designed for UNIX operating systems, but some will run on Windows NT and Macintosh servers as well.

The desktop applications typically run on Windows machines but are able to analyze log files generated by Windows 95, Windows NT, UNIX, and Macintosh servers. The products on the low end may not track visitor paths.
A disadvantage of the desktop products is that they require you to download the log files to your own computer before running the numbers. Log files can become very large and if you don’t have high-speed access, it may not be practical for you to attempt this, particularly if the server is Microsoft’s Internet Information Server, which lumps all the statistics from virtual domains into one log file.

New versions of these products—listed in Tables 17-1 and 17-2—as well as new products, are anticipated, so you should investigate all your options before making a decision. Some vendors let you “try before you buy,” usually for 15 to 30 days. For more information and product reviews, visit the ZDNet (www.zdnet.com) and CMP Media (www.cmp.com) Web sites.

<table>
<thead>
<tr>
<th>Product (Platform)</th>
<th>Vendor (Web site)</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accrue (Sun Solaris/SPARC)</td>
<td>Accrue Software (<a href="http://www.acrue.com">www.acrue.com</a>)</td>
<td>$15,000 (base price)</td>
</tr>
<tr>
<td>Bazaar Analyzer Pro (UNIX Windows NT—Java)</td>
<td>Aquas (<a href="http://www.aquas.com">www.aquas.com</a>)</td>
<td>v. 1.0: $599 per domain; v. 2.0: $320, single user</td>
</tr>
<tr>
<td>Analog (UNIX, Windows, NT, Mac, VMS, RiscOS)</td>
<td>Analog (<a href="http://www.statlab.cam.ac.uk/~sret1/analog/">www.statlab.cam.ac.uk/~sret1/analog/</a>)</td>
<td>Freeware</td>
</tr>
<tr>
<td>Bolero (Macintosh, NT)</td>
<td>EveryWare (<a href="http://www.everyware.com">www.everyware.com</a>)</td>
<td>Gold: $4,995; Silver: $1,795; Bronze: $995</td>
</tr>
<tr>
<td>easyView (UNIX, Windows NT)</td>
<td>Aquas (<a href="http://www.aquas.com">www.aquas.com</a>)</td>
<td>$149 per domain</td>
</tr>
<tr>
<td>Lariat Stats (UNIX, Windows NT—Java)</td>
<td>Free Range Media (<a href="http://www.freerange.com">www.freerange.com</a>)</td>
<td>$295</td>
</tr>
<tr>
<td>NetTracker (UNIX, Windows 95/NT)</td>
<td>Sane Solutions (<a href="http://www.sane.com">www.sane.com</a>)</td>
<td>Standard: $295; Pro: $495</td>
</tr>
<tr>
<td>Wusage (UNIX, Windows 95/NT)</td>
<td>Boutell.Com (<a href="http://www.boutell.com">www.boutell.com</a>)</td>
<td>$300</td>
</tr>
</tbody>
</table>

*Table 17-1: Server-based traffic analysis software.*
When evaluating log analysis software, look for these capabilities:

- Support for a broad range of common, combined, and extended log file formats; compatibility is required.
- Remote access via Web browser if the software is server based.
- Real-time data capturing so there's no waiting until the end of the week or month for your reports.
- High upper limit on size of log file; you want at least 500 megabytes (MB), but 1 gigabyte (GB) or more is better.
- Reports in HTML, spreadsheet, and/or word processor formats.
- Visitor tracking/path analysis.
- Support for cookie data.
- Automatic scheduling of log file analysis.
- Use of database, either internal or third party, such as Oracle, FoxPro, Access, SQL server.
- Saving of open, unended visitor sessions to avoid duplicate counts.

If path tracking and cookie data analysis are critical to your business model, you'll need the higher-end products. However, if you have a heavily trafficked site, you should consider having a commercial service do the traffic analysis for you. If you're selling advertising, your customers may demand a third-party service and/or an audit of your numbers.

**Metering Services**

Another alternative is having a service gather and analyze your traffic data for you. Start with your own ISP, which may produce traffic reports for you at a reasonable cost.
There also are commercial services that specialize in this. Not surprisingly, one is Nielson Media Research (www.nielsonmedia.com), the renowned television rating service. Nielson works with I/PRO (www.ipro.com) to jointly market the I/COUNT measurement and analysis system. Customers can view their stats remotely using a Web browser. Fees range from $200 to $3,000 per month for a traffic volume of up to 300,000 file requests per day. Quotes are given for higher traffic levels.

Another well-established service is NetCount (www.netcount.com), which offers two programs: The NetCount Basic program provides a weekly traffic analysis report; prices range from $98 to $698 for up to a million browser requests per day, plus an installation fee of $195. The fee for higher traffic volume is $495 for each block of 500,000 browser requests. The NetCount Plus program provides daily and weekly reports. Fees range from $195 to $1,395 per month for up to a million browser requests per day; there is no installation fee. The fee for higher traffic volume is $495 for each block of 500,000 browser requests.

An alternative tracking system is what I call the "Poor (or Porn) Entrepreneur’s Tracking Service," which typically is free. In exchange for placing the provider’s logo on your home page, you receive a very rudimentary tracking system.

Here’s how it works: You embed in your home page HTML code that requests the logo (an image file) from the provider’s server. The server logs the activity of your home page based on the number of times the logo is requested. A report is generated detailing the number of hits your page receives for a given period of time. The report also may include the number of unique visitors to your site (see Figure 17-2). The operators of adult sites often use this type of service because they typically turn off their log files to boost server performance.

Several of these services have come and gone, but one that gave the medium a unique twist—WebsideStory (www.websidestory.com)—is still going strong and now uses cookies to identify unique visitors. Subscribers to the program are ranked by popularity in the WebsideStory Top 1000 World Sites directory (no adult sites). The rankings are by category and are based on the number of hits recorded by the WebsideStory server.

If you have a relatively popular site, it puts you near the top of the ranking, driving even more traffic to your site. It sort of feeds on itself. One of the problems of this type of service, however, is that the numbers can be manipulated by someone clicking on the Reload button. The WebsideStory operator says he gets around this by ignoring requests from the same remote host when they occur within two to three minutes of each other.
The biggest shortcoming is the very limited amount of information you get from it. And if the server gets busy, it may miss some requests, resulting in an understated hit count. Nonetheless, if you have a very small business, a tight budget, and want to get just a rough idea of the traffic to your site, while at the same time gaining exposure on a unique Web directory, you’ve got nothing to lose. It costs you nothing but the time it takes to add the HTML to your page, and you can view the stats at any time with your Web browser.

**Counting on Ads**

The accuracy of traffic analysis is most critical when you’re selling advertising. Although advertisers have been willing to put up with rough guesstimates regarding who sees their ads and how often, they are becoming more demanding. It’s a function of the Net growing up and maturing, and the days of self-reporting are nearing an end. As a result, services that specialize in this area are emerging, and you may have no choice other than to use one if you’re soliciting sophisticated advertisers.
NetCount's AdCount service validates and evaluates advertising effectiveness, providing weekly reports for both the host site and the advertiser. The installation fee is $1,000, and the monthly service fee starts at $1,500 for up to three ads.

Nielson and I/PRO offer the I/AUDIT program, which provides monthly traffic analysis reports. The service starts at $1,250 per month. For an additional $250 per month, users can add NetLine, which automates the process using push technology. The NetLine program alone is $750. Users install software on their servers, which collect and transfer the log files to I/PRO, where the numbers are crunched and returned to the users as reports. Nielson and I/Pro have announced an AdResults program designed specifically to track advertising, but pricing was not available at this writing.

There also are advertising management services, which I discussed in Chapter 16, "Update, Upgrade & Promote." These services do not perform site analyses. Rather, they focus strictly on placing and monitoring the effectiveness of banner-style advertisements. These services include DoubleClick, Inc. (www.doubleclick.com), Focalink Communications (www.focalink.com), NetGravity (www.netgravity.com), AdStream (www.realmedia.com), and ClickOver (www.clickover.com). If this type of service interests you, contact the respective companies for cost estimates.

**Lack of Standards**

In addition to the shortcomings of traffic analysis described previously is a more fundamental problem: a lack of measurement standards. Comparing the results of one vendor's product to another can be a proverbial apples-and-oranges routine. Although the lack of standards is not a problem as long as you're dealing with a single Web site, it's a monumental problem when it comes to advertising, whether you're buying or selling, and you attempt to compare the numbers of one site to another.

An effort to remedy the situation has been initiated, but it's far from being adopted. Sources for current information on this matter include:

- Coalition for Advertising Supported Information and Entertainment (www.commercepark.com/aaaa/casie/)
- Internet Advertising Bureau (www.edelman.com/iab/)

**But Are We Making Any Money?**

This number crunching is all well and good, but ultimately the success of your Web site and overall online program must be measured in dollars. Traffic analysis alone is only one part of the equation, albeit a critical one.
In Chapter 18, "Return on Investment," I'll discuss the methods you can use to calculate your return on investment. Keep your traffic analysis reports handy because you’ll need to correlate them with financial reports before you can draw any conclusions.

**Web Site Management**

Of equal importance to careful traffic analysis is a Web site that functions at peak efficiency. This requires continual monitoring and performance analysis to ensure the site is operational and that there are no pesky little bugs in there just waiting for the chance to annoy you.

For instance, on the eve of an important event for one of my clients, I figured I'd better put the Web site through its paces to make sure everything was in order. We didn’t want any embarrassing broken links or graphics resulting from a silly human error. Journalists from around the world who could not attend the goings-on were advised to check into the Web site for details on the day’s events and background information on the organization. Had they been unable to log into the Web site, it could have been a public relations nightmare.

Imagine then, if you will, my chagrin when instead of the home page I received one of the more dreaded error messages on the Net: “The server does not have a DNS entry.” Technically, that message could have meant any one of a number of things was wrong. But the bottom line was this: No one could get to our Web site without knowing the IP address. I narrowed the problem down to trouble with the Domain Name Service (DNS) and contacted the ISP—which was unaware of the trouble—and we got it solved, limiting the site’s downtime to just a few hours.

The lesson is this: A Web site needs monitoring each and every day, even when hosted by a reputable ISP. When you’re dealing with computers, you never know when one will malfunction. The trap is being lulled into thinking that if things have run smoothly for the last month and half that they will continue to do so. Finagle’s Law (a more precise version of the renowned Murphy’s Law) generally prevails: “If anything can go wrong, it will.” And at the worst possible moment. When trouble does occur, you just hope that it’s something relatively easy to fix.
Directing Traffic

In the earlier section on traffic analysis, I told you not to focus on the number of hits. Now, I'm going to do a one-eighty and tell you to focus on hits. But for a very different reason. The raw number of hits on your server gives you an idea of how heavy your traffic is, although it's not the only indicator.

Here's an instance: During the 1995 America's Cup, an Australian sailboat sank while racing. It wasn't just big news, it was huge news. But because of stormy weather, there was no television coverage. So, when we went online with a series of photographs depicting the sinking—scooping even the ubiquitous CNN—the traffic skyrocketed to a point where it almost brought our entire system down.

Compounding the problem was the fact that the photos were large GIF (Graphics Interchange Format) files. This was before JPEG (Joint Photographic Experts Group) images were an option. Not only was the traffic the heaviest to date—on the order of 500,000 hits over a three-day period—the large graphic files slowed the system even more. They were like large semi-trucks crawling up a steep mountain grade, and traffic quickly backed up behind them. We had to move the photographs onto a third server to relieve the congestion at the two primary servers.

The lesson is two-fold: Hits are critical from the standpoint of network administration. But monitoring hits and rerouting network traffic to relieve congestion are not enough. You also need to monitor the number of bytes of information transferred over a given period of time. That tells you the true load on the system. If you're using an ISP to host your site, trust me when I say that you will be alerted if your site generates so much traffic that it begins taxing the resources of the overall network... which is why most ISPs base their fees on the amount of data transferred rather than charge a flat fee.

Preparing for a Stampede

Most Web site operators would love to have the problem of dealing with too much traffic. The question is: How do you anticipate it and prepare for it in advance? The first step is being realistic. The sites with the most traffic are the Web directories, major software vendors, and those with adult materials. And if you're involved with a special event, such as a major international sporting event, you could experience the same situation we had with the America's Cup. Other than that, you're unlikely to be overrun with visitors, at least not at the outset.
Another factor to consider is how much data will be transferred. In the case of software vendors, the files tend to be quite large and can put a heavy load on an ISP's network. Similarly, a Web site with a high percentage of photographs or other graphic images will impose a greater load than one whose files are primarily text.

The best place to start is in choosing a service provider. You may need one with a big pipe to the Net—multiple T-1 lines (a T-1 line is rated at 1.54 megabits per second) or even a T-3 line (rated at 45 megabits per second), which has 28 times the capacity of a T-1 line. Once you choose an ISP, discuss your concerns and make contingency plans. If you are hosting or co-locating your server, having a second computer waiting on the bench may be necessary. If you don’t need it, look at it as an insurance policy against the day your main server falls victim to Finagle’s Law.

Optimizing the Web Site

Another meaningful kernel of information available in a log file is the identity of the user agent, which is the type of Web browser a visitor is using. Knowing this helps you optimize your Web site, ensuring it’s compatible with the range of browsers being used by your visitors.

For example, the America Online default browser has limited capability when compared to the more popular browsers from Netscape and Microsoft. If you discover that a significant percentage of your visitors are AOL subscribers who use the default browser, you may want to establish alternative pages for them or create a special help section to explain the problems they face and what can or cannot be done about it.

Site Analysis

Beyond monitoring, a site also needs periodic analysis to ensure there are no broken links and no missing HTML or graphic files—trust me, these things happen more often than we care to admit. In addition, a site needs analyzing to ensure scripts are functioning, to locate files no longer in use, and to develop an organizational chart and file inventory for overall site management.

The site’s integrity needs to be spot-checked every time it’s updated. One misplaced character in an <A> or <IMG> tag is all it takes to gum a page up. External links need to be checked frequently, because you never know when a target site may change its URL or go offline. Other maintenance activities, such as scanning the site for stale content and bloated files, should be done on a periodic basis—the time frame depending on the size of the site.
Bugs in your Web site create a negative image for your company's products and services, and weeding out unused files frees up wasted disk space. However, this is a laborious, tedious task to do regularly, even with a small site. For a large site, it's impossible, especially if there are multiple people or departments updating it. Fortunately, software for performing these tasks is available.

**Site Analysis Software**

The primary function of site analysis software is finding broken links, missing pages, and broken graphics, as well as identifying unused files. There are at least a dozen Web site management and analysis products on the market from which to choose. I use Linkbot Pro, developed by Tetranet Software and distributed by DITR Marketing (www.ditr.com). It's included on the Companion CD-ROM in the /Resource/Software directory. (You get a 15-day free trial. If you want to buy it, the price is $99; it requires Windows 95 or NT.)

Using Linkbot, as well as related products, is similar to using a Web browser. You enter the URL of the Web site, and the software scans all the HTML files, automatically testing every URL—internal and external—and creating a report (shown in Figure 17-3) of its findings. It also maps the site's structure.

![Figure 17-3: The Linkbot site analysis tool maps the structure of the site and reports the status of the hyperlinks.](image)
Although this genre of software may be installed on a server, it is designed to be used remotely, from the office or home. Prices range from free to about $500. The products on the low end tend to have limited functionality. Software to consider includes those listed in Table 17-3.

<table>
<thead>
<tr>
<th>Product</th>
<th>Manufacturer/Distributor</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Astra SiteManager (Windows 95, NT)</td>
<td>Mercury International (<a href="http://www.merc-int.com">www.merc-int.com</a>)</td>
<td>15-day free trial, $495</td>
</tr>
<tr>
<td>Coast WebMaster (Windows 95, NT)</td>
<td>Coast Software (<a href="http://www.coast.com">www.coast.com</a>)</td>
<td>15-day free trial, $495</td>
</tr>
<tr>
<td>CyberSpyder Link Test (Windows 95)</td>
<td>CyberSpyder, Inc. (<a href="http://www.cyberspyder.com">www.cyberspyder.com</a>)</td>
<td>60-day free trial, $35</td>
</tr>
<tr>
<td>HTML PowerAnalyzer (Windows 95)</td>
<td>OppoSite Software (<a href="http://www.opposite.com">www.opposite.com</a>)</td>
<td>30-day free trial, $24.95</td>
</tr>
<tr>
<td>InfoLink Link Checker (Windows 95)</td>
<td>BiggByte Software, Inc. (<a href="http://www.biggbYTE.com">www.biggbYTE.com</a>)</td>
<td>Free (at this writing)</td>
</tr>
<tr>
<td>Linkbot Pro (Windows 95)</td>
<td>DITR Marketing (<a href="http://www.ditr.com">www.ditr.com</a>)</td>
<td>30-day free trial, $99</td>
</tr>
<tr>
<td>SiteMill (Macintosh)</td>
<td>Adobe Systems (<a href="http://www.adobe.com">www.adobe.com</a>)</td>
<td>$495; upgrade from PageMill, $299</td>
</tr>
</tbody>
</table>

Table 17-3: Site analysis software.

New products are coming to market as the demand for management and analysis tools grows. The list in Table 17-3 is a good starting point, but you should investigate other options as well. When evaluating site analysis software, look for these capabilities:

- Locates broken links, missing pages, and missing images.
- Performs internal HTML editing.
- Locates stale or underused content and unused files.
- Identifies large pages with slow download times.
- Maps out the structure and organization of the site in a graphical depiction or as a tree structure.
- Isolates subsections of the site so you can work on one section at a time.
- Creates an inventory of the site's files.
- Can access password-protected pages.
Chapter 17: Web Site Monitoring & Management

- Allows searches to identify pages with similar elements (e.g., all pages with a specific text string or HTML tag).
- Has high upper limit on the number of URLs that can be tested (some claim the ability to test 50,000 or more).
- Analyzes both Web and File Transfer Protocol (FTP) sites.
- Automates scheduling of Web site analyses.

If you’re not managing the site yourself, you’ll still want to see periodic reports that provide these details. Check with your site manager or Web site host to see what tools are being used and what reports are available. If the answer is none, you can offer some suggestions.

**System Performance**

Beyond evaluating site performance, you also need to monitor overall system performance for access bottlenecks and keep in close contact with your service provider to ensure the route to your site is as clear as possible. Again, this requires an ongoing schedule of system monitoring.

You should test the site regularly and establish a performance baseline. If you notice a decrease in performance, you need to identify the problem and take whatever corrective action you can. It may be a problem with your own site, such as a huge file that somehow snuck onto the server or a problem with a CGI script or Java applet.

Having a neighboring Web site that consumes a high percentage of the provider’s bandwidth also will have a significant impact on the performance of your site. The problem may be out of your immediate control, but you should contact your service provider. I’ve seen sizable performance drops when a new software release is announced or a bulk e-mail distribution is underway. If the problem is recurring, you can ask that corrective measures be taken. In a worst-case scenario, you may have to change providers.

**Site Security**

Computer security is an ongoing issue. If you’re storing credit card numbers or financial data, you become a target for attack, even if from those who are doing it only for the challenge. You should get someone familiar with Internet and computer networking protocols to attempt to breach the security of your site. This should be done routinely, because any time a site is accessed, there is the risk of operator error. A problem could surface that didn’t exist previously.
All networks are vulnerable, and security holes are found routinely by amateurs and pros alike who enjoy making sport of such things. Like mountain climbers, they do it because it's there. Sometimes it's operator error—the system wasn't configured properly—but sometimes it's a problem with the software itself. Regardless of the reason, these people serve as early warning devices.

You should monitor Internet news for reports on such security problems, as well as vendor announcements regarding patches, which are small pieces of software that are installed to correct problems or bugs. If you're not directly responsible for network security, you should contact your service provider and make certain the problems are known and are being resolved.

Another potential security problem is the manner in which credit card numbers are obtained when conducting online transactions. HTML forms have two methods of exchanging data, GET and POST. Using the GET method, credit card numbers are placed in the log file. Anyone with access to the log file would then have access to credit card numbers, too.

Moving On

Your Web site must be functional and bug free to be effective. But it's not enough to know how the site is performing technically. To reap the full benefits of operating a Web site, the traffic that comes through it must be sliced and diced into "byte-sized" demographic morsels. Only then will you have a clear picture of who's using the site and what their interests are.

