Macintosh® Operating System

Second Edition

Against The Clock
Performance Support & Training Systems

Prentice Hall
Upper Saddle River, NJ 07458
Contents

GETTING STARTED 1

INTRODUCTION 3

1. THE MAC OS 5

Turning Your Computer On 6
The Desktop 6
What is the Desktop? 7
The Keyboard 7
Typing Information Directly into Various Programs 7
Using the Keyboard to Control Programs 8
Using Function Keys 8
Using Modifier Keys 8
The Mouse 8
Using the Mouse 9
Dragging 10
Double-Clicking 11
Mouse Preferences 11
Menu Bars 12
Windows 14
Scroll Bars 14
Reviewing the Anatomy of a Window 16
Mac Help 17
Balloon Help 22
CPUs and Memory 23
The CPU 23
Memory 23
Storage 24
Hard Drives 24
External Storage 25

2. FILES AND FOLDERS 29

Using Folders 30
What are Folders? 30
Creating Folders 30
Renaming Folders 32
Nesting Folders 32
Navigating through Folders 37
Changing Views 39
Windows as Pop-ups 42
View Options for Windows 43
Finder Preferences 46
Using the Trash 52
Recovering Deleted Files 55

3. USING PROGRAMS 57

Working with Files 58
Running Multiple Applications 59
Creating Files 61
Saving a File 62
Renaming Files 63
Copying Files 64
Working with Text 66
Editing Text 70
Copying, Cutting, and Pasting 71
Using Aliases 72
Duplicating an Alias 74
Accessing the Original 74
4. Built-In Tools

Apple Menu
  Calculator
  Stickies
  Scrapbook
Control Panels
  Appearances
  Apple Menu Options
Control Strip
  Date and Time
  Energy Saver
  Extensions Manager
  File Exchange
  General Controls
  Launcher
  Launcher Category Folders
  Memory
  Mouse
  Numbers
  Sound
  Startup Disk
  Text
Audio CD Player
  QuickTime
  The QuickTime Player

Review #1

5. Printing

Output
  Monitors
  Printers
Printing from a Macintosh
  Elements of the Printing Process
  Chooser
Creating and Configuring a Printer
  Spooling
  PrintMonitor
Printing from an Application
  Page Setup
Portable Document Format (PDF)
  Acrobat Resources
Fonts
  Font Styles
  Types of fonts
  Managing Fonts on your Macintosh

6. Networking

Types of Networks
Networking Tools on the Macintosh
  Open Transport
  AppleTalk
  DialAssist
  File Sharing
  Modem
  Remote Access
  Using Chooser to Access a Network Volume
  Network Browser
PREFACE

PURPOSE

The Against The Clock series has been developed specifically for those involved in the field of graphic arts.

Welcome to the world of electronic design and prepress. Many of our readers are already involved in the industry — in advertising and design companies, in prepress and imaging firms, and in the world of commercial printing and reproduction. Others are just now preparing themselves for a career somewhere in the profession. Wherever you find yourself working, if it's in the graphic arts industry, it’s likely you will either be working on a Macintosh or working in a network where Macs are important workstations.

This series of courses will provide you with the skills necessary to work in this fast-paced, exciting, and rapidly expanding business. Many people feel that they can simply purchase a computer, the appropriate software, a laser printer, and a ream of paper, and begin designing and producing high-quality printed materials. While this might suffice for a barbecue announcement or a flyer for a yard sale, the real world of four-color printing and professional communications requires a far more serious commitment.

THE SERIES

The applications presented in the Against The Clock series stand out as the programs of choice in professional graphic arts environments.

We’ve used a modular design for the Against The Clock series, allowing you to mix and match the operating system, drawing, imaging, page-layout, web development, and video editing applications that exactly suit your specific needs.

Titles available in the Against The Clock series include:

Macintosh Operations
Windows: Basic Operations
Adobe Illustrator: Introduction and Advanced Digital Illustration
Macromedia FreeHand: Introduction and Advanced Digital Illustration
Adobe InDesign: Introduction and Advanced Electronic Mechanicals
Adobe PageMaker: Introduction and Advanced Electronic Mechanicals
QuarkXPress: Introduction and Advanced Electronic Mechanicals
Microsoft Publisher: Creating Electronic Mechanicals
Microsoft PowerPoint: Presentation Graphics with Impact
Microsoft FrontPage: Designing for the Web
MetaCreations Painter: A Digital Approach to Natural Art Media
Adobe Photoshop: Introduction and Advanced Digital Images
Adobe Premiere: Digital Video Editing
Macromedia Director: Creating Powerful Multimedia
File Preparation: The Responsible Electronic Page
Preflight: An Introduction to File Analysis and Repair
TrapWise and PressWise: Digital Trapping and Imposition

vii
Throughout the book, you will encounter the following icons, which are designed to identify the four different categories of sidebars: teachers' comments, pitfalls and potential problems, keyboard shortcuts, and hands-on activities.

The **Pencil** icon indicates a comment from an experienced operator or instructor. Whenever you see the pencil icon, you’ll find corresponding sidebar text that augments or builds upon the subject being discussed at the time.

The **Bomb**, or **Pitfalls** icon indicates a potential problem or difficulty. For instance, a certain technique might lead to pages that prove difficult to output. In other cases, there might be something that a program cannot easily accomplish, so we might present a workaround.

The **Key** icon is used to point out that there is a keyboard equivalent to a menu or dialog-box option. Key commands are often faster than using the mouse to select a menu option. Experienced operators often mix the use of keyboard equivalents and menu/dialog box selections to arrive at their optimum speed.

The **Pointing Finger** icon indicates a hands-on activity — whether a short exercise or a complete project. Note that sometimes this icon will direct you to the back of the book to complete a project.
Chapter Openers provide the reader with specific objectives.

Sidebars and Hands-on Activities supplement concepts presented in the material.

Periodic Reviews allow the student the opportunity to refresh what they've learned, and determine their progress.

A comprehensive Index allows the students to reference and find any term or feature discussed in the course.
Support Materials

For the Student

A variety of student files are included on the enclosed CD-ROM. These files are necessary to complete the many hands-on exercises.

During the exercises you will be instructed to install fonts on your workstation. You will find these fonts in your student files folder. These ATC fonts are solely for use while you are working with the Against The Clock materials.

For the Instructor

The Instructor Kit consists of an Instructor's Manual and an Instructor's CD-ROM. It includes testing and presentation materials in addition to the files that come standard with the student books.

- **Overhead Presentation Materials** are provided and follow along with the course. These presentations are prepared using Microsoft PowerPoint and are provided in both "native" PowerPoint format as well as Acrobat Portable Document Format (PDF).

- **Test Questions and Answers** are included on the instructor CD-ROM. These questions may be modified, reorganized, and administered throughout the delivery of the course.
I would like to give special thanks to the writers, illustrators, editors, and others who have worked long and hard to complete the Against The Clock series. Foremost among them are Gary Pozsick, Robin McAllister, Dean Bagley, and Terry Sisk-Graybill, whom I thank for their long nights, early mornings, and their endless patience.

Thanks to the dedicated teaching professionals whose comments and expertise contributed to the success of these products, including Pamela Griffin of the Imagination Center and Doris Anton of the Wichita Area Technical College.

And a big thanks to Toni Toomey, copy editor and final link in the chain of production, for her tremendous help in making sure we all said what we meant to say.

A big thanks to Judy Casillo, developmental editor, and Denise Brown, production editor, for their guidance, patience, and attention to detail.

Ellenn Behoriam, June, 2000
Against The Clock (ATC) was founded in 1990 as a part of Lanman Systems Group, one of the nation's leading systems integration and training firms. The company specialized in developing custom training materials for such clients as L.L. Bean, The New England Journal of Medicine, Smithsonian, the National Education Association, Air & Space Magazine, Publishers Clearing House, The National Wildlife Society, Home Shopping Network, and many others. The integration firm was among the most highly respected in the graphic arts industry.