Armed with this information, you can perform a thorough evaluation of the site's effectiveness in terms of your overall goals and what, if any, impact it's having on your business as a whole. This allows you to more effectively calculate your return on investment and target your marketing—which are discussed in the next chapter.
Return on Investment

We don't have any numbers back on ROI, and anyone who tells you they do is full of it.
—Executive of a large Midwest manufacturer

This chapter is where the process of moving your business into cyberspace comes full circle. Ensuring your move to the electronic frontier is a successful one means identifying the strengths and weaknesses of your program and taking corrective action as needed.

Yet, this is a highly subjective process. As with any marketing-driven program, it's difficult—if not impossible—to crunch a few numbers and come up with an objective, hard-dollar bottom line for your return on investment (ROI).

In this chapter, I'll identify the at-times intangible pieces of the return-on-investment puzzle you must assemble to effectively judge how close you've come to hitting the virtual mark. I also will give you guidelines on how to use your visitor data and feedback to revise your online strategy and budget, as well as to further pinpoint your marketing.
Reviewing ROI

A successful business needs a positive return on investment. But when it comes to the online segment of a business, devising a formula for calculating ROI has proven to be elusive quarry. Not only is it difficult, it may be counter-productive. Operating in cyberspace is a new business model, and short-term financial gain is not the name of the game. Meanwhile, positive returns in less-quantifiable areas also provide alternative measures of success.

Part of the difficulty lies with the fact that your online activities are rarely conducted alone. There are myriad other facets of your business that have an impact on the results you see. At the same time, your online activities will have an impact on the real-world components of your business, even though that impact may be difficult to measure in definitive terms. Most Web sites are for marketing and promotion, and when has anyone been able to calculate a realistic ROI for a marketing program, whether through traditional methods or on the Internet?

Realistic Expectations Needed

If you look for a positive cash flow from your online business segment on a short-term basis, you’re likely to become frustrated and abandon the project before it’s been given a chance to prove its worth. Expecting overnight profitability, in most cases, is not realistic.

Ultimately, your measure of success will be a reflection of your sales, whether of products, services, or advertising. However, if you’re not selling online, you obviously have no sales.

Here are some rough measures you can use: If the Internet/Web is used as an alternative channel for product distribution, the payback may come in seven to 10 months. However, if the Net is being used for marketing and promotion, it may take 15 to 18 months. Some industry analysts peg the number at three years before positive cash flow arrives on the scene.

Having well-defined, long-term goals is the cornerstone of establishing a realistic measure of success. Identifying all the determinants of success and factoring them into the equation will give you a clearer picture regarding your progress and achievements.

The goals, objectives, and budget for the program must be clear, as must the milestones for when these goals and objectives are to be achieved. Only then can you come up with a meaningful picture of your return on investment.

Moreover, because the Net is marketing oriented, we defer to a complex formula that incorporates both direct and indirect methods of measurement.
and in some circles is known as the balanced scorecard approach. In the Internet Scorecard that follows are a baker’s dozen criteria you can use for keeping score. Some criteria involve hard numbers, others indirect and intangible benefits.

<table>
<thead>
<tr>
<th>Internet Scorecard</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criteria</strong></td>
</tr>
<tr>
<td>Sales</td>
</tr>
<tr>
<td>Cost savings</td>
</tr>
<tr>
<td>Growth of business</td>
</tr>
<tr>
<td>Web site traffic</td>
</tr>
<tr>
<td>Customer satisfaction</td>
</tr>
<tr>
<td>Requests for information</td>
</tr>
<tr>
<td>Responses from discussion groups, etc.</td>
</tr>
<tr>
<td>Publicity</td>
</tr>
<tr>
<td>Buy-out offers</td>
</tr>
<tr>
<td>Response to direct mail</td>
</tr>
<tr>
<td>Response to advertising</td>
</tr>
<tr>
<td>Listings in Web directories</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

Crafting specific explanations and rationales for your ratings of each of these criteria will put your program in perspective. Guidelines for utilizing the scorecard are detailed in the sections that follow.

**The Hard Numbers**

My previous comments notwithstanding, there are some hard numbers you can consider. If your Web site is transaction oriented, an initial ROI can be determined by comparing costs to sales revenue. However, there are other factors at play here. Identifying sales directly attributable to your Web site and online activities may be difficult if they are just one element in a broad sales and marketing mix that includes traditional sales, marketing, and advertising programs.

A weight factor of a specific percentage will need to be assigned in order to give the online segment of your business the credit it’s due. You’ll have to decide what it is, for example, 5 percent to start, with a goal of 15 to 20 percent two or three years out.
What’s more, some businesses, such as West Marine (introduced in Chapter 7, “Defining Your Online Strategy”), use their Web sites as an adjunct to their more traditional mail order programs. Calculating a straight ROI against sales directly from the Web may show a loss. But when taking into consideration the increased distribution of the printed catalog and the subsequent orders that came from that increased distribution, the ROI may be a quite satisfactory figure. However, you also must consider what percentage of sales, if any, was cannibalized from your real-world operation.

If you have the budget, commission a market research study to follow up with customers to identify the factors that influenced their buying decisions. This can give you hard numbers on how effective your Web site is at spurring purchases through other channels.

<table>
<thead>
<tr>
<th>That’s Return on Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>“From the perspective of catalog-based (non-pop) record companies, return on investment for Web sites is more than just selling merchandise online. These sites communicate with millions of consumers each year—consumers who are normally very hard and very expensive to reach. Compared with the cost of printed catalogs, direct mail pieces, and traditional advertising, the sites communicate with these consumers for pennies on the dollar. Windham Hill early on commissioned research finding that every seventh visitor to its site purchased a Windham CD at regular retail as a result of their Web visit. That’s return on investment.”</td>
</tr>
<tr>
<td>—Carl Pritzkat, Mediapolis (<a href="http://www.mediapolis.com">www.mediapolis.com</a>)</td>
</tr>
</tbody>
</table>

A publishing-oriented site that relies on advertising to underwrite its costs may be the easiest to evaluate in terms of ROI. However, this type of endeavor must be viewed as a long-term strategy that’s unlikely to yield an immediate return.

Another area in which hard numbers can play a role is cost reduction. In Chapter 7, “Defining Your Online Strategy,” I described how the greatest value of going online may be in saving money as opposed to making money. Try to isolate hard numbers that could substantiate or refute the value of your online program in this regard.

A good place to start is comparing the demand for printed materials to the number of times Web pages containing the same information were hit. If the Web pages had a notable volume of traffic and there was less demand for printed materials, the decreased demand could be attributed to the Web site.
Indirect Benefits: SWAG ROI

In addition to hard numbers, there are indirect measures that can be used as a yardstick to determine the value you're getting from your Web site and your online marketing and advertising campaigns. One of these is the somewhat facetious 'sophisticated wild-ass guess,' or SWAG.

In employing SWAG, you make assumptions based on your best judgment and go with that, keeping an eye open for new ways of measuring your results. For example, sales figures may be difficult or impossible to obtain or to segregate from offline numbers, but you can watch growth. Closely track the overall growth of your business. If any component takes an unexpected or unwarranted up-tick, it could be credited to your online activities and Web site.

Also, identify areas where the publicity and visibility of your Web site and other online activities allowed you to reduce expenditures for costs such as advertising and special promotions. For Progressive Products (introduced in Chapter 7), less than 5 percent of the inquiries from the Web site are bona fide leads. However, that's better than the response received from traditional means. Using the Internet has proven itself as the best marketing tool, given the company's limited budget.

Intangible Facets of ROI

There also are a number of intangible aspects of your online activities that can be plugged into your ROI formula and used to justify your investment.

Web Site Traffic

Get out those traffic analysis reports we discussed at length in the preceding chapter. Was the Web site traffic what you expected? Did it show steady growth following the launch? It's not enough to just count the hits on your Web site. A barometer of progress is the growth in traffic over time.

Customer Satisfaction

Examine the feedback you received online. If it has a positive theme running through it, you're on the right track and can put a checkmark in the plus column. If not, then you've got your work cut out for you.

Requests for Information

Requests for additional information or a print version of your product catalog are positive indicators that people are interested in your products or services. The key is tracking those requests to see if they indicate an expanding market and if they result in increased sales.
Responses From Discussion Groups, Forums & Mailing Lists
I encourage you to drop in on discussion groups and other public information exchanges. This way you can monitor the pulse of your industry and the Net. If the feedback is positive, it's a public relations and marketing coup. If it's negative ... well, you need to take steps to set things straight.

If you participate in the forums, you may be able to quantify results. For example, when HealthWorld Online (www.healthy.net) launched its Web site, discreet announcements were posted in targeted Internet newsgroups and forums within commercial online services. In the first week online, one-third of the visits were from America Online subscribers. They knew their marketing on AOL was a success because of the disproportionate number of hits from AOL.

Publicity
Publicity for your Web site means publicity for your business. Count those press clippings. In terms of marketing, they can mean a lot—in essence, it's free advertising. It also gives you a chance to toot your own horn ... where else? On your Web site.

Buy-out Offers
What better compliment can you be paid? This is more applicable to a business operating solely on the Net, but one never knows ....

Response to Direct Mail
This is one of the most quantifiable points on the list. It's sixth-grade math to calculate the ratio between messages sent and responses received and calculate the ratio between responses received and sales, provided the appropriate tracking mechanisms are in place.

Response From Advertising
Direct responses to advertisements related to your online activities are a measure of success, particularly if they led to sales. The advertising rule of thumb is that an ad must run at least three times to establish product awareness and credibility. That number may be higher online, at least until online advertising has established a stronger foothold.

Listings in Web Directories
You need to conduct searches periodically to determine what Web directories and Web sites have links to your site and how these links are constituted. If
you find that others have established links to your site without your knowl-
edge, it's an indication they believe there's value to be derived from visiting it
(unless it's Useless Web Sites, in which case you may want to rethink your
presentation). It also may open up new marketing channels and opportunities
for forming alliances with others.

Other
This is the catch-all. Doubtless, you will have criteria specific to your business
or industry that you can use to gauge the progress and relative success of your
online endeavor.

ROI vs. Your Goals

With return on investment somewhat of a murky entity in the early stages of
your venture into cyberspace, you will need to rely on an interim evaluation.
This is accomplished by examining the progress you've made relative to your
program's goals and objectives—which means it's time to dust off that
Internet business plan you labored over 11 chapters ago.
In addition to your Internet business plan, gather up a representative
sample of the various manifestations of feedback you have received—e-mail,
surveys, discussion groups, customer complaints, and so on.
It's also time to reassemble your Internet committee—even if it's a commit-
tee of one. But the committee members need to do their homework before
assembling. Their assignment is three-fold: They must (1) collect any informa-
tion they can lay their hands on regarding the Internet program, (2) jot down
their impressions of the project—positive and negative, and (3) have some
fresh ideas on how to improve the program.
Here are some of the items they should have with them:

- Sales reports for online and offline transactions.
- Comments on the strengths of the program.
- Comments on the weaknesses of the program.
- Assessment of budget: sufficient or insufficient.
- Assessment of human resource allocation: sufficient or insufficient.
- Examples of publicity received: print, broadcast, and new media.
- Heard-on-the-street (or -Net) type of comments.
- Examples of what your competitors are doing or not doing vis-à-vis
  the Net.
Comments, suggestions regarding Web site layout and design.
- Trouble reports regarding Internet-related hardware and software.
- Examples of special recognition or awards.
- Results of searches in online directories.
- Assessment of lessons learned.

With these items in hand, you can develop objective responses to the critical questions that must be answered:

1. Where did we exceed our goals?
   - How was this achieved?
   - How can we exploit the success?

2. Where did we meet the goals?
   - How was this achieved?
   - How can we follow up?

3. Where did we fail to meet the goals?
   - Why?
   - How can we correct the problems?

Revising Your Plan

With your responses to the questions detailed in the preceding section, as well as your most sophisticated, wild-ass guess regarding your ROI, you have a healthy perspective of what's possible and what's impractical to achieve online. You have a clearer picture of how well your program did or did not integrate with your business as a whole and what it will cost you to continue along this cyberpath. This gives you the knowledge you need to revise your Internet business plan—your goals and your online strategy—to make them more realistic in terms of what you have learned.

At this point, you've come full circle and, in essence, are beginning anew the cycle of planning, developing, and implementing your online goals and strategies. It's time to revisit the concepts detailed in Chapters 7 and 8—devising an online strategy and establishing a budget. The advantage you have this go-round is that you can benefit from the experience you gained. This will allow you to play to your strengths and shore up your weaknesses.
Your interim evaluation becomes a new task list. Translate the lessons learned into action items. Act on your conclusions and initiate changes in your program. Those areas in which you fell short become top priority. Take corrective action to avoid repeating those mistakes as you continue traveling down the Information Superhighway. The folks at Virtual Vineyards told me the biggest lesson they learned in their first year of operation was that their ambitious Web site development took twice as long to complete and cost four times what they had anticipated.

Your budget will need revision. Typically, initial budgets are underfunded and human resource allocations insufficient. If you’re committed to being online, you need a realistic budget to see it through.

**Customer Feedback**

Feedback from your customers and Web site visitors, along with the demographic data gathered through visitor registration, surveys, and promotions, is meaningful only if put to use. Visitor feedback must be treated seriously and acted upon.

If you’re receiving positive feedback, reinforce it. If visitors suggest ways to improve your program or Web site, take the suggestions to heart. Victoria’s Secret changed the makeup of its online catalog after visitors said they wanted less racy, lacy items typical of the print catalog and more panty hose and girdles.

Deal with criticism diplomatically and take corrective action when warranted. With the ease and speed of communications on the Net, one determined individual can mount a widespread smear campaign with relative ease.

If you obtained demographic information, use the data to evaluate and modify the content of your Web site to better suit your visitor profile. Use the postal codes to identify strong and weak geographical regions. There may be opportunities for cross-promotion in traditional media to drive more of your targeted audience to the Web site.

How are you handling requests for information? Manually or by computer? If it’s being done manually, consider automating the process, as described in Chapter 16, “Update, Upgrade & Promote.” This will ensure there’s an immediate response, and it will reduce your costs.

Have you established a mailing list? If you haven’t done so already, begin an online direct marketing campaign using the list you compile through your online promotional efforts. But monitor the list carefully. If people want to opt-out—that is, they ask to be removed from the list—do it. Don’t just give them lip service.
Refining the Marketing Focus

Critical tools in revamping your online strategy and refining the focus of your marketing are your Web site traffic analysis reports. The statistics are indications of the effectiveness of your online strategy and can signal areas where changes need to and can be made.

If you’re not using cookies or visitor registration to gather specific visitor data, you still can glean appetizing kernels of information from your log file analysis.

Here are ways you can put this information to work for you:

- If you discover that a page with important information is rarely being viewed, it may be that visitors don’t know it’s there. Take a look at your site’s navigational aids. Something as simple as adding or repositioning a link may turn things around. Also consider redirecting traffic with a promotional campaign within the site itself, such as placing banner ads within your own site.

- Examine the most common host domains and consider the demographic implications. For example, if you have a significant percentage of visits from AOL, those visits are more likely to come from homes than offices, with a much higher chance they are by children.

- Host domains also are indicators of how your visitors are gaining access to the Net. For example, you know visitors from AOL or CompuServe have low-speed access. If you have a significant number coming from them, you may need to rethink the design and layout of your Web pages.

- Examine the country of origin. If you have a disproportionate number from a foreign country, there may be a previously unforeseen marketing opportunity there.

- Determine when traffic is heaviest: If it follows the Net pattern, it will be midday on weekdays. This tells you that most visitors are working adults surfing the Web during their lunch hours. But if your traffic surges in the evening hours, your visitors probably are coming from households. Consider the demographic implications of this and how you may be able to refocus your marketing to more effectively target this group.

- Identify the browsers most commonly used by visitors to your site. This will help you optimize your site. You may want to offer alternatives to those with less-functional browsers. The AOL default browser doesn’t support Java, JavaScript, animated GIFs, or background colors in tables. If a significant percentage of your visitors are from AOL, you may need to rethink the design of your Web pages.
Utilizing the referring host and visitor session data, you can correlate where a visitor came from with page views and actions, such as product sales or catalog requests. This is a tremendous way to identify areas to target your marketing and advertising. For example, if you get many referrals from a Web directory but few results, the referrals are of little value, even if you’re the number one link. But if you find you’re getting much better results from the comparatively few referrals you get from Web sites of special interest groups, fan clubs of some sort, or a product review in an online magazine, you can target your promotional efforts there.

Examine the average number of page views per visit. Is it three, eight, 20, or more? This is an indication of how interested your visitors are in the site. If the number is low, you may need to rethink the design, the layout, and even the content.

Examine the average page view duration. If it’s short, maybe your content is not very compelling and needs spicing up.

Using visitor session data, you can compare the duration of a page view to the page’s content to determine if the two figures are consistent with each other. If the duration is shorter than what it would take to read the entire page, then it means the visitors are bailing out early. The page could be too long, slow to load, uninteresting, or something else entirely. Review and modify the page design, then track it to see if there is any improvement.

If you discover a page with a consistently long page-view duration rate, it would be a good candidate for hosting an internal ad. Also consider the possibility of selling space on the page to someone else.

Determine the most common point of entry to your site. Is it the home page or an underlying page? Is there a correlation between it and the referring Uniform Resource Locator (URL)? A promotional or advertising opportunity may exist.

Identify the most common point of departure from your site. Have you inadvertently made another Web site seem more appealing than your own? If so, can you benefit from this with an alliance of some sort? Or maybe you want to delete the link.

Making use of traffic reports is critical to keeping your marketing focused. As you become more comfortable with the data, you’ll find other ways of putting it to use.
Moving On

Looking back to Chapter 1 from this vantage point, it may seem as if you read it eons ago. You have gone from being introduced to the mysterious world of the Internet to being a Netizen. You've gone from your initial exploration of this arcane digital universe to crafting an Internet business plan to scrutinizing Web site traffic reports.

Taking time to review your Internet program, to fine-tune your return-on-investment formula, and to revise your strategy is critical to attaining the goals you established for your online enterprise. It's like taking a noon sight at sea, calculating your position, and charting a new course to get back on a proper heading. Once things are ship-shape, you begin looking ahead, searching the horizon for the best wind as well as any threatening squalls or storm clouds that may be brewing.

This brings us to the eighth and final step of this guide: Look Forward. As we sail the cyberseas into the 21st century, we need to heed the lessons of ships' captains of centuries past: Scan the horizon for good weather and bad.

In the final chapter of this primer, "The Potholes Ahead" (I apologize if the abrupt change of metaphor knocked you overboard), I'll discuss the trends and where they appear to be heading at this juncture. We're rocketing down the Information Superhighway at warp speed. But the paving is not completed and the road is rocky. You need to be vigilant so you can capitalize on improved technology and changes in the marketplace and to respond quickly to any regulatory detours you may be forced to take.
Internet technology changes rapidly. However, early adoption is not always the wisest course. Your financial decisions should be based on knowledge and thoughtful planning, not conjecture or the euphoria that comes with riding the crest of the latest high-tech wave.
The Potholes Ahead

Plenty of businesses are hot to exploit cybersales. I'll bet that most lose their shirts.
—Clifford Stoll, Silicon Snake Oil

When you’re in the fast lane of the Information Superhighway, with your Internet program in high gear, it’s easy to be lulled into believing you can flip on the cruise control and enjoy the ride. Don’t be fooled.

This medium is in a constant state of flux. There are many potholes on the Information Superdirtway. Staying on top of it requires vigilance on your part—a conscious effort to keep abreast of all facets of change. They will have a direct impact upon your business activities, be they online or off... because what we are witnessing—and that of which we are a part—is a communications revolution. It has impacts on our technology, our culture, our laws.

Yet, successfully predicting where the Internet is headed, whether technologically or culturally, is riskier than a roll of the dice in Las Vegas. It behooves anyone staking a claim in cyberspace to keep an eye out for what’s coming around the next cyberbend and the one after that and the one after that.

What it boils down to is this: Doing business online is a process of continuing education. Like it or not, you’re attending CSU—CyberSpace University. If you don’t attend class and do your homework, your competitors will pass you by. Change exemplifies the online universe, and unless you want to be left far behind the madding crowd, you must be committed to keeping pace.

The rapid, head-spinning change in communications technology is the vanguard, spearheading the transformation. These technological changes, in turn, have an impact on our lives and our culture, and only in hindsight will we know their true significance. Moreover, the impact of this technological
change on our lives and culture is not going unnoticed—nor without reproach—at the highest levels of regulatory authority. Laws governing Internet-related technology are in place and additional laws have been proposed.

These three facets of the communications revolution—technology, culture, and regulation—are at the same time agents of change and receptors of change. They are inextricably intertwined, and one cannot stir without affecting the other two. The restriction on the use and export of data encryption technology is just one example. Because of these regulations, U.S. manufacturers of encryption technology face the loss of millions of dollars in business to foreign competitors while U.S. citizens face a further undermining of their privacy.

In this chapter, I will discuss each of the three separately, while at the same time illustrating the interrelationships among them. I’ll discuss the trends and the changes already taking shape as well as the impact they may have on business and marketing, not just in cyberspace but in the real world as well. By monitoring these trends, and new trends as they come along, you hopefully will avoid the potholes ahead.

Technology

As we go to press, just over three years will have passed since I participated in the launch of my first Web project. My then-partner Bruce Gresham and I, in alliance with Science Applications International Corporation (www.saic.com), launched America’s Cup On Line. Our purpose was to provide coverage of an arcane sailboat race that had its inception in 1851 in conjunction with Prince Albert’s Great Exhibition, which showcased the most advanced technological achievements of the day. It was only fitting that the event be covered on the Net.

That was just three years ago. Yet, in terms of the technological changes that have occurred, it feels like three decades. The browser rage of the day was Mosaic—the first one to display graphic images along with text—and the beta version of Netscape Navigator was ensconced within a guild of geeks, not yet ready for prime time. Bill Gates was still scratching his head at the mention of the Web, trying to figure out what all the fuss was about.

Today, we are using technology that we were hesitant to even dream about then: not just images but live video—a crude rendition of digital television—in a Web browser. Imagine that.

Yet, as I look down the track to the next America’s Cup regatta in 1999–2000, I fully expect a full-screen, live video feed from the race course in New Zealand’s Hauraki Gulf—as well as from the 2000 Olympic Games in Sydney, Australia—to be delivered over the Net. I don’t know how it will be achieved, but it won’t surprise me if it is.
Boomtown, CS 01011011

The Internet is a boomtown on the electronic frontier—address: Boomtown, CyberSpace, where all codes, ZIP or otherwise, are binary. The Web is the sector where most of the construction is taking place. Every week more businesses open up shop on the Web, e-commerce is going from lukewarm to pre-boil, and new technological marvels are announced on a daily basis.

Microsoft, the six-ton Godzilla of the software industry, has heightened its effort to bully the town, acquiring and assimilating new technologies and markets—within as well as outside its core business—as it moves from embracing the Net to devouring it. Bill Gates & Co. has extended its tentacles into the broadcast and entertainment industries. The Windows wizards are partners with MSNBC and cable giant Comcast Corporation; they acquired WebTV and Vxtreme, and provided financial backing for a new teen-oriented sitcom. The technological implications of this convergence of computers, television, and programming are mind-boggling.

Not to be outdone, arch rival Netscape has initiated its Netcaster program, making strategic alliances with such media powerhouses as ABC, Disney, CNN Financial, and a host of others. Netcaster, described in greater detail later, allows media companies to deliver news and information to end users over the Web—mimicking TV—instead of waiting for the audience to come to them.

The PC/TV

On the receiving end of things, PCs are becoming more like TVs, and TVs are becoming more like PCs. Set-top boxes such as WebTV currently allow viewers to use their televisions to surf the Web and send and receive e-mail.

A hybrid, interactive device melding the personal computer and television is inevitable, but its ultimate manifestation and use remains to be seen. I say this despite a 1997 survey by Media Matrix that nearly 40 percent of all PC households have the TV on at the same time they are using their PC. (Probably because the television distracts them while they’re waiting for ton-of-bricks Web pages to download.)

The implication is that people are not giving up their television sets any time soon. They won’t have to. They will be channel surfing the way they do now, but instead of flipping between strictly television channels, there will be interactive Web channels.

It’s happening already. So-called “smart TV” allows users to access a CD-ROM or DVD disk and link to the Web. But the real indicator is that the Web, thought to have killed interactive television, may be its savior.
WorldGate Communications is now offering a service that allows viewers to flip between a television program and the Web, where they can visit the home page of the show they're watching. It's insidious, I know, but at this writing, trials are underway in Philadelphia and St. Louis.

What's more, manufacturers Curtis Mathes, Mitsubishi, Samsung, and Sanyo are hawking television sets that contain Internet devices. At the other end of the bandwidth spectrum, Internet access can be achieved with handheld, wireless devices—a new wrinkle in the personal digital assistant, or PDA—opening up a niche opportunity for developers of Web sites optimized for such devices.

On the flip side of the PC-TV coin is the Microsoft-backed "Moesh" teen sitcom that viewers can watch in one corner of their PCs. Interactive windows pop up in which viewers can read about the show and its actors and actresses, write fan mail, and, presumably, order licensed merchandise. The catch, of course, is that viewers will need a new video card for their computers and (you guessed it) the Windows 98 operating system.

Intel already sells a PC card that makes it possible to view a TV program and a related Web page simultaneously. Apple sells a TV/FM radio card for the Macintosh. With television a cultural icon, the manufacturers of computing technology envision greener pastures in the days ahead.

**Net-Based Telcom**

Other telecommunication technologies making their way to the Net are telephone, fax, and video conferencing. These technologies still are rather crude and cannot be considered for serious business use at this time, but they bear watching. Upstart startup WorldCom trumped British Telecom's bid for communications giant MCI Communications. WorldCom president Bernard Ebbers predicts long distance telephone calls will be routed over the Internet. Quality matching what we get with current telecommunication systems may be achieved before the turn of the century.

These technologies have the potential for cutting your operating costs. They may also provide new business opportunities in the scramble to provide services to others. At the same time, these technologies raise questions regarding regulatory issues. How, if at all, will current telecommunication laws apply when these services are delivered over the Net?

The Web browser is becoming the primary interface for desktop computers. Internet protocols are being integrated into more traditional computer programs, such as word processors and spreadsheets. Our options are expanding from Print to Publish on the Web or Send as E-mail.
News Tablet

Nor is the print industry sitting idly by. In his book *Mediamorphosis*, Roger Fidler describes a lightweight electronic tablet that has the dimensions of a magazine and is used for reading news.

The tablet is several years away from being in homes and hotels, but it is in development. Who says we'll never be reading electronic newspapers in the bathroom? The cultural implications are enormous.

Push Comes to Shove

Known generically as push technology (introduced in Chapter 16, "Update, Upgrade & Promote"), the ability to broadcast information in a manner that mimics television is being touted by some as the "second commercial phase" of the Internet. There are several initiatives in development, and how the industry sorts itself out is anyone's guess.

One to watch is the IP Multicast Initiative (www.ipmulticast.com), which is an effort by a number of Internet service providers, as well as technology companies, to deploy an Internet Engineering Task Force technology standard for TV-style broadcasting on the Net. It would allow a single data transmission to be sent to millions of people simultaneously.

This is a huge advance over current push technology, which isn't out of diapers yet. A form of multicast technology is available today, but it's not truly multicast if viewers are spread out geographically. In such cases, it becomes conventional push technology, which allows information to be transmitted, or pushed, to only a single user and is termed unicast. For each additional user, the data may be transmitted simultaneously but must be transmitted separately. With multicast technology, multiple users can tap into the data stream as it passes a router.

The significance is this: Conventional push, or Webcasting, devours bandwidth and raises serious concerns over the ability of the Net's fragile infrastructure to support it. The multicast protocol would require a comparatively microscopic amount of bandwidth and make it a viable form of mass communication.

The Big Push

The value of multicasting and Webcasting technologies is obvious. Instead of waiting for someone to come to your Web site, you can transmit the information to the desktop. It becomes more like television, except that it's interactive. In terms of marketing and advertising, the potential impact is huge. As a commercial enterprise, it also comes with a hefty price tag.
Leaders in providing enabling technology in the Webcasting arena are Netscape with its Netcaster—which comes bundled with Marimba’s Castanet channel tuner, and now Microsoft, which reluctantly agreed to support the Channel Definition Format technology used by Netcaster.

To tune in to Webcasts, users subscribe to information channels, similar to cable television. The difference is not only that it is interactive but also that the programming is available at any time—it’s not limited to a predetermined schedule like television programs. Information can be updated in real time or scheduled for specific times for perusal offline later on. At this writing, few channels were available, but 1998 will be the year of the big push as the Web begins to emulate TV.

**Netscape Netcaster**

To gain perspective on this new information-delivery mechanism, use the Netcaster component of Netscape Communicator. Using Netcaster, you can subscribe to Webcast channels and schedule automatic delivery of the information.

Netcaster supports dynamic HyperText Markup Language (HTML), JavaScript, and Java, which can be used to create highly interactive multimedia presentations. However, the use of needless animation that is characteristic of current programming can be distracting and get in the way of delivering meaningful information.

To use Netcaster, click on the Communicator menu and choose Netcaster (Ctrl/Cmd+8). Starting Netcaster the first time, you may receive a security alert regarding the use of Java. You can either grant or deny the Java-based program permission to run on your computer. However, if you deny it, you can’t use Netcaster.

When the program opens, the Netcaster control panel, or Channel Finder, is placed at the right-hand side of your screen by default. You have the option of moving it to the left side. The window tab with the Netcaster icon is a toggle you can click to hide or display the interface.

Channel Finder offers you a variety of options. The In General menu ranges from Disney to Money.com’s Money Manager to TV Guide Online. The Business Focus menu depicted in Figure 19-1 ranges from CNN Financial to Travelocity. At this writing, however, several of these channels were in the “coming soon” mode.

To subscribe to a channel, click on the title and choose Preview Channel or Add Channel. If you choose to preview it first (which is recommended), you’ll be presented with an overview of the channel’s offerings and the chance to subscribe. If you want to subscribe, click on Add Channel, and it will be added to the My Channels menu automatically.
Figure 19-1: Using Netcaster, you can choose from a selection of channels covering a variety of interests.

The My Channels menu lists all the channels to which you have subscribed and makes each one available with a single mouse click. Unlike television, you can watch multiple channels at once. However, doing so may tax your system resources to the point where everything comes to a standstill.

Netcaster is memory intensive because of the sheer amount of information it must configure for the multimedia presentation. I tested it on a 200-megahertz (MHz) Pentium with 32 megabytes (MB) of random access memory (RAM), and it slowed down the computer significantly. I would not recommend running it on a 486-class Windows or a non-PowerPC Macintosh computer if you want to run other programs at the same time.
Already, predictions are being made by Internet providers and network
administrators that when push comes to shove, there will be an inevitable
backlash. The concern is over the amount of bandwidth that will be consumed
by a technology perceived by some as having questionable value relative to
the underlying infrastructure needed to support it.

**Webcast Network**

Establishing a commercial Webcasting network is not an inexpensive proposi­
tion. It requires a separate server to deliver the information, but that's the least
of your costs. Not only do you need to set up the system for delivering the
content, you also need to develop or obtain enough material to justify the cost
of an ongoing program.

To set up a commercial operation, we're talking six to seven figures to get
started. Using it for internal communications would not be as expensive, but
you'd still have to justify the cost. Webcasting may provide opportunities for
advertising or a business alliance for you, however.

**Mark Up My Words**

New technologies that will affect the way Web pages are marked up and
formatted also are emerging. Dynamic HTML, EXtensible Markup Language
(XML), and cascading style sheets promise to improve control over page
layout and make pages more interactive. They also are likely to make Web
page markup more akin to computer programming.

**Dynamic HTML**

Dynamic HTML gives Web developers greater control over page layout and
design. For instance, it will allow a developer to specify a particular font style
and know the viewer will see it. And not only will the font be a specific style,
it may also be animated and interactive.

In essence, dynamic HTML is composed of applets, or small software pro­
grams, that are downloaded along with the Web page and run in the back­
ground to deliver what can be a multimedia presentation or give the viewer
the opportunity to interact with the presentation and reformat it.

It has promise, but it's likely to be some time before we see it implemented
on a wide scale—and I advise you to proceed cautiously in this regard. There
are several issues. One comes back to bandwidth. Web pages with dynamic
HTML have the potential to become relatively large, depending on how they
are configured (see Figure 19-2). There also is the issue of backward compat­
bility with older Web browsers, as well as the emerging palm-top Internet
access devices that will need fewer, not more, visual features.
However, the fundamental issue with dynamic HTML is compatibility. The primary browser developers, Netscape and Microsoft, use proprietary standards to implement dynamic HTML, rendering each incompatible with the other. Whether the two rivals can agree on an open standard as they have done with Webcasting and the open profile standard is unknown. Internet technology standards are subject to review and adoption by the World Wide Web Consortium (W3C). Keep an eye on this technology, but I wouldn’t embrace it just yet.

**XML**

Just peeking over the horizon is XML, which is a subset of Standard Generalized Markup Language (SGML), as is HTML. However, XML provides more flexibility for designing Web pages than HTML. And, like dynamic HTML, it is more complex and will require greater skill on the part of the developer.
Cascading Style Sheets
Cascading style sheets function as a template for multiple pages within a Web site. They allow Web designers to define a style for an HTML element, such as subject headings, and then apply it to as many Web pages as they wish. Making a change to a style sheet automatically updates every page controlled by that style sheet.

Web Development Costs May Rise
The implication for the business owner of the increasing sophistication of document markup and formatting is this: Adopting these technologies will raise the ante for doing business online. Basic HTML can be learned with relative ease. But dynamic HTML, XML, and cascading style sheets take markup to another level and require a greater degree of knowledge and skill. The bottom line is that you may be able to build an acceptable Web site on your own using HTML, but you will probably need to hire programmers to use these more advanced technologies.

Data Encryption
Data encryption technology is becoming ever more powerful, helping to allay the fears people have of conducting financial transactions online. It also holds the promise of increased privacy and security of electronic communications. The global market for encryption technology over the next decade is estimated to be in the billions of dollars.

Yet, federal agencies have blocked the export of strong encryption technology in the interest of national security, leaving a growth industry unable to compete with foreign manufacturers. Law enforcement officials want a so-called back door that will allow them access to encrypted data in the event the technology is used in the commission of crimes. But this raises the same issues as those related to wiretapping—it has the potential for abuse. Privacy advocates want assurances that private citizens will be protected from unwarranted snooping.

Moore’s Law Still Rules
Enabling this communications revolution are the continuing advances in microchip technology. Chips smaller than a strand of human hair today have greater processing power than desktop computers of a decade ago. Such chips can be used in a broad variety of applications, giving us greater control over virtually every device we use. Picture an environmental management system in your
home that controls the heating, air-conditioning, lighting, plumbing, and appliances. You monitor and adjust the system remotely using a Web browser.

Moore’s Law still applies. In 1965, Gordon Moore, cofounder of Intel, boldly predicted that the transistor count per computer chip would double every year for the next 10 years. Unlike many visionaries, his prediction came to pass, and it was dubbed Moore’s Law.

He subsequently modified his prediction in 1975 to read every two years—and was wrong. The doubling occurred every 18 months, and today it shows no signs of slowing. The Dick Tracy wrist radio is not that far off, folks. And as the processing power of a microchip increases, its relative cost decreases, making it affordable to a broader base of the population—at least that’s what the manufacturers would have us believe.

### Flat Tires on the ISH

We’re also seeing casualties and consolidations—flat tires on the Information Superhighway—as the digital world redefines itself. A decade ago, CompuServe was king and ruled the commercial online services. Today, after facing mounting financial losses, it has been parceled out to America Online and WorldCom—and the Microsoft Network is luring away the more successful forum managers from what’s left of CompuServe’s online service business.

Rumors of consolidation in the Internet backbone sector attain higher credibility with each passing day, and consolidation in the Internet service provider sector resulted in a significant decrease in the number of independent ISPs nationwide in 1997. Microsoft took a bite out of Apple, ensuring the Mac-maker’s short-term survival—but perhaps ultimately pronouncing its death sentence.

And as I detailed in Chapter 5, “Separate Fact From Fantasy,” many Internet-based businesses have already come and gone, many of them casualties of an overly ambitious attempt to make a quick score in a new medium in which technological change far outpaces social change. Social change is occurring, but it’s plodding along, seemingly unconcerned about eating cyberdust.

### Infrastructure Woes

The fundamental concern with the Web, and the Net as a whole, is not enabling technologies. We see something new on a weekly, if not daily, basis, and this will continue in the foreseeable future: new gadgets, new buzzwords, and new “solutions” (in the parlance of unimaginative marketers) at which to throw money.
No, the number-one issue with the Internet is infrastructure. The Net's infrastructure—designed in what effectively was another era—is quite fragile as it is. The high-bandwidth technologies coming online threaten to overwhelm it. And as we become ever more dependent upon it, the more critical its functionality becomes.

The problem is such that private networks are being deployed by researchers so their data flows not just at an acceptable rate but up to one thousand times faster than data transmission rates on the Internet. It was, in fact, one of these private networks that made it possible for millions of people to view the photographs of Mars sent to earth by the Mars Pathfinder. Had the Jet Propulsion Laboratory had to rely on the Internet alone to transmit the images from Houston to the Pasadena Web site, only a fraction of the people would have seen the images while the mission was underway.

What's more, in 1997 alone, there were several brownouts. One was a Domain Name Service (DNS) failure that affected several East Coast states, and another occurred during a power failure that disabled a major Internet hub in the San Francisco area. The domino effect took much of Silicon Valley and Stanford University offline.

The inconveniences caused by these incidents demonstrated how important the Net has become to many businesses and organizations that now use it as a fundamental platform for communication and commerce. Industry officials fear that such problems will become more common and could have a greater impact on the economy as more and more businesses come to rely on the Net.

**Bright Picture From Bright Minds**

The upside of this gloomy picture is that there are bright minds at work developing solutions to these infrastructure problems. As evidenced by the emerging private networks, new technologies are achieving higher data transmission speeds. Greater processing power at the desktop will help relieve bottlenecks at that end. Sandwiched in between, faster routers and switching equipment are being deployed at Internet hubs, upgrading the already-antiquated equipment.

What we are seeing, and will continue to see, is a leapfrog effect. As the information becomes more bandwidth intensive, the infrastructure is upgraded. That, in turn, relieves the pressure, and more appealing but more bandwidth-intensive presentations are developed. Such is life in the fast lane of the Information Superhighway.
Proceed With Caution

Doing business on the Net means living on the bleeding edge. The high-tech wizardry that powers the Internet is changing so rapidly that few are willing to predict the shape of things more than six months out—let alone six years out—except in the broadest of terms. This makes it difficult to justify investments in equipment and software that become last year’s model in a matter of months.

Yet, as new technologies are deployed, it will affect business. It will affect how we market our products and services and how we interact with our customers. We will continue to be bombarded with pitches for the latest and greatest gadgets and gizmos guaranteed to give us the blazing speed we need to handle all the high-bandwidth applications coming down the digital thoroughfare.

Consequently, it’s important that we see the technology for what it is. It provides us with tools we can use to achieve our business as well as our personal goals. It’s easy to become so enamored of technology that it becomes an end in itself, not a means to an end. When adopting new technologies for integration into your business, do so with forethought. Otherwise, you may find yourself incurring expenses for which you will see little or no return.

Proceed cautiously and make the most of the equipment you have. If you need to upgrade a computer for your method of access, get the best you can afford. You’ll get that much more mileage out of it in the long run. Don’t buy technology that is, effectively, outdated simply because you think you’re saving a few dollars short term.

In the final analysis, there are only two things that can go wrong with an investment in computers and software in the short term (less than five years): (1) Your Internet business flounders and you get off the Web, in which case you now have extra computing resources to apply to other parts of your business, such as an intranet. Or (2) your Internet business takes off to the point that your equipment can’t keep up with the demand, at which point, how can you complain about spending more money to improve the system?