To a great degree, the success of Systems Group can be attributed to the thousands of pages of course materials developed at the company's demanding client sites. Throughout the rapid growth of Systems Group, Founder and General Manager Ellenn Behoriam developed the expertise necessary to manage technical experts, content providers, writers, editors, illustrators, designers, layout artists, proofreaders, and the rest of the chain of professionals required to develop structured and highly effective training materials.

Following the sale of the Lanman Companies to World Color, one of the nation's largest commercial printers, Ellenn embarked on a project to develop a library of training materials engineered specifically for the professional graphic artist. A large part of this effort is finding and working with talented professional artists, writers, and educators from around the country.

The result is the ATC training library.
**GETTING STARTED**

**Platform**
In most cases, the *Against The Clock* series is designed to apply to both Macintosh and Windows systems. Since this course is specifically about the Macintosh Operating System, or Mac OS, this book applies only to the Macintosh computer.

**Naming Conventions**
In the old days of MS-DOS systems, file names on the PC were limited to something referred to as “8.3,” which meant that you were limited in the number of characters you could use to an eight-character name (the “8”) and a three-character suffix (the “3”). Text files, for example, might be called *myfile.txt*, while a document file from a word processor might be called *myfile.doc* (for document). These limitations have never been part of the Mac OS. Despite the fact that you don’t need to use file extensions on the Macintosh; since many people work in cross-platform environments, we feel it’s still a good idea to use them even on the Mac. You will see names like *Copy.txt* and *Garden Panel.tif* while going through your course.

**The CD-ROM and Initial Setup Considerations**
Before you begin using your *Against The Clock* course book, you must set up your system so you have access to the various files and tools for these lessons.

**Student Files**
This course comes complete with a collection of student files. These files are an integral part of the learning experience — they’re used throughout the course to help you gain experience working with real files. Having these building blocks available to you for practice and study sessions will ensure that you will be able to experience the hands-on exercises smoothly, without spending a great deal of time looking for the components.

In the Student Files folders, we’ve created sets of data. Locate the *SF-MacOps* folder and drag the icon onto your hard disk drive. If you have limited disk space, you may want to copy only the files for one or two lessons at a time.

We recommend that you work from your Hard disk. However, in some cases you might not have enough room on your system for all the files we’ve supplied. If this is the case, you can work directly from the CD-ROM.

**System Requirements**
On the Macintosh, you will need a Power PC 604 processor or above, running OS 9.x or later; 32 MB of RAM; a monitor with a resolution of at least 640 × 480 pixels; access to a printer (either connected directly to your machine or on the network to which you’re attached); and a CD-ROM drive. You will need about 2 MB of free hard drive space for installation.

**Prerequisites**
This book is designed for users new to the Macintosh. If you’ve worked on a Windows, Unix, or certain Linux systems, many of the skills and terms will be familiar to you, such as the use of a mouse and how to use windows, folders, and applications.

If you’re a total computer neophyte, that’s OK too — this course begins with very basic information and slowly builds on a solid foundation of discussion, hands-on exercises, and abundant illustrations, tables, and graphics.
Since its introduction in 1984, the Macintosh computer has completely revolutionized the graphic arts industry and has influenced developers like Microsoft to follow the lead that Apple set in designing a functional, fun, and simple-to-use computer. In fact, the term “ease of use” was first used to describe the Macintosh Operating System, or Mac OS.

The Macintosh was the first widely commercially available desktop system that used a mouse, provided a friendly, graphical interface between the user and the inner workings of the operating system, and offered high-resolution output through the use of the PostScript Page Description Language. These factors led to a complete change in the way pages were designed, laid out, and ultimately sent through high-end commercial printing.

It has been our goal in creating this course to introduce you to the Macintosh — how it works and how you can easily and quickly customize the Macintosh to fit the way you work and play. We start with the basics and go on from there to introduce you to more sophisticated features, including those that arguably make the Macintosh the ultimate appliance with which to access the ever-expanding and important World Wide Web and other Internet services.

As you progress through this course, we encourage you to pay attention not only to the details — how to do the tasks associated with the discussions and exercises — but also to the principles behind them. While there are some exercises that demand absolute attention to each detail, many give you more latitude. We encourage you to experiment, rather than limit yourself solely to ideas that the authors find interesting, and so expand your creative vision.

The goals of this course are to:

- Introduce you to the Macintosh and the Macintosh Operating System.

- Provide experience using a simple word processor that comes with your Macintosh.

- Allow you to experience, first hand, some of the many tools and accessories that are part of the Mac OS.

- Explore the many ways in which the Macintosh makes the entire Internet experience more fun, more productive, and more rewarding than do other systems.

Since our expertise and the focus in the entire *Against The Clock* series is on the graphic arts industry, many of the comments and discussions mention terms and processes unique to that business. Wherever these terms appear, we've provided definitions and explanations of them.

We hope you find this course helpful in your quest to become an experienced Macintosh user. Good luck!
CHAPTER 1

The Mac OS

CHAPTER OBJECTIVE:

To learn the basics of the Macintosh Operating System. To learn to navigate and move about the desktop. In Chapter 1, you will:

- Learn the definition of an operating system.
- Learn about the two primary components of the Mac OS — the Finder and the Desktop.
- Learn the two basic modifier keys on the Macintosh — the Command and Option keys.
- Learn about using the mouse.
- Learn to access menu bars, another fundamental building block of the Macintosh operating system.
- Understand how to manage windows, the graphic container wherein all your files are created and stored.
- Become familiar with the extensive built-in Mac Help system, including how to pose questions about using your Macintosh.
- Learn the difference between Random Access Memory and disk storage.
The Macintosh is known for its ease of use, but don't let this fool you into thinking that practice and experience aren't important. The longer you use the system, the better an operator you'll be.

In this Chapter, we're going explore the use of your Macintosh, starting with the basics, such as turning it on, and moving on to the fundamental building blocks of your system: the mouse, the Finder, the Desktop, and how the windows work.

To best experience this course, you should be in front of your Macintosh ready to practice some hands-on activities that will help you learn to use your system.

Turning Your Computer On

In order for your computer to work, you will need to turn it on — or power up your system. While this seems obvious, you would be surprised at how many support calls come into help centers because the computer hasn't been switched on.

Most Macintosh computers created since the eighties have had the Power-on switch on the keyboard. On newer models — particularly the G3 and G4 models — the Power button is on the front of the cabinet. If you have a different system in your classroom, be sure to ask your instructor where the Power button is, or consult the manual that came with your particular system.

Turning On Your System

1. If it's not already running, press the Power button to turn on your computer. A chime should sound letting you know that the system is powering up. After a brief wait an introduction screen should appear, and the Macintosh Desktop will appear.

The Desktop

When you first turn on your Macintosh the monitor fills up with a background color, picture, or pattern. This background is called the Desktop. Later, when we teach you how to control and change the working environment, including what you see on your monitor, you'll learn how to change the appearance of your Desktop.
What is the Desktop?
The Desktop is the area on which you do all your work. Even when you’re using a program that completely covers the desktop, it’s still there. There are several aspects to the desktop that you should notice. Take a look at this picture.

### The Macintosh Desktop

- **Your hard drive appears on the desktop as an icon, as do folders, applications, and certain other types of objects.** In the upper right-hand corner is the Application Switcher, which you can use to switch between programs when you’re running more than one.

- **The Trash icon is where you throw away items that you don’t need anymore.** Just as in the real world, you can dig around in there and take something out, as long as you haven’t emptied it. The only difference is that this is a virtual can, and therefore doesn’t ever smell.

- **The menu bar provides you with control over the Finder and the Desktop.** When you begin using programs, you will see that menus and how they’re structured remain constant. Although each program has its own features, and its own specialized menus, the way they work and the position of standard functions (such as printing and saving) remain the same.

At the top of the screen is a white region with words, such as File, Edit, View, and Special on it. This is called the Menu bar.