The key to moving forward and avoiding the potholes is staying well informed. Keep your eyes open to the trends, whether they are developments in technology, the regulatory arena, or the marketplace. Only then can you make smart decisions regarding the future of your venture into cyberspace.

Culture & Society

The Internet and its communications technology are having an impact on many facets of our lives, and its influence will continue to grow—particularly as PCs and TVs become more alike and, more important, the distinctions
between the content becomes blurred. TV has become such an ingrained element in our lives that the closer the Web comes to emulating TV, the more acceptance it will receive and the more integrated it and other facets of the Net will become in the lives of the general populace.

**Paradox of Change**

Yet, this rapid pace of change presents a paradox. Those on the Net struggle to keep up technologically but are waiting impatiently for society to catch up. The acculturation process—society at large assimilating these changes into its daily life—moves at a much slower gait. Call it the acculturation chasm. The town at the end of the railway is established, but there's no regular passenger service.

The chasm will be bridged as the cost of entry continues to drop, as the content and programming improve, as security is perceived to be tighter. It is happening. Women are migrating to the Net in greater numbers, spurring retail sales. And as the acculturation process continues—as today's youths mature and enter the workplace with the accompanying increase in spending power—their familiarity with the medium will not breed contempt. It will change societal buying habits and how transactions take place.

Contributing to the chasm is fear mongering by the mainstream news media when the Internet is nothing more than an incidental aspect of a story. The coverage of the mass suicide of the Heaven's Gate religious sect illustrates this tendency only too well. When the 39 people took their lives, somehow the Internet was at fault, by many news accounts. Yet, the Internet was far less of a factor in their lives than television—from which most of the finger-pointing occurred.

What will drive the acculturation process is customer service. People are demanding more and receiving more. The Internet offers businesses a marketing opportunity that did not previously exist. But it also gives more power to the consumer.

Banker's hours already are an anachronism. Grocery and department stores are open 24 hours a day. Your online business will never close except when your technology fails you. To succeed on the electronic frontier, you must be positioned to respond to this cybersea change and enter port with the rising tide.

Yet, as this technology creeps ever farther into our collective lives, it raises serious social and cultural issues. Concern over the distribution of pornographic materials led to the enactment by Congress of the ill-fated Communications Decency Act. Child safety in terms of exposure to inappropriate content and child molesters looms large, as do privacy issues, which were
discussed in detail in Chapter 15. These issues demand both technological and regulatory solutions—technology to implement methods of ensuring child safety and personal privacy and regulations to ensure scofflaws can be tracked down, caught, and punished.

**Business & Marketing**

Businesses are moving into cyberspace because it provides a platform not only for reaching broader markets at a reduced cost but also for changing the way buyers and sellers interact. The Internet is becoming the electronic version of door-to-door selling, of getting “up close and personal.”

I can envision a day when a commercial pops up on a PC/TV (or whatever we decide to call it) and the advertiser’s Web address is hypertext. A viewer clicks on it with a wireless mouse and is switched to a Webcast channel where you are standing by and a video conference ensues. The viewer gets immediate answers to his or her questions, and you get a chance to sell a vacuum cleaner. (But no throwing virtual dust on the carpet, please.)

**Competitive Mandate**

The Internet already has evolved from being a savvy marketing strategy to being a competitive mandate in some sectors. The ultraconservative Dow Jones has consolidated its hodgepodge of online activities under the Dow Jones Interactive umbrella and plans to provide access to all its services through a Web browser.

Business-to-business is where the hottest action is today—and will be for the foreseeable future. E-commerce is exemplified by the dealings of manufacturers linked to distributors and distributors linked to retailers—suppliers linked to manufacturers completes the circle.

 Nonetheless, e-commerce also is growing in the consumer sector, albeit at a slower rate. It has the signs of a continuing trend as sellers learn what works and buyers become more comfortable with—and more trusting of—the medium. Security issues, perceived as the biggest stumbling block to online purchasing, is the top issue for the e-commerce vanguard. Great strides are being made to ensure the security of online transactions.

The Net also provides a platform for taking marketing and advertising to a new level. But this raises a red flag for privacy advocates who are legitimately concerned over the amount of personal information that is being distributed online.
**Competition is Real**

The Net already is a bargaining chip for consumers finding discounted merchandise online, then demanding—and receiving—the same discounts from their local real-world retailers. You may be competing with online merchants whether you’re online or not.

As a business person, it’s imperative that you come to grips with this and figure out how to use this reality to your benefit, rather than bemoan the fact that things are no longer the way they were in the good ol’ days.

The key to survival on the electronic frontier is cautious participation, keeping abreast of change, and avoiding unwarranted risks. Yes, some companies are gambling billions of dollars, anticipating not only the technological changes but also the societal changes that must accompany them. But some will lose that gamble. Others have their heads in the sand, hoping it, like the CB radio craze, will go away. It won’t.

How things will pan out is anybody’s guess. No one truly knows. And those who claim to know are only deceiving themselves. What I can tell you is that the Internet train has left the station and is building speed. You still can get on board as it spirals up the cybermountain, but the ticket price is going up, too.

**Regulation**

Their pandering rhetoric notwithstanding, elected officials have demonstrated their willingness to regulate cyberspace. The ill-conceived Communications Decency Act (CDA) of 1997—intended to regulate pornography but assailed for violating First Amendment rights—is the most publicized example of their peremptory bent. Its greatest achievement was clearly illustrating lawmakers’ ignorance of how the Net functions.

Another hotly debated issue is the continued reluctance of lawmakers to relax restrictions on the export of encryption technology. And the impending battle over privacy looms large as we go to press.

The overturning of the CDA was not the death of it, however. That was just the lawmakers testing the waters to see how far they could go before coming up for air. The legislative storm clouds are regathering. Such regulations affect all businesses on the Net, either directly or indirectly; the degree will depend on one’s line of business.

Yet, seemingly not a week goes by that we’re not presented with further evidence of lawmakers’ failure to comprehend what’s happening out here on the electronic frontier. For them, it’s either an opportunity to win votes or expand their revenue base.
That's not to say all regulation and taxation are unwarranted. Left to its own devices, a segment of the population that knows no self-imposed limits always will do whatever it can get away with in the furtherance its own self-serving acts.

**Know the Law**

Regulatory proposals grow from a concern over several issues, including questionable—if not illegal—data-gathering techniques used by online marketers, the flood of electronic mail from bulk mailers, the publication of Social Security information by public and private organizations, and America Online's failed attempt to sell subscriber data to advertisers.

To operate a business successfully on the Net, you need to know the law. It's imperative that you keep abreast of these issues, particularly where privacy is concerned, and participate in the lawmaking process.

At the same time, being in business on the Net requires self-discipline and self-imposed guidelines for what constitutes ethical business practices. Stepping on the soapbox for a moment, I urge you to consider all your actions and activities carefully so that thoughtless, inconsiderate actions—not to mention inarguably illegal activities—don't result in knee-jerk reactions by self-serving politicians searching for election year hot buttons. Having the right to do something does not necessarily mean it's the right thing to do. Refer to the /Resource/Online Resources directory on this book's Companion CD-ROM for information sources accessible online.

**Global Free-Trade Zone**

President Clinton has stated publicly that he does not want to interfere with the growth of electronic commerce and has come out in opposition of new taxes directed at e-commerce. He also has said he will push to make the Internet a global free-trade zone.

If it comes to pass, it would pave the way for fewer restrictions on commerce and greater patent and copyright protection worldwide. Some industry analysts predict that Internet trade, if not burdened by government regulation, could reach $200 billion in the United States by 2000.

However, Clinton did support the CDA and has proven that his stance shifts with the political wind. Not facing reelection, perhaps he will show some spine and we'll see actions that speak louder than his words.
A Taxing Issue

The issue of taxing Internet commerce is on hold temporarily while policymakers and lawmakers regroup and, no doubt, redouble their effort to shore up their respective dwindling tax bases. The tax issue is an intriguing one. As e-commerce—which knows no geographical limits—grows, the geographically bound political bodies struggle to find new sources of revenue as federal funding dries up. In California alone, more than three dozen bills were introduced in 1997 related to the Net—some to guard against new taxes and regulation, others to impose new taxes, restrictions, and mandates.

However, attempts by state and municipal governments to tax online business have fallen short as e-entrepreneurs have mobilized—using their vast communications network—and successfully withstood the attack. How long they can hold out remains to be seen.

Remain Privy to Privacy

Although I discussed the privacy issue at length in Chapter 15, “Marketing Online: A Personal Matter,” it merits further discussion here. Proposed federal legislation, if enacted, could be far-reaching in its impact on how business is conducted online. At last count, there were four bills before Congress, two each in the Senate and House of Representatives. There also is proposed legislation at the state level throughout the country.

Not waiting for Congress to act, the Federal Trade Commission issued an edict to the Internet industry at large: Create a system that allows consumers to be informed of what personal information is being collected—or we’ll do it for you.

As a result, the W3C put its development of the Platform for Privacy Preferences (P3) specification on the fast track. Next year, the P3 spec will be included in toolkits that will let network managers customize their Web site interactivity according to the privacy preferences of visitors to the sites.

This will be implemented, in part, through the Platform for Internet Content Selection (PICS), a system for associating labels with the information made available on the Net, particularly within Web sites. PICS was originally designed to help parents and teachers control what children could reach on the Net, but it also is being used in conjunction with privacy, code signing, and protecting intellectual property rights. This self-rating system was developed by the industry and it is implemented through META tags, as described in Chapter 14, “Hello, World.”

In addition, the proposed Open Profile Standard—which permits individuals to create personal profiles that would be recognized by servers throughout the Net—is on the table and may be adopted as a P3 standard. If so, it will directly impact anyone marketing on the Net.
This needs to be watched closely and quickly integrated into your business if and when it is adopted. You will need to weave it into the fabric of your market research programs.

**Domain Names**

The domain name issue will come to a head in March 1998 when the contract between the National Science Foundation and Network Solutions, which operates the InterNIC, expires. This will change the complexion of domain name makeup and availability, altering the competitive climate in terms of how easy—or difficult, as the case may be—it will be for consumers to locate online products and services.

**Conclusion**

Clifford Stoll notwithstanding, the Internet holds a great deal of promise for a great many businesses. The key is going about it sensibly, establishing realistic goals, setting your hyperbole meter on high, and keeping an eye out for new opportunities—as well as those potholes.

The new breed of technology allows us to communicate as we have never done before. This, in turn, opens new avenues for entrepreneurs to either extend businesses to or create new business within the digital universe we call cyberspace.

Yet, being able to capitalize on these new opportunities carries with it responsibilities in terms of the impact our activities have on others, be they business people, household consumers, or children. Business may be conducted within a burgeoning technical realm, but the actions evoke reactions within our culture and society at large, as well as at the regulatory level. The communications revolution may be chaotic, but it is not anarchic.

And with that, I bid you adieu. Yes, it's come to this. It's time to say good-bye.

You've come a long way in these 400-odd pages, from learning what the Internet is (and is not) to looking toward the horizon in order to divine what lies ahead. And like me committing these thoughts to paper, you have probably been wondering when, if ever, it would end.

Well, you made it. Good going. Now, get going! It's time to take off the training wheels and wobble down the Information Superhighway on your own.

Good luck, be well, and do good things.
The CD-ROM included with your copy of the *Official Netscape Internet Business Starter Kit* includes valuable shareware. It also contains worksheets, checklists, and HTML templates, which can be found in the Resources folder.

**Navigating the CD-ROM**

**Macintosh**

Double-click on the Launch Mac file.

**WINDOWS 95/NT**

Double-click on the LAUNCH32.EXE file, or go to START | RUN and type `d:\launch.exe` (where `d` is the name of your CD-ROM drive) in the space provided.

**WINDOWS 3.1x**

Double-click on the LAUNCH16.EXE file in File Manager, or go to FILE | RUN and type `d:\launch16.exe` (where `d` is the name of your CD-ROM drive) in the space provided.

You will see a small menu screen offering several button choices. You can navigate around the CD-ROM via these buttons.
## Software

The software provided on the Companion CD-ROM is described below in Table A-1.

<table>
<thead>
<tr>
<th>Software</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adobe Acrobat Reader</td>
<td>The Adobe Acrobat Reader allows you to view, navigate, and print PDF files across all major computing platforms. Acrobat Reader is the free viewing companion to Adobe Acrobat 3.0 and to Acrobat Capture software. For more information, visit <a href="http://www.adobe.com">http://www.adobe.com</a>.</td>
</tr>
<tr>
<td>Anawave WebSnake</td>
<td>A powerful offline browser designed for Windows 95/NT. In addition to traditional offline browsing, WebSnake also supports Web site mirroring (including directory structure), retrieval of e-mail addresses, site maps, and advanced file search.</td>
</tr>
<tr>
<td>BBEdit demo</td>
<td>This is a demo version of BBEdit. The demo is save-disabled, but is otherwise fully functional. This provides the best way to get the feel for BBEdit’s power and capabilities. For more information about BBEdit, or to order the full commercial version, visit BareBones Software at <a href="http://www.barebones.com">http://www.barebones.com</a>.</td>
</tr>
<tr>
<td>BBEdit Lite</td>
<td>BBEdit Lite is a freeware text editor built on the same foundation as the commercial version. For more information or to download the latest version visit <a href="http://www.barebones.com">http://www.barebones.com</a> on the World Wide Web.</td>
</tr>
<tr>
<td>Crescendo</td>
<td>Crescendo is a MIDI plug-in for Netscape 2.0 browsers which lets users listen to MIDI files embedded in Web pages. Web site developers can now add background music to their web pages. You need Apple Quicktime 2.1 or greater to use this plug-in.</td>
</tr>
<tr>
<td>Eudora Lite</td>
<td>With nearly 3 million users, Eudora is the most popular and proven electronic mail software on the Internet. Eudora’s easy-to-use features save you time in composing, organizing, and replying to your electronic mail. Visit <a href="http://www.eudora.com">http://www.eudora.com</a>.</td>
</tr>
</tbody>
</table>
### Appendix A: About the Companion CD-ROM

**Software** | **Description**
--- | ---
Fractal Design Detailer | An amazing graphics program that lets you paint directly onto the surface of 3D models. It's the closest thing to actually holding an object in your hand and painting it! If you’re a 3D artist, Detailer is a one-stop shop for creating texture, bump, and other surface maps for your 3D models. You'll enjoy substantial time savings, increased accuracy, greater control, and real-time results. If you’re a 2D artist, Detailer provides the enormous flexibility of 3D with the compositional simplicity of 2D. With Detailer, you can easily create rendered 3D objects which become elements of your image-editing designs. The Detailer demo is a save-disabled version of this award-winning application for MacOS. It will show you all the capabilities but without the ability to save, print, export, or copy objects to another application.

GIF/JPEG SmartSaver | A nondestructive WYSIWYG image optimization utility, GIF/JPEG SmartSaver features side-by-side image previews and file size comparisons. Allows you to reduce colors in GIF images, using Netscape Navigator and Internet Explorer safe palettes. Lets you quickly reduce colors in GIF images to ensure the ideal compression/quality ratio for JPEG images. Batch processing of images at different color and compression ranges offers fast fine-tuning for perfectly optimized images.

Goldwave | Chris Craig’s Goldwave is a digital audio player, editor, recorder, and converter, complete with Java and Web audio format support. The application has full editing features, such as copy, cut, paste, trim, and mix as well as a large selection of effects, including echo, flange, doppler, and parametric EQ.


ICE Web Server Indexing servers Package | ICE is an easy-to-install software package that makes Web searchable. It is written in Perl and runs on UNIX, MacOS, and Windows.
<table>
<thead>
<tr>
<th>Software</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linkbot Pro</td>
<td>Linkbot is the ultimate link verification and site management tool. Say good-bye to broken links. It automates routine maintenance and testing, checks internal and external HTTP and FTP links, creates a what's new and what's old page, and maps the structure of your site. For more information, visit <a href="http://www.ditr.com/software/linkbot/info_linkbot.html">http://www.ditr.com/software/linkbot/info_linkbot.html</a> on the World Wide Web.</td>
</tr>
<tr>
<td>Kai's Power Tools 3.0 demo</td>
<td>KPT 3.0 is available as a 32-bit native application extension for the Intel-based Windows 95/NT platforms, as well as for the Apple Macintosh/Power Macintosh platforms. Kai's Power Tools 3.0 is a unique and powerful collection of extensions that expand the power of image-editing applications which support the Adobe plug-in specifications. Visit <a href="http://www.metatools.com">http://www.metatools.com</a>.</td>
</tr>
<tr>
<td>MapEdit</td>
<td>Boutell.Com, Inc.'s graphical editor for World Wide Web image maps (clickable image maps). With Mapedit and the latest Web browsers, you can use client-side image maps, which reside in your HTML page and are very easy to create. Mapedit will also create server-side maps for backward compatibility with old browsers.</td>
</tr>
<tr>
<td>Mapper</td>
<td>Mapper is the easiest way to create image maps (for the World Wide Web in CERN, NCSA, and client-side formats). It combines an easy-to-use WYSIWYG interface with powerful tools which will be useful even for the most experienced user. Just open the image, place the objects, and save! Mapper can open and save in all formats. Requires: System 6.0.7, QuickTime to open GIF and JPEG files. Visit <a href="http://www.calles.pp.se/nisseb">http://www.calles.pp.se/nisseb</a>.</td>
</tr>
<tr>
<td>Perl for ISAPI Intel/x86</td>
<td>The Perl for ISAPI Intel/x86 binary allows the Microsoft IIS Web server to execute Perl programs directly, without having to use the CGI method of Web programming. This eliminates a lot of the overhead of CGI and speeds up your Perl-based Web programs. For more information, visit ActiveState's homepage at <a href="http://www.activeware.com">http://www.activeware.com</a>.</td>
</tr>
<tr>
<td>Perl for Win32</td>
<td>ActiveWare Tool Corp.'s Perl for Win32 binary is a port of most of the functionality in Perl, with extra Win32 API calls that allow you to take advantage of native Windows functionality. Perl for Win32 runs on Windows 95 and Windows NT 3.5 and later. The Perl for Win32 package contains perl.exe, perlx00.dll, supporting documents, and extensions that allow you to call Win32 functionality. For more information, visit ActiveWare's homepage at <a href="http://www.activeware.com">http://www.activeware.com</a>.</td>
</tr>
</tbody>
</table>
## Appendix A: About the Companion CD-ROM

<table>
<thead>
<tr>
<th>Software</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photolmpact GIF Animator</td>
<td>An award-winning 32-bit GIF animation composition tool that provides an intuitive workspace for producing compact GIF89a animations. Photolmpact GIF Animator features advanced color palette and optimization controls, powerful design features, and special effects. GIF Animator offers nine transition effects, including blind, split, and spiral, which give you variations for starting and closing your animations. An Add Banner Text dialog box lets you create scrolling text banners anywhere within your animation. Smart frame comparison chooses the best options for reducing frame sizes, and auto palette optimization converts any local palettes and reduces the global palette to only the needed colors. Visit <a href="http://www.ulead.com">http://www.ulead.com</a>.</td>
</tr>
<tr>
<td>Photolmpact GIF Optimizer</td>
<td>A Web imaging tool, Photolmpact GIF Optimizer batch optimizes GIF files to produce savable reports listing before/after file sizes for each file optimized, plus the total savings per folder. Eliminates duplicate colors, pixels, and nonessential elements to ensure foolproof optimization of the exact same image quality. Only redundant pixels and colors are deleted. No need for an image editing application; GIF Optimizer automatically goes through an entire list of GIF files at the click of a button. Works on single files, folders, or entire Web sites to reduce bandwidth, lower storage, and improve Web site performance. Visit <a href="http://www.ulead.com">http://www.ulead.com</a>.</td>
</tr>
<tr>
<td>Stufflt Expander (for Mac)</td>
<td>Because many files are distributed over the Internet in some sort of compressed archive format and you need a program to uncompress and convert those files into something more useful, Stufflt Expander is the quintessential helper application.</td>
</tr>
<tr>
<td>VDOlive Player/Plug-In</td>
<td>The VDOlive Player enables you to see VDOlive clips and movies. For more information, go to VDO's Web site, at <a href="http://www.vdo.net">http://www.vdo.net</a>.</td>
</tr>
<tr>
<td>Software</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>VideoCraft GIF Animator</td>
<td>VideoCraft GIF Animator features seven powerful effects editors to create stunning Web animations and video special effects. Besides animated effects such as morphing and distorting, VideoCraft can be used to convert existing ALL files to GIF animations. Check out <a href="http://www.andatech.com">http://www.andatech.com</a>.</td>
</tr>
<tr>
<td>WebTrends</td>
<td>WebTrends is a 32-bit Windows application compatible with Windows NT 3.51, 4.0, and Windows 95. WebTrends analyzes the log files created by your Web servers and provides you with invaluable information about your World Wide Web site and the users who access it. Reports generated by WebTrends include statistical information as well as colorful graphs that show trends, usage, market share, and much more. Reports can be generated as HTML files that can be viewed by any browser on your local system or remotely from anywhere on the Internet with any browser. Visit <a href="http://www.webtrends.com">http://www.webtrends.com</a>.</td>
</tr>
<tr>
<td>WinZip</td>
<td>This ingenious tool from Nico Mak Computing, Inc. brings the convenience of Windows to the use of Zip files and other compression formats. WinZip includes an intuitive point-and-click, drag-and-drop interface for viewing, running, extracting, adding, deleting, and testing files in archives. The optional WinZip Wizard feature uses a standard and familiar &quot;wizard&quot; interface to simplify the process of unzipping and installing software distributed in Zip files. The Wizard is not targeted at experienced users, but is ideal for the rapidly growing number of PC users getting started with Zip files. Included with this WinZip package is the WinZip Self-Extractor which allows you to create files that unzip themselves. The Self-Extractor allows you to send compressed files to users who may not own or know how to use file compression software. For more information about Nico Mak Computing, Inc. products, visit <a href="http://www.winzip.com">http://www.winzip.com</a>.</td>
</tr>
</tbody>
</table>
Appendix A: About the Companion CD-ROM

<table>
<thead>
<tr>
<th>Software</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WinZip Self-Extractor</td>
<td>This is a shareware utility program that creates native Windows self-extracting Zip files. These self-extracting Zip files are ideal for electronic file distribution because they: (1) can contain multiple compressed files, ensuring that important files do not become separated from the rest of the package; (2) allow the receiver to use a familiar Windows interface to decompress files, without owning or knowing how to use a separate unzip utility; and (3) optionally run a “setup” or “installation” program, which may be included by the developer when the files are decompressed. WinZip Self-Extractor is shareware. Please go to <a href="http://www.winzip.com">http://www.winzip.com</a> to register this product if you plan to keep it.</td>
</tr>
<tr>
<td>WS_FTP32 LE</td>
<td>File transfer client with a highly intuitive graphical user interface.</td>
</tr>
</tbody>
</table>

*Table A-1: Software on the Companion CD-ROM.*

**Technical Support**

Technical support is available for installation-related problems only. The technical support office is open from 8:00 A.M. to 6:00 P.M. Monday through Friday and can be reached via the following methods:

- **Phone:** (919) 544-9404 extension 81
- **Faxback Answer System:** (919) 544-9404 extension 85
- **E-mail:** help@vmedia.com
- **FAX:** (919) 544-9472
- **World Wide Web:** [http://www.vmedia.com/support](http://www.vmedia.com/support)
- **America Online:** keyword *Ventana*

**Limits of Liability & Disclaimer of Warranty**

The author and publisher of this book have used their best efforts in preparing the CD-ROM and the programs contained in it. These efforts include the development, research, and testing of the theories and programs to determine their effectiveness. The author and publisher make no warranty of any kind expressed or implied, with regard to these programs or the documentation contained in this book.
The author and publisher shall not be liable in the event of incidental or consequential damages in connection with, or arising out of, the furnishing, performance, or use of the programs, associated instructions, and/or claims of productivity gains.

If there is software on this CD-ROM, then it may be shareware. There may be additional charges (owed to the software authors/makers) incurred for their registration and continued use. See individual program's README files for more information.
You have three options for obtaining Netscape Communicator. You can get it online by downloading an unregistered or prerelease version from the Netscape Communications Corp. home page on the World Wide Web; you can purchase and download a registered version online in the Netscape Store; or you can purchase a registered, boxed copy from a computer software retailer.

What You Can Download

You have several versions of Netscape Communicator from which to choose. I'll narrow the choices for you. You can download either a release version 4.0 or the current prerelease version 4.x. You also can choose either the Standard or Pro version. The Standard version includes:

- **Navigator.** An extended Web browser.
- **Messenger Mailbox.** E-mail program for sending and receiving messages.
- **Collabra Discussion Groups.** Online discussion forums; join and participate.
- **Composer.** WYSIWYG (what you see is what you get) HyperText Markup Language (HTML) editor.

The standard version does not include the Calendar, Conferencing, or IBM mainframe access options.
I recommend downloading a Standard release version for now; it has been field tested and will have the major bugs worked out. You’re also entitled to technical support, if you purchase it.

A prerelease or beta version is more likely to have bugs in the new features and may cause you more headaches than it’s worth. There is no technical support for prerelease or beta software beyond what’s in the online Help section.

I also recommend the Standard version to get started, unless you’re experienced with Internet software and won’t have as steep of a learning curve as someone who is relatively new to the Net. You can always get the Pro version later. Plus, if you’re using a modem for access, the download time will be shorter for the Standard version.

**Where to Download**

To download an unregistered version of Communicator 4.0, start at Netscape’s home page (http://home.netscape.com/) because they tend to move things around. The link to the current download section should be prominently displayed, or you can click on Products on the main menu. The unregistered version is free, but you will not be entitled to technical support.

At the download page, you will be asked to specify whether you want the Standard or Pro version and what type of computer you have. After making the appropriate selections, you will be presented with a direct link to the program file. Click on the link and it will begin downloading the compressed, self-extracting file—unless the server is busy. (It’s best to do this outside of normal business hours, when the servers are not so busy.) These are large files—12.7 megabytes (MB) for the Standard version and 15MB for the Pro version—so they will take more than an hour to download using a 28.8-kilobit-per-second (kbps) modem.

**Tip:**

Before downloading the software, create a “temp” or “install” folder on your hard drive, if you don’t already have one. This is where you will store the software program temporarily until you install it. When you start the download process, you will be asked where you want to save the file. Select this folder. If you’re not asked where to save the file, jot down the filename as it downloads so you can do a search for it after the download is complete. The filename will be something like cc32e40.exe for Windows users and Com4_03BasePPCEnExport.exe for Macintosh users.
## Download Specifications

<table>
<thead>
<tr>
<th>Standard Version</th>
<th>Windows 3.1</th>
<th>Win95/NT</th>
<th>Mac PPC/68k</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Installation</td>
<td>Download file size</td>
<td>11.6MB</td>
<td>8.3MB</td>
</tr>
<tr>
<td></td>
<td>Download w/28.8 modem</td>
<td>75 min.</td>
<td>54 min.</td>
</tr>
<tr>
<td></td>
<td>Installed file size</td>
<td>20MB</td>
<td>16MB</td>
</tr>
<tr>
<td></td>
<td>Price</td>
<td>US$59</td>
<td>US$59</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard Version</th>
<th>Windows 3.1</th>
<th>Win95/NT</th>
<th>Mac PPC/68k</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Components</td>
<td>Download file size</td>
<td>15.9MB</td>
<td>13.6MB</td>
</tr>
<tr>
<td></td>
<td>Download w/28.8 modem</td>
<td>103 min.</td>
<td>88 min.</td>
</tr>
<tr>
<td></td>
<td>Installed file size</td>
<td>32MB</td>
<td>30MB</td>
</tr>
<tr>
<td></td>
<td>Price</td>
<td>US$59</td>
<td>US$59</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pro Version</th>
<th>Windows 3.1</th>
<th>Win95/NT</th>
<th>Mac PPC only</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Components</td>
<td>Download file size</td>
<td>15.6MB</td>
<td>18MB</td>
</tr>
<tr>
<td></td>
<td>Download w/28.8 modem</td>
<td>101 min.</td>
<td>116 min.</td>
</tr>
<tr>
<td></td>
<td>Installed file size</td>
<td>32MB</td>
<td>40MB</td>
</tr>
<tr>
<td></td>
<td>Price</td>
<td>US$59</td>
<td>US$79</td>
</tr>
</tbody>
</table>

*Table B-1: Download specifications.*

## Purchasing the Software

If you wish to have technical support and/or receive free software upgrades at no charge or at a discounted price, you will need to purchase the software. You can do this online at the Netscape General Store (http://home.netscape.com—just click on Netscape Store on the navigation bar), or you can obtain it from a software retail store. You also can contact Netscape Corporate Sales: 415-937-2555; Personal Sales: 415-937-3777; or Government Sales: 415-937-3678.
Installing the Communicator Software

Once you have the file in your computer, installation is a snap compared to the bad ol’ days of computing before the WIMP (Windows Interface, Mouse Pointer) Era, when we typed all the instructions from a command line.

1. Open the temporary folder that contains the compressed, self-extracting .EXE (Windows) or .BIN (Macintosh) file.

2. Double-click on the filename. This will extract, or unpack, the program files and place them in the temporary directory.

3. Double-click on the Setup file. This launches the setup wizard, which will prompt you to pick a directory where the program will reside. If you have Netscape Navigator already installed, you can install Communicator in the same directory. This will preserve your current settings and bookmark file.

4. Follow the instructions presented by the setup wizard, which will guide you through the process, and you’re almost ready to go.

5. Enter the names of the users; Communicator permits multiple users to tailor several options for their own use. Unless you’re sharing your computer with others, set it up with yourself as the only user. If you need to, you can add others later.

Upgrading the Software

The simplest method of upgrading your Netscape software is by installing Communicator over your current version of Netscape Navigator. This preserves your current settings, or preferences, address book, mail messages, discussion group subscriptions, and bookmark file. However, if you want to install Communicator in a separate folder or directory, you will need to copy these files to the new folder.

To upgrade Communicator with later releases, repeat the download and installation process described earlier, replacing the older version with the newer version. Your preferences and other settings will be preserved and automatically included in the upgraded version.

Preferences

Once Communicator is installed, you’ll want to set your preferences, which specify the default settings every time you open it. To set your preferences, click on Edit and choose Preferences at the bottom of the menu. This will open the Preferences panel. You have six categories from which to choose, and each of these has subcategories.
Appendix B: How to Obtain & Install Netscape Communicator

Appearance
To get started, click on Appearance. You can select the components that will be launched when you start up the program, as well as select toolbar configuration. For now, select Navigator, which is the browser, and Text Only, which will increase the size of the browser's viewing window. Leave the Fonts and Colors settings where they are for now. You can always change them later.

Navigator
In the Navigator category, you can choose how you want Navigator to appear onscreen upon start-up. You can specify a blank page, your home page, or the last page you visited. Click in the box of your choice. In the Home Page dialog box, you can enter the Uniform Resource Locator (URL) of your home page. If you don't have a home page, either leave it blank or enter the URL of the site you wish to be loaded automatically upon start-up. In the History section, specify how many days you want Communicator to show URLs as having been visited. Set it to 10 days for now. Leave the Fonts and Colors settings where they are. You can experiment with them later, after you've had a chance to try out the software.

Mail & Groups
The Mail & Groups category is where you set your preferences and establish your identity for e-mail and discussion groups.

1. Click on the "+" sign to the left of Mail & Groups to expand the options list. The critical items are Identity and Mail Server. Your Internet service provider (ISP) or network administrator should have given you an e-mail address and the server identity information.

2. Click on Identity and add your name and e-mail address.

3. Click on Mail Server and add the server identity information.

Composer
Skip Composer for now. It's dealt with in Chapter 11, "Using Netscape Composer."

Offline
In the Offline category, you can choose to have Communicator connect to a network immediately upon starting up, or start up in an offline mode, or prompt you for a decision.
If you are using a network that connects you to the Internet continuously, the Online Work Mode is optimal. Select Offline Work Mode to disable Communicator from beginning a network connection each time you start the program. Select Ask Me if you want Communicator to present a dialog box upon start-up asking if you want to begin with a network connection or not. If you are using a modem, select the Offline Work Mode.

**Advanced**

In the Advanced category, the default settings are to automatically load images when they are embedded in a Web page and to enable Java, JavaScript, style sheets, autoinstall, and sending an e-mail address when logging into an anonymous File Transfer Protocol (FTP) site. Leave these where they are for now.

Your other option involves cookies, which is a small data file placed on your computer by a Web server so it can remember who you are. Cookies are discussed at length in this book. For now, keep the default setting. After you read about cookies, you can return here and change this if you wish.

Click on OK, and you're ready to use Communicator.
Glossary

Aiff  A type of sound file generally used by Macintosh computers.

Animated GIF  A series of GIF images bundled together and displayed sequentially like a slide show or cel animation. See GIF.

Applet  A small software program, usually created with the Java programming language and associated with Web pages.

Attribute  A property of an HTML tag that defines specific parameters, such as color, width, or size.

ATM  Asynchronous transfer mode. Describes a type of network topology for integrating communication networks.

Attachment  A file combined with an e-mail message using the MIME format.

Au  A type of sound file, originally created for UNIX.

Bandwidth  Refers to the capacity of a data transmission line. Think of it in terms of the size of a water pipe. The wider the pipe, the greater the capacity, or bandwidth.

Binary  A numbering system used in computing that has two as its base; all number sequences consist entirely of zeros and ones.

Bit  The smallest unit of binary data; b(inary + dig)it.

Bookmark  A URL stored in a file by a Web browser for quick reference.

Browser  A software program used to retrieve HTML documents (Web pages) and display them on a computer screen.

Byte  The equivalent to one text character; consists of eight bits.

Cache  Temporary file storage. A Web browser caches the files it downloads from Web sites.

Cell  The data container within an HTML table.
CERN  Conseil Europeen pour la Recherche Nucleaire, the European Laboratory for Particle Physics. It is located near Geneva in Switzerland, and is the birthplace of the World Wide Web.

CGI  Common Gateway Interface. An interface between Web server and Web browser that passes information between the browser and server. A CGI script enables an HTML form.

Channel Definition Format  A technology standard that defines Webcasting channels for the delivery of rich media to the desktop over the Internet.

Chat  A real-time online discussion group.

Click stream  A series of URLs that have been clicked by Web users.

Click-stream analysis  A report of the clicks recorded in a click stream.

Click-through  A Web advertising term meaning that a user has clicked on an online advertisement.

Client/Server  A collaborative relationship between two computers and/or software programs. The client sends a request for information to the server, and the server replies by sending, or serving, that information to the client.

Codec  An abbreviation of compression/decompression technology, which is used to deliver video over the Internet.

Commerce server  See Merchant server.

Cookie  Persistent, client-side state token used to store and retrieve information from a Web site visitor's computer.

Dial-up account  A connection to the Internet using a standard telephone line and an analog modem.

DNS  Can mean Domain Name System, Domain Name Service, or Domain Name Server. Refers to a system devised to associate words comprehensible to humans with the IP addresses of computers connected to the Internet.

Domain name  A term comprehensible to humans that serves as an alias for a numeric IP address that computers use to identify one another. See IP address.

DSL  Digital Subscriber Line. A technology in which a digital signal is transmitted over the largest copper telephone lines, capable of supporting data transmission speeds up to 6 mbps. It is often written as xDSL to signify that there are several manifestations of DSL technology, including Integrated (IDSL), High-bit-rate (HDSL), Asymmetric (ADSL), and Symmetric (SDSL).
Dynamic HTML  An evolution of HTML composed of applets, or small software programs, that are downloaded along with the Web page and run in the background to deliver what can be a multimedia presentation or give the viewer the opportunity to interact with the presentation and reformat it.

E-commerce  Electronic commerce. Commercial transactions conducted online.

E-mail header  Information that indicates where a mail message came from and where it's headed. Computers use this information to route messages across the Net.

Electronic shopping cart  Software designed to facilitate the selection and purchase of goods and services online.

Extranet  An intranet opened to others outside an organization.

FAQ  Frequently asked question or questions; typically a list of answers to common questions regarding a particular topic.

Flame  An inflammatory, uncomplimentary e-mail message usually sent in response to a breach of Netiquette.

Font  A set of characters that makes up a specific typeface, such as Helvetica or Times Roman.

Frame  A division or cell of a Web page window.

Frames  A style of Web page layout in which two or more Web pages may be viewed simultaneously.

FTP  File Transfer Protocol. A technical standard that allows dissimilar as well as similar computer platforms to send and receive files to and from one another.

GIF  Graphics Interchange Format. An image file format commonly used in the display of graphics or photographs in Web documents.

Helper application  A software program launched automatically to handle a file the browser is not capable of handling.

Hit  A request to a Web server for a single file.

Home page  The entry or top-level page of a Web site. Sometimes used synonymously with Web site.

Host  A server computer housing software and providing a service to Internet-connected computers.
HTML  HyperText Markup Language. The *lingua franca* of the Web. This coding is what formats Web pages and creates hypertext, the hot links that allow you to point and click your way around the Web. HTML is the lifeblood of electronic publishing on the Internet. The filename extension appears as .html and .htm.

**HTML tag or element**  A set of text characters that define the style and layout of a Web page. The tag is enclosed in a set of angle brackets, e.g., `<HTML>`.

**HTTP**  HyperText Transfer Protocol. A technical standard for delivering Web pages to Web browsers.

**HTTPd**  An HTTP-compatible server for making hypertext and other documents available to Web browsers.

**Hyperlink**  *See Hypertext.*

**Hypertext**  The "hot" text that lets you point and click your way around the Web. A link to another Web page or specific spot on the same page containing the link. The text is usually blue and underlined and turns red or violet after it's been clicked.

**IETF**  Internet Engineering Task Force. A group of individuals who recommend and review the technical specifications and standards of the Internet.

**Internet**  *See Chapter 1.*

**Intranet**  A private network built on the open standards of Internet protocols.

**Internet Relay Chat**  Real-time (live) discussion group on the Internet.

**IP**  Internet Protocol. A set of standards that govern the transmission of information on the Internet.

**IP address**  An Internet machine or computer address formatted with numbers (e.g., 199.2.50.14). *See Domain name.*

**ISDN**  Integrated Services Digital Network. A set of standards for transmitting digital information over standard telephone lines. Transmission speeds range from 56 kbps to 128 kbps.

**ISP**  Internet service provider. A business offering Internet access accounts to individuals, businesses, and other organizations.

**Java**  A computer programming language developed by Sun Microsystems for use with Internet applications.

**JavaScript**  A Java-based scripted language used to provide added functionality to Web pages.
JPEG  Joint Photographic Experts Group. A graphic image compression format. The filename extension generally appears as .jpg.

JScript  Microsoft Corporation's version of JavaScript.

kbps  Kilobits per second. Signifies the data transmission speeds or capacity of modems, data transmission lines, and other data transmission devices.

Kilobyte  One thousand bytes; abbreviated as K. A measure of data file size. One byte is equivalent to one text character and consists of eight bits.

LAN  Local Area Network.

 Listserv  A mailing list or the software to administer a mailing list.

 Magic cookie  See Cookie.

 Mailing list  A type of discussion group, but instead of messages being sent to a central location, they are exchanged using e-mail. See Listserv.

 Majordomo  UNIX-based mailing list software.

MB  Megabyte; 1 million bytes or 1,000 kilobytes. A measure of file size.

Mbps  Megabits per second (1,000,000 bps). Generally refers to a data transmission speed.

Merchant server  Software designed to facilitate electronic commerce and secure online transactions.

MIDI  Musical Instrument Digital Interface. Synthesized sound created with a computer. MIDI files are much smaller than conventional audio files.

MIME  Multipurpose Internet Mail Extensions. A protocol that allows files to be attached to an e-mail message and transmitted across the Internet without losing their original formatting.

Modem  Short for modulate/demodulate. An electronic device that is connected to your computer and allows you to dial into an Internet service provider (ISP) over a plain old telephone line by modulating the signal from digital (your computer) to analog (the telephone service) and back again.

Mosaic  The first graphical Web browser and forerunner of Netscape Navigator.