In the upper-right corner is a picture of your computer’s hard disk. This picture and the other pictures on your Desktop are called icons, and are at the core of running your computer. Icons are the fundamental graphic component of your Macintosh — and your Windows-based PC, for that matter — that both display and give access to everything within your operating system.

### The Keyboard

The most common way to get things into the computer is through the keyboard. The keyboard is used for several different types of input.

#### Typing Information Directly into Various Programs

You might find yourself entering copy into a word processor or into a design. If you do have to enter lots of copy, then learning how to type is clearly important. Other types of information you might find yourself inputting into the system are numbers. If you’re working on financial documents a lot, then you will become familiar with the **numeric keypad**, which is usually found on the right side of the keyboard.
When you're first using your system, it will be all you can do to move the mouse, watch the screen, and gasp in amazement when the system responds. As time passes, and you become more comfortable with how the system works, you should make a concerted effort to begin using shortcuts, called keyboard equivalents, such as Command-S to save a file, Command-P to print a document, or Command-Q to quit an application. As great as the mouse is, it's not nearly as fast as using the keyboard when there's a choice between pressing a key or two and rolling the mouse from one side of your monitor to the other.

Using the Keyboard to Control Programs

Almost all programs offer what are called keyboard commands or keyboard equivalents. All programs on the Macintosh offer several ways to accomplish certain tasks. Saving a file, for example, can be done using the mouse (which you'll learn about shortly) or by pressing a combination of keys on the keyboard.

Using Function Keys

Function keys are positioned across the top of the keyboard, and are named F1, F2, and so on, usually through F12. These keys often consolidate common keyboard commands into one keystroke. There are other ways you might find yourself using the keyboard, depending on the exact nature of the program you're using at the time. A drawing program, for example, might allow you to use the keyboard to "nudge" or move an object a little bit at a time; a game might let you use the Arrow keys to maneuver your warrior through the bowels of Hell.

Using Modifier Keys

There are four special keys, called modifier keys, that you will use almost every time you work on your computer. Here is a list of these special modifier keys:

<table>
<thead>
<tr>
<th>Modifier Keys on the Macintosh</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Command Key is the most important modifier key on the Macintosh: it's the keyboard shortcut to Save, Print, and Open files.</td>
</tr>
<tr>
<td>The Option key is the second of the special function keys you will use. If you see this symbol, it means to hold this key down.</td>
</tr>
<tr>
<td>The Control key is familiar to most PC users, but only recently started gaining in popularity among Macintosh developers.</td>
</tr>
<tr>
<td>The Shift key works just like it does on a typewriter, capitalizing the letter it's used with. It's also used with the Command or Option keys.</td>
</tr>
</tbody>
</table>

The Macintosh Operating System provides four Modifier keys. The graphics in the left column are usually the way these keys are represented in printed materials.

If, for example, you want to open a file, you might have to hold down the "O" key while pressing the Command key. Pressing "O" by itself might not do anything at all — or at the most put an errant "O" somewhere in your important report. Pressing the Command key while holding down the "O" key, however, modifies the key, and makes it do something more than simply enter the letter "O."

The Mouse

In the old days, before the mouse (the mechanical, computer kind of mouse, not the squeaky, pointy-eared species), using computers was quite a bit harder. To get the computer to do anything, you had to use the keyboard to enter confusing strings of (otherwise) meaningless code.

The mouse was invented in the late seventies, but didn't make its public debut on a computer until Apple put one on an early model called the Lisa. This computer was never really
There are several different kinds of "mice," or pointing devices. The first is the regular one-button mouse that comes with your Macintosh. They differ from PC mice in that they have only one button — the PC version has two (or more).

The second type of device is a roller (or "track") ball, which is essentially a mouse that's mounted upside down, with the ball facing up instead of down. You use your hand to roll the ball, and the arrow pointer moves accordingly.

The third is a tracking pad, where you use your finger to trace the arrow pointer's path across the screen.

Lastly, there are stylus devices, that look much like a regular pen. You use the pen to draw the path of the arrow pointer on the surface of a special pad. The unique thing about these devices is that they're pressure sensitive. When used with painting and drawing programs, the harder you press, the more "ink" or "paint" comes out of the tip!

popular; and it wasn't until the introduction of the Macintosh computer that the mouse began to have an impact on computers everywhere.

The way a mouse works is quite simple. Moving the mouse around on a flat surface (many people use a piece of plastic called a mouse pad to keep the ball and rollers clean) controls an arrow that you can see on the monitor.

On the top of the mouse is a button. By using the mouse to move the cursor around the screen, and the button to click on the items on the screen, you can make things happen. This is a much easier and more natural way to get computers to do things for you. Trust us, we're old enough to remember the days when computers didn't have mice.

If using the mouse to point at different regions of the screen feels a little clumsy, just give it time. Before you know it you'll be speeding around like a regular expert. You'll learn how to adjust mouse operation later in the section about Control Panels.

Here's how the mouse works:

Mouse Mechanics

There is a ball inside the mouse. As you move the device on the table, the ball rolls around on the surface. Inside, it's moving three sensors, which control the position of the mouse cursor on the screen.

Using the Mouse

The most fundamental skill that you will learn is the use of your mouse. Without this pointing device to access the various menus, dialog boxes, and functions available to you, you would need to learn literally hundreds upon hundreds of complex keyboard commands. An experienced operator makes use of both keyboard commands and the mouse; depending on the type of work he or she does, they might lean heavily towards one or the other.

Artists working on digital images, architects, or anyone doing a lot of drawing and painting all use the mouse much more than they do the keyboard. They might access various tools from the keyboard, and they often find themselves entering type or numbers into their designs, but the mouse is their primary connection to the Macintosh.
Adjusting the tracking and double-click speed of your mouse is a very useful technique. All users have their own preference for how fast or slow the mouse should move the arrow, and not everyone can double-click at the same speed. Throughout this course, you will learn how to set various "preferences" such as the ones for your mouse. All programs, including the Finder, can be customized to fit the way you like to work.

Other people, such as copywriters, account supervisors, customer service representatives, salespeople, accounting personnel, and data processing professionals spend a lot of time at the keyboard. Their typing skills are usually superior to those of someone who uses the mouse all the time, but their eye-hand coordination — the time it takes them to get the cursor onto the right part of the screen to click a button, for example — might not be that accurate. The more one uses a mouse as their primary method of interfacing with their computers, the more adept they become at correctly positioning the mouse cursor.

As a student, you should seek to become proficient with the mouse as soon as possible. You'll get plenty of practice during this course.

Dragging
The first thing to learn is how to click on something and drag it around. While this might not sound important, you will come to learn that it's a critical skill.

Dragging is just that — you point at something, hold down the mouse button (if you're working on a Windows system it's usually the Left mouse button), and move it around. You drag the item where you want it and release the mouse button to drop the item. This works for folders, icons, moving items from one folder to another, or from your system onto a floppy disk or removable hard disk. It feels a bit clumsy at first, but will become second nature as you gain experience.

Dragging Items

1. In the upper right corner of your Desktop there's an icon that represents the hard disk in your computer. In the lower right corner, there's a little garbage (excuse us, Trash) icon. We've shortened the distance between the two for this visual.

2. Position the mouse cursor directly over the Trash icon and hold down the mouse button. The icon will become highlighted. Drag it up the screen until it's directly below the Hard disk icon. Let the button go — essentially dropping the icon in the new location.

3. Now drag the Hard disk icon until it is to the left of the Trash icon.
Don't run your mouse on anything but a mouse pad or a very clean surface. Even then, they'll occasionally become gunked up and won't work properly. This is because the roller ball and the tracking mechanism become clogged with gunk that's very hard to get off. You should remove the ball on a regular basis and clean it with alcohol or soapy water. Same thing with the small rollers inside; examine them and make sure they're clean. If they have gathered lint, remove it gently with a wooden toothpick and a pair of tweezers.

Despite your best precautions and rodent hygiene, you can expect to replace your mouse about once a year — or less, if you're a heavy-handed roller or working in a machine shop or mining operation.