MPEG  Motion Pictures Experts Group. A file compression format encompassing video, audio, and a combination of the two; uses different methods for compressing audio and video. The filename extension appears as .mpg and .mpeg.

NCSA  National Center for Supercomputing Applications. A government-funded computing center based at the University of Illinois at Urbana-Champaign. The birthplace of the Mosaic graphical Web browser.
Netiquette  Internet etiquette. A set of informal rules governing communications on the Internet.

News server  Software that manages a newsgroup or discussion group.

Newsgroup  Usenet discussion group.

OPS  Open Profile Standard. A proposed technology standard for sharing personal information over the Internet.

P3  Platform for Privacy Preferences. A proposed technical specification being developed by the WWW Consortium that would allow consumers to be informed of what personal information is being collected when visiting a Web site.

Packet  A bundle of data, generally about 1,500 bytes, transmitted over the Internet.

PERL  Practical Extraction and Report Language. A common programming language used for creating uncompiled CGI scripts.

PICS  Platform for Internet Content Selection. A self-rating system for associating labels with the information made available on the Net, particularly within Web sites. Originally designed to help parents and teachers control what information children could reach on the Net, but it also is being used in conjunction with privacy, code signing, and protecting intellectual property rights.

Pixel  The smallest unit of data in a graphic image. Pixel is often used as the unit of measurement for the linear dimensions of a graphic image.

Plug-in  A helper application associated with a Web browser to run automatically when triggered by a specific type of file format.

POP  Point of Presence. Used primarily to refer to local dial-up server locations.

POP Post Office Protocol  A messaging methodology used for retrieving e-mail.

POP3  An implementation of POP used in most e-mail servers.

PPP  Point-to-Point Protocol. Provides a direct connection between your computer and the Internet, allowing your computer to use Internet protocols and join the network. See SLIP.

PPP tunneling  A new protocol used to create direct connections between computers across the Internet excluding intermediate servers.

Protocol  A set of syntactical references and techniques combined to create a method of communication between computer hardware and software.

Referrer URL  The Web page on which a link existed that pointed to the current page and can be recorded in a log file. Also known as HTTP_refferer.
Server  Computers that act as hosts for receiving and processing client requests, and software that handles specific host duties such as Web, e-mail, or news protocols on server computers.

SET  Secure Electronic Transaction. A technical standard for conducting secure credit card transactions on the Internet.

Shell account  A user session running on a remote system—typically text-based, menu- or command-driven—in which the user’s computer becomes a dumb terminal on the host computer’s network.

SLIP  Serial Line Internet Protocol. Provides a direct connection between your computer and the Internet, allowing your computer to use Internet protocols and join the network. See PPP.

S/MIME  Secure Multipurpose Internet Mail Extensions. See MIME.

SMTP  Simple Mail Transfer Protocol. The method most commonly used by servers to exchange e-mail.

SSL  Secure Sockets Layer. An open standard that permits a Web browser to encrypt sensitive data being sent to a Web server.

Streaming audio  A stream of audio data fed to the user’s computer one bit at a time. Eliminates the need to download large audio or sound files all at once before playing or listening to the output.

Streaming video  A stream of video data fed to the user’s computer one bit, or pixel, at a time. Eliminates the need to download huge video files all at once before playing or listening to the output.

T-1  The smallest fiber-optic cable. Supports data transmission speeds up 1.54 mbps; the equivalent of 24 individual telephone lines.

T-3  The equivalent of 28 T-1 lines. Supports data transmission speeds up to 45 mbps.


Telnet  A process that lets you to control a computer from a geographically remote location. See Shell account.

Transparent GIF  A GIF image with a transparent background.

UNIX  A computer operating system.

URL  Uniform Resource Locator. An intimidating term for what is simply an Internet address. Most often this will refer to the location of a Web site or Web page. The goal is to provide one method of addressing different protocols through one interface such as ftp://, gopher://, or http://.
Usenet  An assemblage of discussion groups (newsgroups) or forums.

VRML  Virtual Reality Markup Language. A scripting language used in conjunction with three-dimensional images to create virtual worlds.

W3C  See World Wide Web Consortium.

WAN  Wide area network.

WAV  A sound file format adapted by Microsoft to the DOS and Windows environments.

Web page  A single HTML document or file as it appears in the user's Web browser.

Web site  A collection of HTML files, or pages—as well as programs that generate pages and multimedia displays—published to a Web server so that others may view them from remote locations.

Web server  A computer and software set up to deliver HTML documents or files upon requests from Web browsers. The host of a Web site. See HTTPd.

Windows  A computer interface and operating system developed by Microsoft Corporation.

Winsock  A Windows file modeled on the UNIX-based Berkeley sockets used widely on the Internet that establishes the Internet protocols, or handshaking, necessary for a Windows computer to link to the Internet.

WWW  World Wide Web, or Web for short. A computer-based electronic communications medium that allows those on the Internet to publish and exchange information more easily through the use of hypertext. Created by scientist Tim Berners-Lee in 1989 while working at the CERN particle physics laboratory in Switzerland and formally instituted in 1994.


XML  EXtensible Markup Language. A subset of Standard Generalized Markup Language (SGML) that provides more flexibility for designing Web pages than HTML.

Zine  An electronic magazine.
Index

<> (angle brackets) 246
- (dashes), in e-mail addresses 14
. (dot) naming conventions
  e-mail addresses 14
  newsgroups 7
/ (forward slash) 246
\ (pipe) 239
+ (plus sign)
  Infoseek 61
  newsgroups 67
<!-> tag 299

A
<A>, </A> tags 290, 298–299
Abawave WebSnake (CD-ROM) 458
Abbreviations, e-mail 74
Absolutely Fresh Flowers Web site 143
Accrue software 411
Acrobat Reader (CD-ROM) 458
ActiveX 299–300
AdCount service 415
Address Book, creating 101–103
Addresses
  e-mail
    adding to Address Book 102–103
    capturing 380
    case sensitivity 14
dot naming conventions 14
  finding 56
  structure 14
  yours 14
newsgroups 7
URLs 6–7, 45–46
  Web sites 6–7, 45–46
Adobe Acrobat Reader (CD-ROM) 458
Adobe Photoshop 222
AdResults service 415
ADSL (Asymmetric Digital Subscriber Lines) 18
AdStream service 415
Advanced preferences, Communicator settings 470
Advertising
  costs 159, 394–395
  e-mail ads 396
  intermercials 397
  online
    advantages 393–394
    launch feature 350–351
    resources 398
  personalized 394
  presentation 205
  print publications 393
  results, measuring 397–398
  revenue
    average CPM 395
    classified ads 147–148
    Internet 88
    strategy 146
  and ROI 428
  rotating ads 396
  scanning print ads 205
  traditional 333
  traffic analysis 414–415
  yellow pages 396
See also Marketing
Advertising Age 398
Advertising Media Internet Center 398
Adweek Online 398
AIF format 284
Akst, Daniel 183
Alta Vista
  finding newsgroups 65
  Web address 62
Alternate Image Properties panel 236
AlterNIC.NET 46
Amazon.com
  strategy 141
  Web address 308
America Online
  and Cyber Promotions 349
  and JavaScript 266
  and reversed fonts 200
  table display problems 274–275
American Advertising Federation 398
American Cybercast 141, 146
American Express 139
AmericaOne Web site
  customer feedback 378–379
  logo 204–205
  screen size 211–212
  ship's store Web address 310
  special offer pop-up window 391
  static site map 215
  updating content 373
  video clips, size indicators 209
  Web site address 197
  Web site design 195
What's New section 376
America's Cup On Line
benefit to advertisers 128
budgets 153
marketing research 139
strategy 139
traffic overload 417
Web site address 128
Analogue software 411
Andreesen, Marc 216
Angle brackets (<> 246
Animated buttons 265, 298
Animated GIFs 276-277
Animation 278-283
and banner ads 394
Anti-virus software 112
Appearance preferences,
Communicator 469
<APPLET> tag 296
Applets 295-297
Applications, defined 26
Archie 9
Art Cellar Exchange
advertising 393
strategy 142
Web address
308
.art domain names 46
Articles. See Newsgroups
Arts & Letters Web site 219
Astra SiteManager 420
Asymmetric Digital Subscriber Lines (ADSL) 18
ATM (asynchronous transfer mode) 18
Attachments, e-mail 109-110
AU format 284
Audio files 283-288
download time 206
Author name, inserting 232
Auto-by-Tel 141
Autoresponders 381
Avatars 300

B
Back button, Communicator 55
Backdoor, Web sites 191, 195
Background color, tables 257
Background images 247-248, 274
Balanced scorecard approach 425
Banking, online 318
Banner ads 350-351, 394
personalized 360
Banners, defined 393
BannerSwap 396
Barnes, Andrew 123
Bazaar Analyzer Pro software 411
BBEdit (CD-ROM) 458
Bcc option 105
Belles lettres. See E-mail
Bersner-Lee, Tim 6, 216
Biegel, Stuart 115
Big Yellow 396
Bits, defined 15
Biz newsgroups 72
Blind carbon copies 105
<BLOCKQUOTE> tag 258
Boardwatch 24, 93-94
Bolero software 411
Bookmarks
adding to folders 64
adding to list 63
adding to toolbar 64
displaying on desktop 64
as links 241
organizing 63-64
Borders
buttons 251
frames 275
graphics 235
tables 249
<BR> tag 242
BroadVision 311
Brochures 333
Browsers, data sent to server 406
Browsing the Web 26
BTW (by the way) 74
Budgets
about xxviii, 151-152
advertising 159, 351-352, 394-396
domain names 47, 155
e-commerce sample plans 325-326
services 315-316
software 309-313
economy plans
e-commerce 325
marketing research 361
sample budgets 161-162
Web site development 156
Web site promotion 351
estimates 151-153
future of 446
and goals 152
high-ticket plans
e-commerce 326
marketing research 362
sample budgets 163-164
Web site development 158
Web site promotion 352
human resources 159-160
interactivity 380-382
Internet connections comparisons 17
worksheet 27-28
maintenance 161
marketing research 361-363
marketing Web sites 156
moderate plans
e-commerce 325-326
marketing research 362
sample budgets 162-163
Web site development 157
Web site promotion 351
news, providing 158, 386
newsgroups 71
newsletters 386
online presence vs. trade shows 153-154
publishing-oriented Web sites 158
and ROI 430-431
samples 161-164
site analysis software 420
special Web site features 386
streaming audio 288
trade shows vs. online presence 153-154
traffic analysis 420
transaction Web sites 157
upgrades 161
video 288-289, 386
Web site designers 174-175
Web site development 156-158
Web site hosting 155
Web site promotion 159, 351-352
See also Business plans
See also Strategy
Bulk e-mail 346-349, 390
and ROI 428
Bulleted lists
creating 254-255
deleting bullets 261
Web site design 199
Burgess, Milt 117
Business cards 332-333
Business models 129, 141
Business opportunities
best-selling items 133
future 89
hype 81-82
making vs. saving money 92
number of businesses 90
reality 82, 88
saving vs. making money 92
types of businesses 91-92
virtual organizations 92-93
See also Budgets
See also Strategy
Business plans
about xxviii
need for 124-125
and ROI 429-431
See also Budgets
See also Strategy
Business section, Netscape Guide 56-57
Business Week/Harris Poll Internet Survey 84, 87, 89-90
Business-to-business e-commerce
308, 313
Buttons, navigation
animated 265, 298
creating 250
erasing border 251
Buy-out offers, and ROI 427
Bytes, defined 15
Design. See Web site design
Designers. See Web site designers
Dial-up accounts 14-16
Digest form, mailing lists 76
DigiCash 319
Digital certificates
  ActiveX controls 300
e-commerce 323
e-mail 112
Digital signatures 112
Digital Subscriber Lines (xDSL) 18
Direct e-mail 346-349, 390
and ROI 428
Direct Marketing Association, Inc. 349
Direct measures, ROI 425-426
Directories
  about 334-336
  automatic submission 341-342
  finding 337
  list of 62
  <META> tags 339-340
  and ROI 428-429
  spiders 336-337
  submission services 342-344
  Web page titles 338
  Web site description 341
Directory button, Netscape Navigator 54
Directory structure
  scripts 264
  Web site design 201, 259
Discounts 391
Discussion groups
  IRC 8
  See also Mailing lists
  See also Newsgroups
Disintermediation 133
Disney, Web site makeover 387
DITR Marketing 419
Domain names
  aliases 44
  checking availability 48-49
  choosing 43-44, 47-48
  costs 47, 155
  DNS 44
  expanded system 46
  and IP addresses 44
  and ISPs 47-48
  McDonald's legal dispute 44-45
  registering 45-47
  second-level 45
  top-level 45
  whois search page 48-49
Dot(.) naming conventions
  e-mail addresses 14
  newsgroups 7
DoubleClick, Inc service 394, 415
Download times
  audio files 286
determining 207
flash vs. dash 185, 216-217
recommended 188
Web site design 206-210
See also File sizes
Downloading Communicator 465-467
Drafts, e-mail 101
Dragging and dropping bookmarks 241
graphics 230
links 230, 239-241
in tables 254
DSL (Digital Subscriber Lines) 18
Dumb terminals 8
shell accounts 16
Dynamic content. See Database integration
Dynamic HTML 444-445
E
E* Trade Group Inc. 142
Easy Access: Legal Protection for E-mail 115
EasyView software 411
Ecash 319
E-commerce
  about xxxi, 141-142, 303-304
  business-to-business 308, 313
  CheckFree 318
  commerce servers 311-313
  CommercePoint 319
cookies 316-317
costs 325-326
credit card transactions 318, 324
  CyberCash 319
  DigiCash 319
digital certificates 323
e-cash 319
economy plans 325
electronic catalogs 304-305
electronic wallets 319-329
  examples 308
  firewalls 322
  First Data Corp. 319
  First Virtual Holdings 320
forms, order-taking 306
GCtech 320
high-ticket plans 326
merchant servers 311-313
micropayments 320
middleware 311-313
moderate plans 325-326
Netscape security alert 323-324
online banking 318
payment methods 317-320
secure servers 322-324
security 321-324
services, choosing 315-316
SET specification 318
shopping carts 306-307, 309-310
smart cards 324
software
costs 309-313
evaluating 313-315
SSL 322
taking orders 305-308
transaction servers 311-313
VeriFone 320
Economy plans
e-commerce 325
marketing research 361
sample budgets 161-162
Web site development 156
Web site promotion 351
Editing window 230-231
.edu domain names 45
Edwards, Larry xxxvi
Elcom Systems 311
Electrifier 281
Electronic Communications Privacy Act of 1986 114
Electronic Frontier Foundation
  marketing research 366
Web address 369
Electronic mail. See E-mail
Electronic Mailbox Protection Act 349
"Electronic Marketplace Strategies" 153
Electronic Messaging Association (EMA) 114, 349
Electronic Privacy Information Center 369
Electronic publishing.
  See Publishing-oriented Web sites
Electronic wallets 319-329
ELLE International 58
EMA (Electronic Messaging Association) 114, 349
E-mail
  abbreviations, using 74
  about xxvii, 6, 98
  Address Book
    creating 101-103
    Prefers to Receive Rich Text option 103
  addresses
    adding to Address Book 102-103
case sensitivity 14
dot naming conventions 14
finding 56
structure 14
yours 14
ads 396
attachments 109-110
autoresponders 381
blind carbon copies 105
bulk 346-349, 390
and ROI 428
capital letters, avoiding 73
capturing addresses 380
carbon copies 105

certificates 112
composing messages 99–100
bcc: option 105
c: options 105
to multiple recipients 103–104
and compression 110
cutting and pasting from word processor 101
digital signatures 112
composing messages 99–100
bee: option 105
cc: options 105
to multiple recipients 103–104
and compression 110
cutting and pasting from word processor 101
digital signatures 112
direct 346–349, 390
and ROI 428
drafts, saving 101
emoticons 73
encryption 112, 116
etiquette 73–74
file attachments 109–110
folders 107
forwarding messages 113
helper applications 111
HTML mail 58
links 213, 243–245
mailing lists, creating 106
mailto links 213, 243–245
MIME 110–111
moving messages 107
organizing messages 107
preferences, Communicator settings 469
printing 113
quoting 74
receiving messages 100
replying to messages 105
searching 113
security 112–113
sending messages 100–101
shouting 73
signature cards 109
signature files 108
as marketing tool 389
signing 74
smilies 73
S/MIME 112
sorting 113
spamming 74
viruses 111–112
Web site promotion 346–349
See also Mailing lists
See also Newsgroups

E-mail policy
about 113–114
ethics 117
formalizing 118–119
liability 116–117
online form 118–119
privacy 114–116
style 118
vs. surface mail 115
<EMBED> tag 280
loop attribute 286–287
Emerging technologies 133
Emoticons 73
Encryption 446
e-mail 112, 116
End tags 246
Emot Icons 315
ESPN Sportzone 145
Ethernet connections 18–19
“Ethical Implications of Privacy in Electronic Mail” 117
Ethics
e-mail policy 117
marketing research 365–366
See also Legal issues
Etiquette 73–74
E-trade 308
ETRUST 366
Eudora Lite (CD-ROM) 458
Events, online 392
Excite 62, 335
Extranets 8
Eye candy 217

F
FAL Weblint Gateway 268
FAQs (Frequently Asked Questions) creating 379
newsgroups 72
Favorites. See Bookmarks
Feedback. See Customer feedback
Fetch 272
Fiber-optics connections 18–19
Fidelity Investments Web site 384
Fidler, Roger 441
File attachments, e-mail 109–110
File sizes
animated GIFs 278
applets 296
audio files 284–285
graphics 219–220
vector-based graphics 279
video files 289–290
virtual reality 300
See also Download times
File Transfer Protocol (FTP)
about 8
publishing Web sites 272–273
Filenames, Web sites 250–251
 Files, unused 419–421
Filtering
customer feedback 380
marketing research 359–360
Fineagle’s Law 416
FIND/SVP American Internet User Survey 84, 86–87, 89–90
Firefly Network 358
Firewalls 322
First Data Corp. 319
First Virtual Holdings 320
Flaming 74, 348
Flanigan, James xxi
Flash 2 280–281

Flash vs. dash 185, 216–217
Floating indexes 384–385
Flowcharts, Web design 188, 190
Focalink Communications service 394, 415
Folders
bookmarks 64
e-mail 107
Fonts, changing 236
.food domain names 46
Footers 204
Forms
creating 262–266
customer feedback 378–379
GET method 422
marketing research 357–358, 361
order-taking, e-commerce 306
POST method 422
problems 275
templates 262–263
48° North 147
Forums. See Newsgroups
Forward slash (/) 246
.fr domain names 47
Fractal Design Detailer (CD-ROM) 459
Frame relay connections 18, 20
Frames
creating 266–268
and spiders 340
visible borders 275
Web site design 194–195
Freebies 391–392
Free-trade zone, global 453
Frequently Asked Questions (FAQs) creating 379
newsgroups 72
Fruit of the Loom Inc. 138–139
FTP (File Transfer Protocol)
about 8
publishing Web sites 272–273
FutureSplash 280–281

G
Gadgets Galore!
Contact Us link, creating 240–241
copyright statement 243
flowcharting 188–189
home page layout 191
links, creating 239–241
mailto links, creating 243–245
page layout sketch 190
page templates 196
text, formatting 236–237
thumbnail images 198
Gaff’s Clip Art 219
Gamelan 283, 382
Garfinkel, Simson 321
Gartner Group 153
Gates, Bill 2
GCTech 320
H

Hardware requirements
  Internet connections 27-28
  recommended xxiv
  Web site design 171

Hawley, Chuck 137

Hazelton, Rich 147

HDSL (High-bit-rate Digital Subscriber Lines) 18

Headers 204, 236

<HEAD> </HEAD> tags 246

Hello, world 331

Help, where to get
  Communicator 55
  HTML editing 269
  searching the Internet 62

Helper applications, setting 111

High-bit-rate Digital Subscriber Lines (HDSL) 18

High-ticket plans
  e-commerce 326
  marketing research 362
  sample budgets 163-164
  Web site development 158
  Web site promotion 352

History list, Communicator 55

Hit List Pro 412

Hits
  defined 33
  determining true count 404-405
  measuring 397-398
  See also Traffic analysis