Double-Clicking
The next important thing to learn is the ability to click the mouse button twice in rapid succession. It's called **double-clicking**. If you position your mouse on an icon and double-click your mouse, something will happen — as we'll see a little later in this chapter.

Mouse Preferences
As you can see, there are two things you can do with your mouse: move it around and click the button. How far the mouse cursor moves when you move your mouse on the pad (called the **tracking speed**), and how fast you have to click your mouse button to make something happen are both under your control.

**Adjusting Your Mouse Controls**

1. Point at the Apple in the upper-left corner of the Menu bar. Click and hold down the button. Keep it held down, and slide the mouse cursor to the word "Control Panels." Slide to the right a bit and down until the word "Mouse" is highlighted.

2. When you release the mouse button, a small window will appear that contains the controls for your mouse. There are two sets of **slider** controls here. The top one controls the speed at which your mouse cursor moves relative to the movement of the mouse. Click on the slider and slide it to the left, to slow down its movement.
Although menu bars change depending on what program you're using at the time, there is a great deal of consistency in where specific items are located. For example, the File menu always comes first, followed by the Edit menu. Context, or program-sensitive commands come next, followed by the Help menu, which is always positioned last in the list on the right side of the menu bar.

3. Move your mouse around a bit and feel the difference between Fast tracking and Very Slow tracking. Notice that the icon for Very Slow is a stylus pad (which we talked about in a sidebar a few pages back). Adjust the mouse until you're comfortable with how fast (or slow) it moves.

4. Now adjust the Double-Click Speed slider. Notice how the mouse button flashes in the lower left of the window. Adjust the slider until you can comfortably double-click your mouse button.

5. When you're done, position the cursor directly over the little box in the upper left hand corner of the window. Click once, and it will close. You have successfully customized exactly how your mouse responds to you.

Menu Bars

Whether you're working on the desktop, moving things around folders, making copies, or using an application program, you will see a Menu bar at the top of the screen.

Menu bars are said to be context sensitive, that is they display choices specific to what you happen to be doing at the time. For example, at the Desktop level, they have to do with copying files, printing the contents of a folder or window, emptying the Trash icon, or shutting down your computer. We'll see these in a moment.

If, however, you're in an image-editing program such as Photoshop, the menu choices display Photoshop commands.

Let's move on and work with the basic commands available to you from the Mac's desktop.
Working with the Menu Bar

1. Move the cursor to the first menu selection. It's called the File menu. Click once on the word File. A drop down menu will slide down from the Menu bar, and you'll see the choices available to you.

2. Slide over to the next menu — the one called Edit. That menu will drop down from the Menu bar and you'll see more options. Don't worry about what they do just yet — you'll have plenty of time later on to learn all the commands.

3. The next in line is the View menu, where you can change the way files look and behave on your system. This is another menu that we'll explore a little later.

4. Next, slide past the Special menu, and take a look at the Help menu. We will discuss the Help system in the following section.

5. Let go of the mouse without making a selection from the menu.
Windows

A window is a fundamental component of the Macintosh Operating System. Windows sit on top of the Desktop, which is always functional and immediately available. Windows serve two functions:

- Displaying the content of folders, drives, removable disks, and CD-ROMs.
- Displaying the working page of an application program. In most cases, programs show you a window containing the document you’re working on and display different sets of tools provided by that program. Some programs allow you to view the windows of more than one document at a time.

We’re going to start out with the first kind of window — the one that displays the contents of a hard disk or folder.

Scroll Bars

Scroll bars are an important part of managing windows on your Macintosh, because it’s not uncommon to have more things in a folder or on a hard disk than can be seen at one time. That’s where scroll bars come into play. Here’s how they work:

1. Position the cursor over the icon of your hard disk. It’s the icon in the upper right corner of your desktop. When the cursor is over the top of the icon, double-click the mouse button.
How you organize your work area is a personal thing, and often closely parallels your habits on a real desk (as opposed to this virtual desk). If you're sloppy, and your desk is normally buried under tons of paperwork, so will your Macintosh desktop. If you're highly organized, and keep every single thing in its correct spot in the universe, then your Macintosh will be equally structured.

Most of our desktops look like the proverbial rubble-strewn field.

2. It will open into a window. Some of the items inside might look different on your system — you may have more or fewer folders, or you might have folders and other icons representing files or applications. Here's what our hard disk looked like when we double-clicked the icon to open our hard disk window.

3. Move the cursor to the lower-right corner of the window. The diagonal graphic is the Manual Resize handle. Drag the corner inwards, reducing the size of the window. When you let go, the window will remain at the size you made it.

4. Resize the window until some of the contents are hidden.

5. Once your window is too small to show all the contents, use the sliders to expose items you can't see.

6. Next, move the cursor to the top of the window (over the Title bar), click, and drag the window around. You can position the window anywhere on the desktop — even with part of it hanging off the monitor!
7. Click the Collapse button (the one in the very upper right corner of the Title bar).

8. Click the Zoom box (the second one from the upper right corner of the Title bar). The window will get just big enough to show all the contents.

9. You will notice that when you're working with a window, for example, resizing or moving it, the Title bar shows a series of black horizontal lines. These lines indicate that this is the Active Window. Click anywhere on the Desktop outside the window, and see what happens.

10. You will notice that the Title bar of that window is now grey — the lines indicating that the window is active have disappeared. Click on the Title bar again. It will be reactivated. This is very important when you have several folders opened at the same time. We will see this feature in action a little later on.

11. Close the window by clicking the Close box in the upper left corner.

**Reviewing the Anatomy of a Window**

Whether you're looking at the contents of a folder or disk drive, or working in an application program that provides a window for you to work in, the basic features of a window can be found almost universally within Macintosh programs.

**Anatomy of a Window**

- Close Box
- Title Bar
- Zoom
- Collapse
- Scroll Bars
- Manual Resize
- Number of Items, Total Space Available
- Contents

*In a later chapter, we discuss several methods of connecting to the Internet besides T1 or T3 lines, such as cable modems, and a relative newcomer to the scene known as DSL, which allows high-speed access over regular copper telephone wires.*
This section will provide you with some experience in using the built-in Help system that Apple provides with the Macintosh. The exercises are designed to familiarize you with how the system works—not to go through the hundreds of topics available. You should make extensive use of the help system as you’re learning. Later, it will become just another thing that you don’t use. We always install help files when we purchase new software. Some of the help systems are very comprehensive, while others hardly provide any assistance at all. You will come to love help systems if you’re anything like us—bad at reading manuals. Help systems are meant to be available at exactly the time you need them.

- **Title bar.** Contains the name of the folder or hard disk.
- **Close box.** Closes the window.
- **Zoom box.** Expands the window to display all of the contents, or shrinks it its pervious size. If the contents require more than the space available on your monitor to display, the Window expands to fill the entire monitor.
- **Collapse box.** Shrinks the window down to its Title bar, or, if the window has already been minimized, it returns it to the size it was before it was shrunk.
- **Scroll Bars.** Allow you to move the inside of the window horizontally or vertically so you can see items not currently in the visible area.
- **Resize handle.** Lets you drag the window to whatever size suits your needs.

In Chapter 2, we’re going to work more with windows, and explore some of the more advanced controls that are available to you. In the meantime we’ll move on to other aspects of the Mac OS.

**Mac Help**

The Mac Help system built into the Macintosh is a powerful and effective interactive aid that will provide answers to your questions and instructions on how to perform specific functions. While a structured, hands-on course like the *Against The Clock* series of instructional guides is the best way to start learning about your Macintosh, a comprehensive Help system is an indispensable tool as you move forward.

There are two types of help available to you from the Mac Help system.

- The first is stored on your internal hard disk when the Mac OS is originally installed. It is very robust, and will provide answers to almost any question you might have. It references all the core functions of the Macintosh and the Mac OS.

- The second—a relatively recent addition to the Help system—is available directly from the Apple Internet site and works only if you are able to access a connection to the Internet from the system that you’re working on.

Increasingly, corporate and education installations are connected directly to the Internet through a high-speed connection called a T1 or a T3 line. These are special communications lines which allow multiple users on a local network to connect directly to the World Wide Web. In fact, if you’re connected to one of these networks, you’re literally online all the time, and never need to dial the phone, as you do with a modem. Actually, the modem does the dialing for you, but if you’ve ever connected to the Internet through a modem-equipped system you might have heard the phone being dialed from within your computer. A direct connection doesn’t connect each time you go to the Web.

If you are connected to the Internet, than the entire range of Help and technical assistance is available to you at all times. For now, let’s look at the built-in Help system, since we’re sure that it’s available to you.
Using Mac Help Basics

1. Select Mac Help from the Help menu.

2. Take a moment to familiarize yourself with the Mac Help window.

On the left side of the Mac Help window is a list of system-specific categories. The first choice in the list is What's New, and provides a list of features that are new in Mac OS 9 (or whatever version you're running on your system). This is for people familiar with older versions of the Mac OS who want to see what changes and new features are available.

3. Move the cursor until it hovers over the second selection on the left side of the Mac Help window — the one called Basic. You will notice that as you move over the blue underlined selections, the cursor turns into a little hand with a pointing finger.

What's New

Basic

Color Accuracy
Many different applications make use of split windows like this one, where a list appears in one side, and the content in another. Some Web sites on the Internet also make use of this technique.

Some icons are buttons, and some aren’t. Buttons need to be clicked only once, while a regular icon needs to be double-clicked. It’s usually not a problem if you accidentally double-click a button, but sometimes it will launch an application twice. When you suspect an icon is a button, try clicking only once; if nothing happens, it needs to be double-clicked.

When you click on the Basics link, the right side of the window changes to display the subcategories under that heading. You should also note that the Basics link has changed color from blue to green — to let you know that you’ve already visited that topic.

2. You will see that the list is further broken into categories. The second category is called About Icons and the Desktop. Click on it and a discussion of icons and the desktop will be displayed.
3. Read the instructions. When you're done, click the Back button. It's on the top left side of the window. This will return you to the main Mac Help window.

4. Click the Home button and look at the window. This is actually the top layer of the Mac Help system.

As you can see, there are actually three different levels of assistance: one for AppleScript, which is a programming language that comes with your system; one for Mac Help (that's the one we already used), and one for QuickTime, which is a collection of tools for displaying videos and playing sounds. We'll be exploring QuickTime later in the course.

5. Click the Mac Help link and return to the previous screen.

As you saw from this short exercise, you can use the category listing to find a subject that interests you, or something that you're having a problem with. You should take time to look through the various categories. There is a tremendous amount of information stored there.

Another way you might find a subject is by using the Search function.

**Searching the Mac Help system**

1. Click in the Search field and type the word "folders." (Don't put the quote marks in). Click the Search button.
All programs come with some sort of help system built in. Although they don't all look exactly the same, they all work on the same basic principle of topics organized in an index.

When you're installing software from a CD, you're usually allowed to determine which features you want on your hard disk. Naturally, the more features you install, the more space you'll need for the application. Help files are among the components that some people choose to leave on the CD. This way if you need Help, you're asked to install it. We find that when you first install a program it's probably a good idea to sacrifice the space and install the Help files. That way if you need assistance, you won't have to look under all those pizza boxes to find the original program disk.

2. A new window will appear with the results of your search. You will notice that there are quite a few subjects in the list. Select the one named Organizing files.

3. A window will appear that contains a discussion of folders and how they work. We're going to work extensively with folders in Chapter 2, so read this information to familiarize yourself with how they can be used to organize your data.

4. When you're done, you can close the Mac Help system by clicking the Close box in the upper left corner of the window.
Balloon Help

There is another type of help available to you — and one that is very useful as you are getting to know your Macintosh. It’s called Balloon Help, and it’s quite simple to use.

Using Balloon Help

1. Select the Help menu, and choose Show Balloons.

2. This control is known as a toggle. When you select it once, it turns on. Select it again, and it turns off. At this point your Balloon Help is turned on. Move the cursor to the Apple menu in the far upper left corner of the desktop and see what happens (You don’t have to click the mouse).

3. Touch the mouse cursor on the Special menu and slide down the list. You’ll see that Help balloons exist for almost all aspects of the Finder and the Desktop.

4. If you want, you can keep Balloon Help turned on, otherwise, select Help>Hide Balloons to turn it off.
Whenever you're done working on your system, make sure you quit any open applications and use the Shutdown command from the Desktop. This way the computer performs a series of internal tasks to make sure everything is OK. Simply turning it off can sometimes lead to corrupt (unusable) files.

**CPUs and Memory**

Inside your Macintosh cabinet is the CPU, which is short for Central Processing Unit. The CPU is your computer's virtual "brain." Memory is just that — information that's currently available to the brain. Like most of us, some computers have a whole lot of memory, and some don't.

**The CPU**

If you opened up your computer cabinet, you would find a great deal of complex electronics stored inside. Among the many components is a special chip called the CPU. This chip contains the basic instructions that the system needs to perform tasks like using software tools, storing data, and communicating with devices like monitors, printers, and other system components.

Increasingly, manufacturers are building computers that have more than one processor in order to meet increasing demands from more and more complicated programs. Rather than attempting to build bigger and bigger devices, manufacturers have decided that it's easier to use multiple processors. That way, the demands on the CPU can be divided up — by specialized operating system software — and shared among the processors.

This doesn't mean that companies like Apple, IBM, Compaq, Intel, AMD, and many others aren't working to make CPUs more powerful. Using multiple processors is a strategy that lets users like you select a system that's just right for your unique needs. For example, if you work on digital images, which are very data-intensive, you might choose to buy a computer with two or more processors. If you're going to be a copywriter, primarily using word-processing programs, which inherently place less of a demand on the computer, a single-processor system should suffice.

**Memory**

The amount of memory that's built into a given computer determines two things: how many things the computer can do at once (how many programs can be loaded and ready-to-go when you need them), and how fast certain functions execute.

Memory can be thought of as a honeycomb. Each cell on the grid represents one byte. A byte is enough to store one character.

If you put together 1,000 of these cells (actually 1024, but let's not get too crazy here), it's called a kilobyte. A million of them are called a megabyte, and a billion are referred to as a gigabyte.

You may have heard these terms before, especially when looking at promotional material for computers or hard disks. Memory contained in the computer is called RAM, or Random Access Memory.
RAM memory is only active and available when the computer is actually turned on and operating. Things that were stored only in RAM (which is the case while you’re working on a new document, that hasn’t been saved, or written to a disk) are lost when the system is powered down. When you want to store something permanently, you save the contents of RAM to the system’s hard disk (or some other storage media). This transfer takes place whenever you issue a Save command from within an application, or software tool. We’ll be working with these concepts in depth a little later on in the course. Here’s a graphic that shows the difference:

**Random Access Memory vs. Disk Storage**

| Random Access Memory, or RAM, is memory that is used for the files and applications you have open at any given time. This includes any demands that the OS requires. The contents of RAM are volatile and are lost whenever you turn off your computer. The amount of RAM partially determines how fast your programs run and how many programs you can have active at the same time. RAM capacity is measured in megabytes (MB). A megabyte is one million characters. |
| Most computers today have an internal hard disk. Files are written to these devices so that they can be recalled for future use. Capacities are measured in megabytes or gigabytes (a million million bytes). The larger the capacity, the more files and applications you can store. There are many different types of storage devices, most of which we discuss in the text of this Chapter. |

**Storage**

If you’re new to computers, you have probably encountered someone who told you horror stories about losing their data to a “crash.” This usually happens when you’re working on the most critical project of your life, it’s due in the morning, and you have to work all night long. Fret not.