Home page layout 191-192
  See also Web site design

HomeArts Network 384

HomeSite (CD-ROM) 459

Hosting. See Web site hosting

Hot Hot Hot 143

HotBot 62, 335

HotMail 396

HotWired 93, 145

HTML folder 234

HTML (HyperText Markup Language)
  <A>, </A> tags 290, 298-299
  // (forward slash) 246
  </A> tag 299
  <angle brackets> 246
  <APPLET> tag 296
  <BLOCKQUOTE> tag 258
  <BR> tag 242
  bulleted lists 199
  comment tag 299
  dynamic 444-445
  editing 173, 260-261, 269
  <EMBED> tag 280
    loop attribute 286-287
  end tags 246
  error-checking 268
  <HEAD>, </HEAD> tags 246
  help, where to get 269
  <HTML>, </HTML> tags 246
  <!-- tag 246
  indenting paragraphs 199
  JavaScript, inserting 246
  <LI> tag 261
  lists 199
  <META> tags
    CONTENT attribute 339
    creating 232
    HTTP-EQUIV attribute 339
    inserting in HTML file 246
    NAME attribute 339
    PICS-label attribute 340
    newsgroups about 269
    <NOEMBED> tag 280
    <NOFRAMES> tag 195, 266-267, 340
    <OBJECT> tag 280
  open tags 246
  ordered lists 199
  </I> tag 242
  <SCRIPT>, </SCRIPT> tags 298-299
  .shtml file extension 250
  tables
    reversed fonts 200
    tabs, not supported 199
    <TITLE> tag 246
    <TITLE>, </TITLE> tags 338
    unordered lists 199
    verification 268
    viewing 246-247, 260-261
    Web site design 187
    See also Composer

HTML mail 58, 103

HTML PowerAnalyzer 420

HTML, </HTML> tags 246

HTTP-EQUIV attribute, <META> tags 339

HTTP_referer 359

Human resources
  costs 159-160
  Web designer checklist 170

Hypertext
  defined 60
  Web site design 197

HyperText Markup Language (HTML).
  See HTML

I

I/AUDIT service 415

IBM
  strategy 141, 144
  Web address 311

ICat 311

ICE Web Server Indexing (CD-ROM) 459

I/COUNT 413

IdeaMarket 145
IDSL (Integrated Digital Subscriber Lines) 18
IGuide 145
</I><Iupertag> tags 246
Image Maps 193
Image Properties panel 234
Images. See Graphics
IMHO (in my humble opinion) 74
Impressions 394
In-Box Direct 58, 94
Incentives 391
Indexes, floating 384-385
Index.htm filename 250-251
Indirect measures, ROI 427
Industry associations 137
Infolink Link Checker 420
Information Revolution 89
Information Week 94
Informed consent 366-367
Infoseek
narrowing the search 60-61
Web address 335
Web site design 186, 213-215, 374
Interactive Week 91, 94
Interlaced graphics 221
Intermercials 397
Internet
about xxi-xxii, 1-3
advertising revenue 88, 90
business opportunities
best-selling items 133
future 89
hye 81-82
making vs. saving money 92
number of businesses 90
reality 82, 88
saving vs. making money 92
types of businesses 91-92
virtual organizations 92-93
competition 128, 451-452
components 5-9
demographics
minorities 131
number of businesses 90
number of users 83-87, 89
sources 84-85
typical user 87-88
women 131
future 29, 89-90, 447-452
history 3-5, 129
infrastructure 447-448
legal issues 452-455
news sources
online 93-94
paper 94
number of businesses 90
number of users
future 89
hye 79-81
reality 83-87
regulation 452-455
taxes 454
The Web 6-7
See also Budgets
See also Strategy
Internet Advertising Bureau 415
Internet business plans
about xxviii
need for 124-125
and ROI 429-431
See also Budgets
See also Strategy
Internet committee
and e-mail policy 113-114
need for 160
Internet connections
about xxv-xxvi, 13-14
ATM networks 18
cable access 18-19
client software, obtaining 26
costs
comparisons 17
dial-up accounts 14
ISDN 17-18
modems 14
network connections 20
T-1 connection 20
worksheet 27-28
data transfer rates
comparisons 17
defined 15
dial-up accounts 14-16
DSL 18
Ethernet 18-19
fiber-optics 18-19
frame relay 18, 20
industry associations 137
ISDN 16-17
LANs 17-18
modems
analog 14
cable 18-19
and Centrex-type phones 15
dial-up accounts 14-15
and download time 207
and PBX-type phones 15
multihoming 22
network connections 20-21
PPP accounts 15-16
proxy servers 19
routers 17
shell accounts 16
SLIP accounts 16
software 26
speed
about 20-21
cable access 18
DSL 18
ISDN 16
modems 14-15
network connections 20
T-1 lines 19-20
T-3 lines 20
text-based accounts 16
trade associations 137
Winsock conflicts 25
See also ISPs
See also Web site hosting
Internet EMail Marketing Council 349
Internet Profiles Corporation 394
Internet Relay Chat (IRC) 8
Internet Resources Database (IRD) 76
Internet Scorecard 425
Internet Service Providers (ISPs).
See ISPs
Internet Waterway Online 144
InternetNews.com 93
InterNIC 45
whois search page 48-49
Intershop Communications 311
Interstitial ads 397
InterVU format 291
Intranets 8
IP addresses 44
IP Multicast Initiative 441
I/PRO 413, 415
Iquest 146
IRC (Internet Relay Chat) 8
IRD (Internet Resources Database) 76
ISDN connections 16-17
ISPs (Internet Service Providers)
choosing
checklist 21-22
directory of 23-24
guidelines 22-23, 40-43
rating service 24
worksheet 40
connecting to 24
and domain names 47-48
e-commerce services 315-316
remote access 25
and traffic analysis 418
traveling 25
Winsock conflicts 25
See also Internet connections
See also Web site hosting
Netscape Navigator Gold Tool
Cheat 222
Netscape Netcaster 442-444
Netscape News 93
Netscape SuiteSpot servers 27, 382
Netscape Web address 311
NetSearch page, Communicator 59
NetTracker software, Communicator 59
NetSearch page, Communicator 59
NETWEB pages 311
Newsgroup servers 382
NEW! tags 375-376
New York Times 94
Newbies defined 53
news groups for 73
News, providing
cost 158,
newsgroups for
80
costs 158, 386
News, subscribing to 68-69
News, unsubscribing to 70
News, Web site promotion 350
See also E-mail
See also Mailing lists
NewsHub 93
Newsletters costs 386
Web site design 384
Nielson, Jakob 190
Nielson Media Research 413, 415
<NOEMBED> tag
<OBJECT> tag
<NOFRAMES> tag
Nonbreaking spaces, deleting 260-261
Norton Antivirus 112

O
<Object> tag 280
Observational filtering 359-360
Offline preferences, Communicator
settings 469-470
Oman, Paul 138
Online Advertising Discussion List 76
Online Advertising report 395
Online banking 318
Online list 384
Online ordering 218
Online security 239
Online strategy. See Strategy
Online transactions. See E-commerce
Open Market Inc. 313
Open Profiling Standard (OPS) 366, 454
Open tag 246
Open Text 62, 335
Operating systems and download time 207
and screen size 210
OPS (Open Profiling Standard) 366, 454
Ordered lists 199
.org domain names 45
Orphan pages 195
Outbox, Communicator 100
Overhead, reducing 138-139

P
P3 (Platform for Privacy) 454
<P> tag 242
Pages, defined 15
Page Properties panel 231
Pages. See Web pages
Paint Shop Pro 222
Passport (Firefly Network) 358
Payment methods, e-commerce
317-320
PBX-type phones, and modems 15
PC Meter Co. 398
PC/TV 439-440
People section, Netscape Guide 56
Perl for ISAPI Intel/x86 (CD-ROM) 460
Perl for Win32 (CD-ROM) 460
Persistent client-side-state tokens. See Cookies
Personal toolbar, Communicator 65
Personalized ads 394
Personalized Web sites 358, 362
Phone directories, Web site promotion 333
Photographs, download time 206
PhotoImpact GIF Animator (CD-ROM) 461
PhotoImpact GIF Optimizer (CD-ROM) 461
Photo-Paint 222
Photoshop 222
PICS (Platform for Internet Content Selection) 340, 367, 454
PICS-label attribute, <META> tags 340
Pipe (1) 239
Pixel Factory 222
Platform for Internet Content Selection (PICS) 340, 367, 454
Platform for Privacy (P3) 454
Plus sign (+)
Infoseek 61
news groups 67
PointCast 94
POST method 422
Posting. See Newsgroups
PowerPoint 200
PPP accounts 15-16
PR Nutrition 142, 308
Preferences, setting
Communicator 468-470
Composer 228-230
Navigator 469
Preferences to Receive Rich Text option 103
Print releases 347
Pretty Good Privacy, Inc. 113
Previewing pages in Navigator 238
Price Waterhouse Consumer Technology Survey 84, 87, 217
Printing e-mail 113
Pritzkat, Carl 426
Privacy e-mail policy 114-116
legal issues 454-455
marketing research 360, 363-368
See also Legal issues
See also Marketing research
Private keys 112
Private networks 8
Prizes 392
Product literature 333
Profile management 358
Programmer's File Editor 265
Progressive JPEGs 221
Progressive Products
budgets 153
strategy 138
Promotion
about xxxii-xxxiii
advertising
online 350-351
traditional 333
banner ads 350-351
brochures 333
business cards 332-333
catalogs 333
calendar 331
checklist 331
cool sites 344
costs
economy plan 351
high-ticket plans 352
moderate plans 351
direct e-mail 346-349
direct marketing 348
direct e-mail
about xxxi-xxxi
launch party 345-346
Yahoo! WebLaunch feature 350-351
letterhead 332-333
mailing lists 350, 380
marketing communications materials 332-333
groupsw 350
phone directories 333
press releases 347
product literature 333
reciprocal links 344
robot.txt 337
and ROI 427
search engines 334-336
spiders 336-337
submission services 342-344
Web page titles 338
Web site description 341
e-mail 346-349
grand opening 345-346
launching Web sites
about xxxi-xxxi
launch party 345-346
Yahoo! WebLaunch feature 350-351
letterhead 332-333
mailing lists 350, 380
marketing communications materials 332-333
groupsw 350
phone directories 333
press releases 347
product literature 333
reciprocal links 344
robot.txt 337
and ROI 427
search engines 334-336
spiders 336-337, 341-342
See also Web site design
Proxy caching 409
Proxy servers 19
PTA, National 369
Public keys 112
Publish panel 270
Publishing Web sites
with Composer 229-230, 270-272
using FTP 272-273
Publishing-oriented Web sites 140, 145-147, 158
Push technology
defined 385
future of 441-442
Netcaster 442-444
Quarterman, John 83
Quittner, Joshua 44
Quoting messages 74
Raffles 392
RAM, and download time 207
Random-image generators 282
Random-link generators 282
Ratings services 398
Ratings systems 340
Read the fine manual (RTFM) 74
Realtor Information Network 141
RealVideo format 291
Reciprocal links 344, 389
and ROI 428-429
Recreational Equipment Inc (REI) 308
Redo feature 256
Referring links 359, 393
Regulation. See Legal issues
REI (Recreational Equipment Inc) 308
RelevantKnowledge, Inc. 398
Rich media banners 394
Rich Text option, e-mail 103
The Road Ahead '2
Robot.txt 337
ROI (return on investment)
about 424-425
balanced scorecard approach 425
and budgets 430-431
checklist 425
customer feedback 431
direct measures 425-426
indirect measures 427
intangible factors 427-429
and Internet business plan 429-431
Internet Scorecard 425
marketing plan, revising 432-433
and strategy 422-433
SWAGs 427
and traffic analysis 432-433
transaction web sites 425
See also Traffic analysis
Rotating ads 396
Routers 17
RTFM (read the fine manual) 74
S
Sampling rates 285
San Diego Convention & Visitors Center strategy 137-138
Web site design 192
Sand castles 392
Saving money. See Strategy
Scanning ads 205
ScanUSA 144
Sci-news 72
Screen resolution 210
Screen size
pages disappearing 274
template for 640x480 test 245
Web site design 186, 210-212
<SCRIPT>...<SCRIPT> tags 298-299
Scripts. See CGI scripts
Scrolling, minimizing 210
SDSL (Symmetric Digital Subscriber Lines) 18
Search button, Communicator 59
Search engines
list of 62
selecting, in Communicator 59
Web site promotion 334-336
See also Directories
Search tools, Web site design 187, 215-216
Searching
Alta Vista 65
for competitors 56-57
DejaNews 71-72
e-mail 113
for e-mail addresses 56
entering keywords 59, 61
help, where to get 62
Infoseek 60-61
narrowing the search 61-62
NetSearch page 59
newsgroups
with Alta Vista 65
with Communicator 69-70
with DejaNews 71-72
for people 56
search engines
list of 62
selecting 59
telephone directories 56
too many search results 60-61
Yahoo! 60
Secure Sockets Layer (SSL) 322
Security
ActiveX controls 300
CGI scripts 264
credit card transactions 422
e-commerce 321-324
e-mail 112-113
secure servers 322-324
Web sites 421-422
Selling data 364-365
Senate Bill 875 349
Send button, Communicator 100
Servers
  browsers, data sent 406
  commerce 311-313
  Communicator requirements 27
  mail 382
  merchant 311-313
  Netscape SuiteSpot 27, 382
  newsgroup 382
  proxy 19
  secure 322-324
  server co-location option 38
  server farms 39
  SuiteSpot 27, 382
  transaction 311-313
  SET specification 318
  Shockwave 281
  Shouting, in messages 73
  .shtrnl file extension 250
  Signature cards 109
  Signature files
    creating 108
    as marketing tool 389
  Signing messages 74
  Simple Search script 216
  Site analysis
    software 419-421
    Web site management 418-419
  Slide shows 200, 282
  SLIP accounts 16
  Small office/home office (SOHO) 14
  Smart cards 324
  SmartBanner program 394
  SmartClicks 396
  Smilies 73
  S/MIME 112
  SND format 284
  Snickelways Interactive 313
  Soc newsgroups 72
  SoftSpider 341
Software
  anti-virus 112
  CD-ROM 458-463
  client 26
  Communicator
    downloading 465-467
    installing 468
  e-commerce
    costs 309-313
    evaluating 313-315
  requirements
    Internet connections 26
    recommended xxiv
    Web site design 172-173
    worksheet 27-28
    site analysis 419-421
    traffic analysis 410-412
    worksheets and checklists 27-28
    SOHO (small office/home office) 14
    Solid Border attribute 235
    Sophisticated wild-ass guess (SWAG) 427
  Sorting
    e-mail 113
    newsgroup messages 67
  Space
    Around Images dialog box 235
    SpaceWorks Inc. 313
    Spafford, Gene 321
    Spam 74, 346-349, 390
    Special features, Web site design 383-384
  Special offers 391
  Speed, Internet connections
    about 20-21
    cable access 18
    DSL 18
    ISDN 16
    modems 14-15
    network connections 20
  Spiders 336-337, 341-342
  Sports Illustrated 58
  Spot, The 146
  SSL (Secure Sockets Layer) 322
  Standards
    Open Profiling Standard 366, 454
    traffic analysis 415
    See also Legal issues
  Starting Point Web site 62, 335
  Static content 212-213
  Statistics, See Traffic analysis
  Stoll, Clifford 53, 437
  .store domain names 46
  Strategy
    about xxviii
    advertising revenue
      average CPM 395
      banner ads 146
      classified ads 147-148
      Internet 88
    analyzing competition 130
    business model 141
    disintermediation 133
    emerging technologies 133
    goals, establishing 149
    hype vs. reality 131
    industry associations 137
    making money
      advertising revenue 88, 146-148, 395
      defined 134
      e-commerce 141-142
      extending existing business 141
      failures, examples 141
      malls 144-145
      publishing content 140, 145-147
      starting new business 141
      transactions 140, 142-144
      objectives, establishing 149
      overhead, reducing 134
      positioning 148-149
      products, identifying 132-133
      reasons for online presence
        to be cool 126
        competitive advantage 128
        core business model failing 129
        customer demands 127-128
        worksheet 126-127
      revenue, generating 134
      reviewing demographics 131-132
      and ROI 432-433
      saving money
        communications costs 135
        customers as employees 140
        defined 134
        examples 136-140
        market research 139
        marketing 135-136
        overhead, reducing 138-139
        services, identifying 132-133
        timetable 149
        trade associations 137
    See also Budgets
  Streaming
    audio 287-288
    video 291-292
  Stufflt Expander (CD-ROM) 461
  Style guidelines
    e-mail policy 118
    Web site design 190-191
  Subscribing
    from Communicator 58
    In-Box Direct 58
    mailing lists 75-76
    newsgroups 68-69
  Suggestion boxes 379
  SuiteSpot servers 27, 382
  Sun Microsystems, Inc. 138
  Surfing the Net 53
  Surveys
    customer feedback 378-379
    marketing research 357-358, 361
    SWAG (sophisticated wild-ass guess) 427
  Symantec Corp anti-virus software 112
  Symmetric Digital Subscriber Lines (SDSL) 18
  System performance 421

Index 491
T

T-1 lines 19-20
T-3 lines 20

Tables
aligning text 256
background color 257
borders 249
creating 248-250
deleting extra space at top 260-261
display problems 274-275
dragging into 254
editing 252
formatting 256-257
highlighting text 254
inserting images 250-251
as layout tool 248-250
nesting 249-250
reversed fonts 200
Web site design 194-195

Tables of contents 384-385
Tabs, not supported 199
Target Properties panel 241
Targets
adding to links 240
creating 240-241
Taxes, on the Internet 454
Technical support, CD-ROM 463
Telecommunications 440
Telephone directories 56
Telnet 8

Templates
cascading style sheets 446
creating 233, 247-252
finding online 253
forms 262-263
using 253
640x480 screen size 245
Ten Commandments of Computer Ethics 117
Terminal emulation, Telnet 8
Testing Web pages 273
Tetranet Software 419
Text
aligning 236-239
alternate, for images 236
bold 236
download time 206
emphasizing 239
extra spaces 275
flowing in columns 258
fonts, changing 236
formatting 236-237
indenting 199, 236
inserting 236-237
italized 236
paragraphs 199, 242
positioning between images 242-243
Web site design 186, 202
wrapping 237-238

Text-based accounts 16
Thawte Consulting 323
Threads 7, 67
Thumbnail graphics 198
Time Inc. Pathfinder 145
Time stamps 282, 377
Title, adding to Web page 232
<TITLE>,/TITLE> tags 246, 338
to domain names 47
Tonga, Kingdom of 47
Toolbars, Communicator
adding bookmarks 64
customizing 65
illustration 26
newsgroups 68
personal 65
Toolbars, Composer 226-227
Trade associations 137
Trade shows vs. online presence 153-154
TradeBanners 396
Traffic analysis
advertising 414-415
cookies 409-410
costs 420
hits, determining true count 404-405
and ISPs 418
log file analysis 405-408
software 410-412
logo as tracking device 413
metering services 412-414
and ROI 425
too much traffic 417-418
visitor sessions, defined 409
visitors, determining numbers 408-409
Web site management 416
See also ROI
See also Web site management
Traffic, generating. See Marketing
Training requirements worksheet 27-28
Transaction servers 311-313
Transactions
about xxxi
costs 157
ROI 425
See also E-commerce
See also Strategy
Transparent GIFs 221
Trial-and-repeat 393
Troubleshooting 273-275
Trustmarks 367
Twain, Mark 403

U

UCE (unsolicited commercial e-mail) 347-349
.uk domain names 47
Under Construction signs 270
Underlined text 60, 239
Underscores, in e-mail addresses 14
Undo feature 256
Uncasting 441
Uniform Resource Locators (URLs)
structure 6-7, 46
See also Links
United Consumer Action Network 24
Unordered lists 199
Unsolicited commercial e-mail (UCE) 347-349
Unsubscribing, newsgroups 70
Updating Web sites. See Web site design
Upgrades, costs 161
Uploading. See Publishing Web sites
URLs (Uniform Resource Locators)
structure 6-7, 46
See also Links
U.S. Copyright Office 203
US Domain Registry 45
USA Today 58
UseNet 7
See also Newsgroups
UseNet II Cabal 348
User agents 418
User interface. defined 185
Users. See Demographics
UUNet Technologies 315