Today’s computers are quite able to keep your important (and not-so-important) information safe and secure through all but the most traumatic events. Computers offer several different types of storage systems where you can save your information quickly and easily. Later in this chapter we’ll discuss backup and archiving methods, which ensure that even if you do experience a system failure, you will be able to restore your system to the way it was the last time you created a backup.

**Hard disks**

The most fundamental type of storage you’ll encounter as a Macintosh operator is the *internal hard disk*. This mechanical device provides the basic storage space available to you. Most computers today are configured with an internal hard disk — built into the actual system or portable unit. The way they work is quite simple. A read-write head modifies a magnetic field that’s stored on the surface of the hard disk, sometimes called the *platter*. The
The platter is formatted with concentric rings, called *tracks*, and pie-like slices called *sectors*. This segmenting strategy allows the entire surface of the device to contain unique *addresses*, which programs and the Macintosh Operating System (we'll explain these terms later) use when they store and retrieve your data, or when they launch (another word for start-up) a program.

**Physical Characteristics of a Hard Drive**

All physical drives have these same basic characteristics: tracks (the concentric rings around the disk); sectors (the pie slices radiating from the center of the disk); and physical addresses created wherever a sector line splits a track.

Hard disks do occasionally require maintenance, and have been known to fail now and then — even with today's very secure and stable systems. Another disk-related problem that you might see happen from time to time is when a file becomes *corrupted*, or impossible to read. There are specialized programs that can be used to fix certain categories of problems. These applications are called *utility programs*.

**External Storage**

Certain computers not only have internal hard disks, but are equipped with external storage devices as well. These can take several forms.

**Fixed**

A fixed external hard disk is one that's contained in its own case, and usually has its own power supply. When you're considering the expansion of your system, you can choose to put another hard disk inside your computer (internal), or choose to put the device outside your system (external). Depending on the configuration, some computers either don't have the space inside to mount an additional drive, or aren't able to supply sufficient power to the device.

Sometimes, adding an external fixed drive is just easier to do, since you, the operator, only need to plug in the cables, supply power, and run a program that comes with the external hard disk in order to use it immediately. Installing an internal hard disk normally requires you to take your computer into a service center where a trained technician will do the installation without voiding your warranty or destroying some vital component.
Removable Media
Removable media is just that: disks and storage systems that can be taken out of your computer. There are many types of such media.

- **Floppy Disks.** Floppies are normally 3.5-inches square and fit into a slot either within your computer or in an externally connected drive. They only offer about 1.4 megabytes of storage space, and are often reserved for making copies of small files to move to another machine, or as a limited backup media.

- **CD-ROM.** When most people think of CDs they either think of music CDs or the kind that you get when you purchase new software or interactive titles. There are three primary categories of CD-ROM devices.

  The first is a regular CD drive that is only capable of reading what is on the CD in their tray. These are called Read-Only CD drives.

  The second type allows you to actually “burn” a blank CD with your own information. These are called Write-Once/Read-Many. When you burn information onto a CD using one of these drives, you cannot change the information on the drive — it’s there to stay.

  The third type, and one that will eventually (likely) become the standard is known as a Rewritable CD. Using special CD blanks, these devices can put information onto a disk after it’s been burned the first time. You can easily modify information on a Rewritable — almost like you can on a hard disk or floppy disk.

- **Removables.** Removable platters were quite popular for a while as a manner of both extending the amount of space available to the user, as well as moving larger graphic files from one system to another. An example is the designer or advertising agency who sends their files for output at a service bureau. While they’re still in use at many sites, larger, faster, and more reliable methods are beginning to reduce their importance as removable media. Some of them, such as Jaz and Zip disks, have become standards on both the Mac and Windows platforms.

- **Optical Disks.** Once quite popular, but losing ground to CDs, optical disks are larger (usually 5.25 inches) media that are mounted in a specialized read/write drive mechanism. Optical disks normally hold between 600 megabytes and 1.2 gigabytes of data — enough for most large projects and very reliable as a backup media. The disks are relatively expensive though, and they’re normally used for projects, not daily backups.

- **Tape Drives.** Today’s Macintosh systems offer substantial storage in their internal hard disks. Making complete backups of your drive isn’t really necessary on a daily basis — just making backups of stuff that’s changed since the last time you backed up often proves sufficient. Tape drives are internal devices that can either back up your entire hard disk, or just portions (for example by a range of dates, or only files that have changed). Tape drives are invaluable if you’re in a commercial environment. Many networks have centralized tape backup systems that work in the evening while you’re at home sleeping or out partying.
Chapter Summary

In this first Chapter you have learned about the core components of the Mac OS: the mouse, the Desktop, the Finder, and how windows work. You have also gotten a brief overview of how RAM works, and how it differs from the storage provided by hard disks and external devices, such as removable platters, Jaz disks, and Zip disks. You should also have a solid understanding of how the Mac Help system operates, and how to access it when you need to know the answer to a specific question.
CHAPTER 2

Files and Folders

CHAPTER OBJECTIVE:

To learn the basic properties of files folders and how to work with files and them. To understand how to create, view, and modify files and folders. In Chapter 2, you will:

- Learn what folders are, and how you can create, name, and rename them to meet the requirements of specific projects.
- Understand how folders can exist within other folders, and how to move objects in and out of folders.
- Learn to navigate, or move through folders, both from the Desktop, using your mouse, and from the keyboard, using keyboard equivalents to menu selections.
- Explore the different ways in which you can view the contents of your folders — as icons, lists, and buttons.
- Learn about Finder preferences, which are settings that control the way the Finder looks and behaves on your Macintosh.
- Become familiar with the Trash feature, including how to throw things away and how to recover them.
- Understand how the Macintosh makes use of icons to provide a visual way for you to communicate with your system.
Files and Folders

In this chapter, we’re going to work with files and folders. You saw folders in the first chapter, and learned how the basic window controls operate. The following exercises and discussions will expand your knowledge of how the Mac functions and how to keep control of your work, your Desktop, and the files that you create.

Using Folders

You’ve already double-clicked an item when you opened the Hard disk icon in an earlier hands-on exercise. That’s going to help you in this section, where we’re going to discuss the way folders work on the Macintosh — and how you can create, name, arrange, and throw away a folder when you don’t need it anymore.

What are Folders?

You can tell a folder when you see one. It looks just like a folder would look on your desk. Folders hold any files or other folders that you put in them.

Creating Folders

Learning how to create folders is one of the most important basic skills that you will call upon when setting up your system, getting ready for a project, or backing up your important files. In short, you are likely to use a folder every time you sit down in front of your computer.

Creating folders and naming them is really quite simple, as you’ll see from the next exercise. It’s not making folders that’s the hard part. It’s keeping them organized that gets tricky depending on how organized you are — and we really can’t help you with that.

Creating a New Folder

1. If your Hard disk folder isn’t open, double-click the Hard disk icon on your Desktop to open the window. Click once somewhere in the window just to make sure that it’s active. The window is active if the Title bar has lines in it instead of being gray.
Sometimes using the keyboard shortcuts to execute commands is arguably more efficient than using the mouse. We say arguably, because there are many very proficient users that rarely use the keyboard. If you’re already a typist, you are more likely to find yourself using keyboard commands in place of the mouse.

In the Finder’s File menu alone, there are 11 choices available:

Command-N New
-O Open
-P Print
-Fwd-Delete Trash
-W Close
-D Duplicate
-M Make Alias
-Y Put away
-F Find
-H Internet
-R Show original

2. Grab the lower right-hand corner of the window and drag to the lower right. This will resize the window so you can see more of the contents.

3. Click on the File menu and slide the cursor down until New Folder is highlighted, then click on it.

4. As soon as you let go of the mouse button, a new folder will appear in the window. The name of the folder is highlighted. Name it “My First Project Folder”. Don’t worry if you make a mistake, just use the Delete key on your keyboard to back up and retype it.

5. Click the cursor anywhere in the window (not on an icon) to deselect the folder.
Throughout the course we provide names for files and folders that you create or modify during hands-on activities. If you decide to change the names to something more personal, it may prove confusing later on if another exercise uses the file or folder. The images in the book and those you see on screen will differ. Because of this, we recommend that you put up with the names we use for files and folders.

Renaming Folders
It's important that you know how to change the name of a folder. There are plenty of times when this is necessary: when you want to add a date to a folder's name, when you want to correct a misspelling, or when you want to change a name in order to better organize a collection of folders. Doing so is simple.

Changing the Name of a Folder

1. Click once on the folder you just created. It will become highlighted.

2. Hit the Enter key on the right side of the numeric keyboard. If you don’t have a numeric keypad (or if you just want to do it a different way), simply put the cursor over the top of the name, click, and wait a second or two. A box will appear around the highlighted name of the folder, indicating that you can now type a new name. Change the name of the folder to “Project Folder”.

3. Click anywhere to deselect the folder you just renamed.

Nesting Folders
When folders are put inside other folders, and folders created inside those, it's called nesting folders. For this exercise, we're going to use some of the files on the CD-ROM that came with this book.

Organizing Folders

1. Double-click the Project folder you just created. It will open up and display its (now empty) contents window. Notice how it sits on top of the folder in which it was created. When windows lay over each other this way they’re said to be cascading.
When you used your built-in Help files in Chapter 1, we accessed information about how files worked—in particular their hierarchy. Hierarchy and nesting are the same thing. There is a top level folder, folders inside that one, folders inside those, and so on. If you think about it, this is a very logical way to organize projects. In a design environment, for example, you might have a client folder, and inside that client folder a series of jobs that you're working on for them. These folders might have job numbers instead of names. Inside those job number folders might be other folders for scans, drawings, copy files, and layouts.

2. Change the active window by clicking on the one underneath the Project folder. When you see what happens, change back to the Project folder.

3. With the Project folder active, hold down the Command key and press the “N” key three times. Three new folders will be created inside the Project folder.

4. Name them “Copy Files”, “Graphics”, and “Artboards”.

When you used your built-in Help files in Chapter 1, we accessed information about how files worked—in particular their hierarchy. Hierarchy and nesting are the same thing. There is a top level folder, folders inside that one, folders inside those, and so on. If you think about it, this is a very logical way to organize projects. In a design environment, for example, you might have a client folder, and inside that client folder a series of jobs that you're working on for them. These folders might have job numbers instead of names. Inside those job number folders might be other folders for scans, drawings, copy files, and layouts.

2. Change the active window by clicking on the one underneath the Project folder. When you see what happens, change back to the Project folder.

3. With the Project folder active, hold down the Command key and press the “N” key three times. Three new folders will be created inside the Project folder.

4. Name them “Copy Files”, “Graphics”, and “Artboards”.

When you used your built-in Help files in Chapter 1, we accessed information about how files worked—in particular their hierarchy. Hierarchy and nesting are the same thing. There is a top level folder, folders inside that one, folders inside those, and so on. If you think about it, this is a very logical way to organize projects. In a design environment, for example, you might have a client folder, and inside that client folder a series of jobs that you're working on for them. These folders might have job numbers instead of names. Inside those job number folders might be other folders for scans, drawings, copy files, and layouts.

2. Change the active window by clicking on the one underneath the Project folder. When you see what happens, change back to the Project folder.

3. With the Project folder active, hold down the Command key and press the “N” key three times. Three new folders will be created inside the Project folder.

4. Name them “Copy Files”, “Graphics”, and “Artboards”.
Here's a good keyboard shortcut to remember: Hit the tab key while this window is open. Notice that the folders each become selected in turn, as you tab through. If you stop on one and hit the Enter key (on the numeric keypad), the name becomes selected and you'll be able to rename it without using the mouse at all.

If you haven't done so already, now's the time to gather the student files supplied with this course.

Insert the CD, and locate the folder named SF-MacOps and drag it onto your Desktop. It doesn't require a great deal of space, so it shouldn't be a problem. If size is a problem, then you can open the files directly from the CD, but will still need to save your work on your hard disk.

5. Double-click SF-MacOps folder from the CD-ROM that came with this course. Inside are several folders. Open the one called Working with Folders. Inside you will see several different types of icons.

6. Open the Project folder you just created. Arrange the two windows so they're next to each other on your Desktop.

7. Select the Banana Boat.TIF file, and while holding down the Shift key, select the Gardening Panel.TIF file. Holding down the Shift key while selecting files lets you select files that aren't next to each other — sometimes called non-contiguous files.

8. Now that they're selected, drag the two files over to the Project folder. You will see them move together. Drop them onto the window by releasing the mouse button.
Using the Shift key while clicking on elements lets you select more than one item. Another trick is to press Command-A, which selects all the items in a folder.

Shift-clicking will also deselect the items you don't want. This is very useful when you want to move or copy almost all of the files in a particular folder. It's much easier to select all of the folders then deselect a few of them than it is to Shift-click every one you do want. Remember, always try to minimize your clicking. If there's a way to do something with three clicks instead of twelve, the shorter method is the most productive. You can also click on a window and (holding down the mouse button) draw what's called a marquee around several files if they're next to each other.

9. Drag the Banana Boat icon onto the top of the folder called Graphics. Hold it there a moment, and the folder will open. Drop the file.

10. Close the folder by clicking on the Close box. Next, drag the Gardening Panel icon onto the Graphics folder and drop it immediately. It will go into the folder without opening. Remember, if you wait a moment, the destination folder will open by itself; if you simply drag something onto a folder and drop it, the item will automatically move to that folder. Open the Graphics folder and check it out.

This feature (where a folder automatically opens if you hold a file over it for a moment) is called a spring-loaded folder. Later on you'll see how you can turn this feature on and off, and how to change the speed at which a folder responds.

11. Put the Berries.TIF file and the Sample File #1 (Stationary) file into the folder that you named Copy Files.

12. Put the Rough Rider Ad.TIF file into the Artboards folder, and the Berries Picture.TIF into the Graphics folder, along with the other two images you dragged into it.
You might notice throughout various hands-on activities that we sometimes change the size of the window without giving you specific instructions to do so. At this point you should be comfortable with resizing windows yourself. So if they're occupying too much screen space, by all means do so. We're doing it to adjust the size of the screen shots for the layout of each page in this book.

When you look at the files that we've supplied to you in the SF-MacOps folder, you will see that almost every file name has an "extension" on it—three letters after a period at the end of the file name. For example, most pictures have a .TIF extension, and most text files have a .TXT extension. This is common in the PC world, but not necessary if you work only on a Macintosh. Since most of the real world works in cross-platform environments, however, it's a good idea to get in the habit of including the extension whenever you name a file. Each application has its own extensions.

13. When you're done, the Working with Folders window will be empty, and all the files will be organized into the three folders you created.

14. Close all the folders so your Desktop looks the way it did when we started this exercise.
There is no question in our minds that the most difficult concept for beginning students to grasp is how to dig around through folders to find what they need. This is particularly true when you’re inside an application, and need to navigate directly to a specific folder in order to find the right file. Take special care to study this issue until you’re quite comfortable with how folders can reside inside each other.

**Navigating through Folders**

In the last exercise, you created a folder with three subfolders inside it. When you’re working on projects, especially complicated ones, your folder structure can become equally complex. Knowing where you are at a given time, and being able to see at a glance which folder happens to be inside which other folder, is very important.

When you create a folder within a folder it is considered a nested folder. Another word for nesting is the hierarchy of your files and folders. You can think of hierarchy as a standard flow chart, with the Desktop at the top, and all other things either at the same level, or at some level below the Desktop.

---

**Organizing Folders and Files on the Macintosh**

**Things on the Desktop include:**

- Hard disk (MacHD)
- Trash
- CD-ROMs
- Floppies
- Other Media (these appear when they’re inserted)

**Items on your Hard Drive include:**

- System Folder
- Applications
- Documents
- Project Folder

You created this Project folder and the folders that are now inside it from the previous exercise.

You dragged these files into their respective folders from the “working with folders” folder, which was supplied on your student files disk.