V

Van Cleve, Pierrette 142
VDOLive format 291
VDOLive Player (CD-ROM) 461
Vector-based graphics 279-280
VeriFone 320
VeriSign, Inc. 112, 300, 323
Veronica 9
Video
and banner ads 394
color problems 274
c conventional 288-291
download time 206
dlive 385-386
streaming 291-292
VideoCraft GIF Animator (CD-ROM) 462
Virtual communities 5
Virtual Florist 392
Virtual organizations 92-93
Virtual reality 300-302
Virtual Vineyards
budgets 157
strategy 141
Web address 308
VirtualCity 145
Viruses
anti-virus software 112
e-mail 111–112
VirusScan anti-virus software 112
Visitor sessions, defined 409
Visitors, determining numbers 408–409
Vivo format 291
Vosaic format 291
VRML 300–301
VXtreme format 291
Wall Street Journal 58, 94
Wallace, Sanford 349
WAV format 284
Web pages
addresses, structure 6–7
cannot display 275
creating. See Composer
disappearing off screen 274
flow 188–189
length 197–198
previewing in Navigator 238
properties, setting 231–234
scrolling, minimizing 210
size 207
underlying pages 196, 258–259
Web Promotion Spider 341
Web Review 146
Web Security & Commerce 321
Web site design
about xxix–xxxii, 183–184
ActiveX 299–300
ad presentation 205
animation 278–283
apptets 295–297
audio 283–288
backdoor 191, 195
calendars 377–378
CGI scripts 213–214, 216
chat groups 385
columnar layout 199
common problems 273–275
components, list of 189
Under Construction signs 270
content development 200–201
content presentation 186, 197–200
centralized sound 283–287
conventional video 288–291
copyright 202–204, 218
costs, special features 386
counters 282–283
customer service 374–375
database integration 212–213, 377–378
date stamps 282, 377
directory structure 201, 259
scripts 264
download time 185, 188, 206–210
dynamic content 212–213
Electricity 281
FAQs 379
feedback
filtering 380
responding to 380
soliciting 378–380
filenames 250–251
Flash 2 280–281
floating index 384–385
Gamelan Java Directory 283
guest books 379
headers 204
home page layout 191–192
HTML quality 187
hypertext 197
image maps 193
index, floating 384–385
interactivity 186, 213–215, 374
Java 295–297
JavaScript 297–299
keywords for search engines 339–340
layout
elements 197
home pages 191–192
sites 185
LightningDraw /WEB 281
links 197
lists 199
logos 204
mailing lists, creating automated 382
capturing e-mail addresses 380
mailto links 213, 243–245
marketing message 186, 204–205
Matt’s Script Archive 283
MIDI 287
multimedia 293–295
navigation 185, 193–194, 196
NEW! tags 375–376
news, providing 384
newsgroups, creating 382
newsletters 384
organizing pages 259
orphan pages 195
page flow 188–189
page length 197–198
page size 207, 209
paragraph formatting 199
PowerPoint 200
programming quality 187
push technology 385
question and answer format 379
random-image generators 282
random-link generator 282
ratings systems 340
reversed fonts 200
screen size 186, 210–212
scripts 213–214, 216
scrolling, minimizing 210
searchable 187, 215–216
Shockwave 281
slide presentations 200
slide shows 282
special features 383–384
static content 212–213
streaming audio 287–288
streaming video 291–292
style guidelines, formal 190–191
suggestions boxes 379
surveys 378–379
tables 194–195
tables of contents 384–385
time stamps 282, 377
title 338
underlying pages 196
updates
about xxxii–xxxiii, 372–374
complete makeover 387
costs 161
reasons for 372–374
timing of 387
user interface, defined 185
vector-based graphics 279–280
video 288–292, 385–386
virtual reality 300–302
Webcasting 385
What Went Wrong 184, 208
What’s New section 376–377
written material 186, 199, 202
See also Composer
See also Graphics
Web site designers
about xxix
choosing 180–181
costs 174–175
evaluating 173–176
experience 177
hardware needs 171
needs assessment 170–173
personnel needs 170
philosophy 177–178
previous work, evaluating 178–180
reasons to use 167–170
software needs 172–173
worksheet 175–176
Web site hosting
about xxiv–xxv, 31–32
checklist, needs assessment 34–36
Offical Netscape Messenger & Collabra Book
$39.99, 352 pages, part #: 1-56604-685-8
Windows, Macintosh • Intermediate to Advanced

The Power of Web-based Communications—Without a Web Site!
Stay in touch with customers, promote products and services visually, share the latest market trends—with simple Internet dial-up access! This step-by-step guide helps you harness Netscape Communicator's e-mail, newreader, HTML authoring and real-time conference tools to achieve faster, more powerful business communications—without the effort or expense of a Web site. Learn how to:
• Integrate Messenger, Collabra, Conference and Composer for efficient business communications.
• Distribute eye-catching, HTML-based marketing materials without a Web site.
• Use the Net to gather, organize and share information efficiently.

Official Netscape Composer Book
$39.99, 600 pages, part #: 1-56604-674-2
Windows • Beginning to Intermediate

Forget about tedious tags and cumbersome code! Now you can create sophisticated, interactive Web pages using simple, drag-and-drop techniques. Whether you want to create your personal home page, promote your hobby, or launch your business on the Web, here's everything you need to know to get started:
• Step-by-step instructions for designing sophisticated Web sites with no previous experience.
• JavaScript basics and techniques for adding multimedia, including animation and interactivity.
• Tips for businesses on the Web, including creating forms, ensuring security and promoting a Web site.

The CD-ROM features a wide selection of Web tools for designing Web pages, adding multimedia, creating forms and building image maps.

Windows, Macintosh • All Users

Your One-Stop Plug-in Resource & Desktop Reference!
Why waste expensive online time searching the Net for the plug-ins you want? This handy one-stop reference includes in-depth reviews, easy-to-understand instructions and step-by-step tutorials. And you avoid costly download time—the hottest plug-ins are included! Features:
• In-depth reviews & tutorials for most Netscape plug-ins.
• Professional tips on designing pages with plug-ins.
• Fundamentals of developing your own plug-ins.

The CD-ROM includes all the featured plug-ins available at press time.
Looking Good in Print, Deluxe CD-ROM Edition
$34.99, 416 pages, illustrated, part #: 1-56604-471-5
This completely updated version of the most widely used design companion for desktop publishers features all-new sections on color and printing. Packed with professional tips for creating powerful reports, newsletters, ads, brochures and more. The companion CD-ROM features Adobe® Acrobat® Reader, author examples, fonts, templates, graphics and more.

Looking Good Online
$39.99, 384 pages, illustrated, part #: 1-56604-469-3
Create well-designed, organized web sites—incorporating text, graphics, digital photos, backgrounds and forms. Features studies of successful sites and design tips from pros. The companion CD-ROM includes samples from online professionals; buttons, backgrounds, templates and graphics.

Looking Good in 3D
$39.99, 384 pages, illustrated, part #: 1-56604-494-4
Become the da Vinci of the 3D world! Learn the artistic elements involved in 3D design—light, motion, perspective, animation and more—to create effective interactive projects. The CD-ROM includes samples from the book, templates, fonts and graphics.
The Director 6 Book
$49.99, 560 pages, part #: 1-56604-658-0
Macintosh, Windows 95/NT
Intermediate to Advanced

Raise your standards—and your stock—as a multimedia specialist by harnessing what’s new in Macromedia Director 6. This professional-level guide focuses on key techniques for creating, manipulating and optimizing files. Your projects will look, sound and play back better and more consistently than ever.

Provides:
• Undocumented tricks for Director 6.
• Tips for moving from Director 5 to 6.
• Issues and answers for cross-platform presentations.
• Techniques for integrating Director 6 with JavaScript, CGI and Shockwave audio.

The CD-ROM includes more than 50 sample Director movies with code included, plus Macromedia and gmatter Xtras, shareware and more.

The Lingo Programmer’s Reference
$39.99, 672 pages, part #: 1-56604-695-5
Windows 95/NT, Macintosh
Intermediate to Advanced

The Ultimate Resource for Director Professionals! High-level mastery of Lingo is the only route to real Director expertise. This comprehensive reference goes beyond tutorials and simple listings to provide thorough explanations of every aspect of Lingo, supported by practical examples, professional tips and undocumented tricks. Includes:
• What’s new in Director 6, property lists for sprites and other objects, and a JavaScript reference for Lingo programmers.
• In-depth discussions, including types of parameters to pass to properties, commands, functions and type of data returned.
• Encyclopedia listing, extensively cross-referenced for easy access to information.

The CD-ROM features a searchable, hyperlinked version of the book.
Official Netscape LiveWire Book

$49.95, 744 pages, illustrated, part #: 1-56604-382-4

Master web-site management visually! Now even new webmasters can create and manage intranet and Internet sites. And experienced developers can harness LiveWire's advanced tools for maintaining highly complex web sites and applications. Step-by-step tutorials cover all LiveWire components. Learn to design powerful distributed applications—without extensive programming experience.

Official Netscape LiveWire Pro Book

$49.99, 800 pages, illustrated, part #: 1-56604-624-6

High-end database management and connectivity techniques highlight this examination of LiveWire Pro, featuring sophisticated site development and management skills that ease the task for webmasters. Learn to maintain databases, update links, process online orders, generate catalogs and more. The CD-ROM features all the code from the sample applications in the book.
Net Security: Your Digital Doberman
$29.99, 312 pages, illustrated, part #: 1-56604-506-1
Doing business on the Internet can be safe . . . if you know the risks and take appropriate steps. This thorough overview helps you put a virtual Web watchdog on the job—to protect both your company and your customers from hackers, electronic shoplifters and disgruntled employees. Easy-to-follow explanations help you understand complex security technologies, with proven technologies for safe Net transactions. Tips, checklists and action plans cover digital dollars, pilfer-proof "storefronts," protecting privacy and handling breaches.

Intranet Firewalls
$34.99, 360 pages, illustrated, part #: 1-56604-506-1
Protect your network by controlling access—inside and outside your company—to proprietary files. This practical, hands-on guide takes you from intranet and firewall basics through creating and launching your firewall. Professional advice helps you assess your security needs and choose the best system for you. Includes tips for avoiding costly mistakes, firewall technologies, in-depth reviews and uses for popular firewall software, advanced theory of firewall design strategies and implementation, and more.
Windows 95/NT, Macintosh • Intermediate

Make the Most of the Latest Netscape Features!
Learn how the latest developments in Netscape Navigator and HTML enhance your ability to deliver eye-catching, interactive Web pages to a broad audience, and how to harness new technologies to create a compelling site. Includes:
• Playing to Navigator's hottest features, including tables, frames, plug-ins and support for Java applets.
• Guidelines for designing great Web pages.
• New material on style sheets, sound, multimedia and databases.

The CD-ROM contains an example Web site on the Net, sample JavaScript, clip objects, backgrounds and more.

$29.99, 592 pages, part #: 1-56604-675-0
All platforms • Beginning to Intermediate

Brew up instant scripts—even if you're not a programmer!
Learn all the skills you need to perk up your Web pages with multimedia and interactivity. Fully updated for Netscape Communicator, this bestseller now includes:
• Basic programming techniques.
• Tips for using existing scripts and building your own from scratch.
• Nearly 200 script samples and interactive tutorials online.

Official Netscape FastTrack Server Book
$39.99, 432 pages, part #: 1-56604-483-9
Windows NT • Intermediate to Advanced

Turn your PC into an Internet/intranet powerhouse!
This step-by-step guide to the hottest server software on the Net provides all the instructions you need to launch your Internet or intranet site, from technical requirements to content creation and administration. Learn how to exploit FastTrack Server's high-performance server architecture to easily create and manage customized web sites. Plus, enhance your site with FTP and Telnet; ensure security for online transactions; and import and convert documents.
Official Online Marketing With Netscape Book
$34.99, 544 pages, illustrated, part #: 1-56604-453-7
The perfect marketing tool for the Internet! Learn how innovative marketers create powerful, effective electronic newsletters and promotional materials. Step-by-step instructions show you how to plan, design and distribute professional-quality pieces. With this easy-to-follow guide, you'll soon be flexing Netscape Navigator's marketing muscle to eliminate paper and printing costs, automate market research and customer service, and much more.

Official Netscape Guide to Online Investments
$24.99, 528 pages, illustrated, part #: 1-56604-452-9
Gain the Internet investment edge! Here's everything you need to make the Internet a full financial partner. Features an overview of the Net and Navigator; in-depth reviews of stock and bond quote services, analysts, brokerage houses, and mutual fund reports. Plus a full listing of related financial services such as loans, appraisals, low-interest credit cards, venture capital, entrepreneurship, insurance, tax counseling, and more.

Official Netscape Guide to Internet Research
$29.99, 480 pages, illustrated, part #: 1-56604-604-1
Turn the Internet into your primary research tool. More than just a listing of resources, this official guide provides everything you need to know to access, organize, cite and post information on the Net. Includes research strategies, search engines and information management. Plus timesaving techniques for finding the best, most up-to-date data.
Official Netscape Communicator 4 Book
$39.99, 800 pages
Beginning to Intermediate
Windows Edition: part #: 1-56604-617-3
Macintosh Edition: part #: 1-56604-620-3

The sequel to Ventana's blockbuster international bestseller
Official Netscape Navigator Book! Discover the first suite to integrate
key intranet and Internet communications services into a
single, smart interface. From simple e-mail to workgroup collaboration,
from casual browsing to Web publishing, from reading text to receiving
multimedia Netcaster channels—learn to do it all without leaving Communicator! Covers:
• All Communicator components: Navigator, Netcaster,
  Messenger, Collabra, Composer and Conference.
• Complete, step-by-step instructions for both intranet and
  Internet task.
• Tips on using plug-ins, JavaScript and Java applets.

The CD-ROM includes a fully-supported version of Netscape
Communicator plus hyperlinked listings.

Official Netscape Communicator
Professional Edition Book
$39.99, 608 pages, part #: 1-56604-739-0
Windows Edition • Intermediate

Your Guide to Business Communications Over the
Intranet & the Web! Unlock the immeasurable potential of
Web technologies for improving and enhancing day-to-day
business tasks. Netscape Communicator and your office
intranet provide the tools and the environment. This easy-to-use,
step-by-step guide opens the door to each key module—and its most effective use. Covers:
• Navigator 4, Messenger, Collabra, Conference, Composer,
  Calendar, Netcaster and AutoAdmin.
• Key business tasks: e-mail, workgroups, conferencing and
  Web publishing.
• Step-by-step instructions, tips and guidelines for working
  effectively.
Official Netscape Guide to Internet Research, Second Edition
$29.99, 480 pages, illustrated, part #: 1-56604-845-1
Tara Calishain/Jill Nystrom
Windows, Macintosh
Beginner to Intermediate
• Features professional techniques for accomplishing extensive Internet research projects.
• Includes tips for archiving, storing, and citing information in research papers.
• Shows how to harness push technology, plus a look at privacy and security concerns.

Official Netscape Internet Business Starter Kit
Larry M. Edwards
Windows 95/NT
Intermediate
• Eight-step guide for migrating a business to the Internet and making it profitable.
• Techniques for maximizing Communicator's key features for business—e-mail, discussion groups, Web-page authoring and more.
• Professional advice on software, service providers, resources and budgeting.
CD-ROM with sample Web sites, JavaScripts, templates, shareware tools, AT&T WorldNet® Service software using the Netscape browser.

Official Netscape Publishing Suite Book
$49.99, 600 pages, illustrated, part #: 1-56604-847-8
Richard Cravens/Phil James
Windows 95/NT
Intermediate to Advanced
• Covers all the tools in the Suite, with extensive coverage of NetObjects Fusion 2 Personal Edition.
• Features step-by-step instructions for quickly and easily designing, creating and managing a Web site for small businesses.
• Includes troubleshooting sections for installation, configuration and maintenance problems.
CD-ROM with Netscape Navigator 4, valuable tools, sample code, content-production utilities.
$29.99, 400 pages, illustrated, part #: 1-56604-843-5
Phil James/R. Allen Wyke
Windows
Beginner to Intermediate
- Shows how to customize your browser, and add shortcuts and bookmarks.
- Explains the Netcaster interface and how to receive channels “pushed” to the desktop.
- Provides step-by-step instructions for intranet, extranet and Internet tasks.
CD-ROM with Navigator 4 (stand-alone version), AT&T WorldNet Service software, HTML version of the Internet listings chapter.

Official Netscape Netcoster Book
$29.99, 544 pages, illustrated, part #: 1-56604-827-3
R. Allen Wyke
All Platforms
Beginner to Intermediate
- Complete coverage of the Netcaster application, its interface and the technology that embodies channels.
- Tips for finding and optimizing channels to push to your desktop.
- Simple tutorial for developing your own channel.
CD-ROM with Netscape Navigator 4, AT&T WorldNet® Service software, plug-ins, channel development files.
To order any Ventana title, complete this order form and mail or fax it to us, with payment, for quick shipment.

<table>
<thead>
<tr>
<th>TITLE</th>
<th>PART #</th>
<th>QTY</th>
<th>PRICE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SHIPPING**

For orders shipping within the United States, please add $4.95 for the first book, $1.50 for each additional book.
For "two-day air," add $7.95 for the first book, $3.00 for each additional book.
Email: orders@kdc.com for exact shipping charges.
Note: Please include your local sales tax.

**Mail to:**
International Thomson Publishing • 7625 Empire Drive • Florence, KY 41042
US orders 800/332-7450 • fax 606/283-0718
International orders 606/282-5786 • Canadian orders 800/268-2222

Name ____________________________
E-mail __________________________ Daytime phone ___________
Company __________________________
Address (No PO Box) __________________________
City __________________________ State ________ Zip ________
Payment enclosed ______ VISA ______ MC ______ Acc’# ________ Exp. date ________
Signature ________________________ Exact name on card ___________

Check your local bookstore or software retailer for these and other bestselling titles, or call toll free: **800/332-7450**
8:00 am - 6:00 pm EST
All technical support for this product is available from Ventana.

The technical support office is open from 8:00 A.M. to 6:00 P.M. (EST) Monday through Friday and can be reached via the following methods.

- World Wide Web: http://www.netscapepress.com/support
- E-mail: help@vmedia.com
- Phone: (919) 544–9404 extension 81
- FAX: (919) 544–9472
- America Online: keyword Ventana
Note: Opening this package indicates acceptance of the product. Only unopened packaging is returnable.
Launch Your Business on the Net and Make it Pay!

Use the experience of successful online entrepreneurs to set your business on the right path from step one. This essential guide provides insight and instruction, plus worksheets, checklists, and guidelines to help you improve your prospects and avoid pitfalls.

Lay a solid foundation—choose the Internet Service Provider that best fits your needs; select the right hardware, software, and network connections.

Devise an Internet-specific business plan—use Internet research to help set practical goals; harness all the Net's strength—including e-mail, newsgroups, and the Web—to enhance your marketing, sales, and customer service efforts.

Establish a realistic budget—create a framework that accommodates all your costs, including start-up, equipment, services, staffing, marketing, and order handling.

Build an effective site—develop a customer-friendly structure; learn the fundamentals of effective page design; learn about tools and techniques for handling transactions securely; know when you need help and how to get it.

Develop a strategy for success—promote your site effectively and prepare for the response; keep your site fresh and up-to-date; evaluate what's working and modify what's not.

Look for these other outstanding Ventana titles:

- [Official Netscape Communicator 4 Book](http://www.netscapepress.com/zine)
- [Official Netscape Guide to Web Animation](http://www.netscapepress.com/zine)
- [Official Netscape Messenger & Collabra Book](http://www.netscapepress.com/zine)

User Level: Intermediate

ISBN 1-56604-793-5

U.S. $39.99

CANADA $55.99

Valuable Business Tools on CD-ROM!

- HTML editor
- Multimedia players
- Graphics viewing & editing tools
- E-mail software
- Image map tools
- Compression utilities
- Web page templates
- Demos
- Plus checklists, worksheets, planning guides & more!