As you can see from this illustration, there is a logical method to how folders — especially nested folders — work. As you begin to work on real projects, you will begin to learn how to best create and organize folders to match the particular way you like to work.

One thing to remember is how to find out where you are at. If you’ve been working for a while, and you’re deep within a nest of folders, you should know how to identify where the current folder is in the hierarchy. This brief exercise will show you how.
Identifying a Folder's Hierarchy

1. If any folders are open on your Desktop, close them.

2. Double-click your Hard disk icon.

3. Hold down the Option key and double-click the Project folder. You will note that the Hard disk window automatically closed when the Project folder opened. This automatic closing of one folder when you open one of its subfolders is very important when you're going deeper and deeper into nested folders. Otherwise you would either have to close each one individually, or live with a very cluttered Desktop.

4. Do the same thing with the Graphics folder. The Project folder will close, and the only thing left on your Desktop will be the Graphics folder.

5. Hold down the Command key and click-hold on the folder's name in the Title bar at the top of the window. Something called a pop-up menu will appear. (It's called a pop-up menu because that's what it does. You will see many more of these during the balance of this course.)

6. Slide your cursor down until the word MacHD (or whatever your hard disk is named) is highlighted. Let go of the mouse button.

7. Notice that when you selected your hard disk by Command-clicking the current folder's Title bar, its window automatically opened. You can use this technique at any time either to open the containing folder or simply to see where it is you're working at any given time.

8. When you're done, press Command-Option-W (remember COW) to close all the open windows.

If you take something out of a folder for any reason, you can put it back where it came from with the File>Put Away command. Simply select the item, choose the command, and the document or folder will go back to where it belongs. The keyboard command for putting something away is Command-Y. Try it, it's fun to watch and fairly useful, too.
You can close any active window by using the Close command (Command-W) from the keyboard. This makes three different ways to close a window: using the Close box on the window itself, choosing File>CLOSE, and pressing Command-W.

If you add the Option key to this last combination, or Option-Command-W, it will close all open windows on the Desktop.

When you’re working on a project, there are many times when you want several folders open at the same time — especially if you’re moving items from one to another, or opening files from more than one folder.

If you double-click-hold the cursor over any folder, the cursor will turn into a magnifying glass. If you continue moving it over a folder inside that one, it will open, and the first one will close automatically.

Changing Views

Another important aspect of managing and arranging your folders is how the contents appear when you open a folder. The way your files appear within a folder is called the view. There are three different views to choose from.

- **As Icons.** This is the standard view when you first set up your Macintosh. Within this view you can choose several different sizes of icons.

- **As List.** In the List view, you see file information displayed in columns. You can arrange the files by name, size, creation date, kind, label, date created, date modified, and version.

- **As Buttons.** In the Button view, each icon becomes just that — a button. When files are viewed as buttons, they only require a single click to be opened or activated.

So far, we’ve been looking at icons, and while that’s fine for some applications, there are times when a folder contains so many files and folders that it’s impractical to move around using only little pictures of files. There are times when we need to look at lists, and other times when buttons are more appropriate.

For example, if we open our System folder (which is a special folder we'll be talking about a little later), we see these icons.

This isn’t even a very radical example. Folders might contain hundreds of files — a catalog which requires 400 or 500 individual scans, for example — and can be very confusing to look at. Fortunately, there are many different ways that you can arrange your files in an open window.
Using Control-click will access the View menu while you’re in the Finder. The Control-click action on the Macintosh is the same as clicking the right button while working on a PC and using Windows98 or Windows Millennium.

**Changing Views**

1. Double-click your Hard disk icon, then hold down the Option key and double-click the Project folder you created earlier.

2. Hold the Control key down and click inside the window. A pop-up menu will appear.

3. Slide down to the View menu, hold the mouse button down, and another pop-up menu will appear. Continue sliding until the As List item is highlighted. Let go of the mouse button. The Project folder contents be displayed as a list instead of icons. Expand the window so you can view the columns.

4. Notice that each folder’s name is listed on the left side of the window, and the last time the folder was modified (or in this case created) is be displayed in the next column.

5. To the left of each folder’s icon and name is a small arrow. Click the arrow directly to the left of the Artboards folder.
Whenever you close a folder, it remembers the view options that you selected before it was closed. This ensures that you can keep some folders open within each other, others closed, and still others with different view options.

Views are just that — views — and don't fundamentally change the way a folder works, just how it looks. If you're viewing folders as buttons, you can still drag items onto them. The folder will open automatically if the Spring-loaded option is turned on in your Folder options. (We'll be discussing Folder options later in this Chapter.)
Windows as Pop-ups

As we’ve already stated, there will be times when your monitor is so filled with folders that you can’t find the forest (an important file) for the trees (dozens of other folders opened and scattered all over the Desktop). There’s a third way to view folders and their contents. It’s called a Pop-up view.

We’ve used pop-up menus already; that’s how we accessed the View menu in one of our exercises (by holding down the Control key and clicking in the window). This is a different sort of pop-up, though. It takes the active window and collapses it into a button that sits at the bottom of your Desktop. You click the button and the folder opens into a tabbed window. Click it again, and it goes back to the bottom of the monitor and waits patiently until you need it. That way it’s close at hand, but still out of the way of a busy Desktop.

Turning a Folder into a Pop-up

1. Open your Project folder and change the view back to Icons.

2. Hold down the Control key, and click inside the window (Control-click). A pop-up menu will appear. Slide your cursor down to View, then down to As Pop-up Window.

If you’ve ever used a Windows-based machine, you’re probably familiar with the Minimize command. The command reduces a window to a small tab at the bottom of the Windows Desktop. That’s basically the same thing that happens when you choose View>Windows As Pop-ups on your Macintosh.
3. The window will be resized and positioned in the lower left corner of your monitor.

4. As you can see, the Title bar is no longer in the center of the window. Indeed, the folder isn’t even displaying a conventional window anymore. The Title bar is on a tab at the left side of the pop-up window. Click on it.

5. Click on it again. Double-click the Graphics folder and turn it into a pop-up window by Control-clicking and sliding down to As Pop-up Window. Now you’ll have two tabs on the bottom of your monitor.

6. Experiment with your viewing options. You can, for example, view the contents of one folder as icons, another as a list, and another as buttons.

**View Options for Windows**

The Mac OS provides you with many ways to customize your working environment. Almost every aspect of the Finder and the Desktop can be adjusted in some manner. This is true for applications as well. Developers are constantly working to make their software more adaptable to the many different ways that people like to work.

There are a number of options available to you relative to the way windows look and act on your Macintosh.

---

**Using View Options**

1. Open the Graphics folder, if it’s not already open. Change back to icon view.
2. Control-click inside the window and select View Options.

3. Look at the dialog box for a moment. You will notice three buttons. The center button, Always snap to grid, is probably checked. Click the None button.

4. Look at the upper corner of the Graphics folder. When the grid is off, the corner is blank, and when the grid is on, the corner displays a small grid.
5. With the grid off, and the view set to icons, move the files around in the Graphics folder until they're not neatly arranged.

6. You can place icons anywhere in the window if the grid is off. Control-click in the window again, choose View Options, and turn the grid back on. Move the icons around again. You will find that they snap to an invisible grid that keeps them from overlapping each other vertically. You can still overlap them horizontally, but they align quite neatly.

7. You can choose to arrange icons by size, file type, date created, or labels (which we’ll discuss in a moment). Access the View Options again by Control-clicking in the window. Select View by Size and click OK.
When you look at a pop-up menu, such as the one that comes up when you choose View Options you will see a small black dot, called a “bullet” to the right of the selected object.

8. Look at the Graphics folder; the icons have been rearranged according to the size of the file. You can see that the Gardening Panel.TIF icon is the largest, and the Banana Boat Logo.TIF the smallest. Berries Picture.TIF, which was and remains in the middle, was larger than Banana Boat.TIF and smaller than Gardening Panel.TIF.

9. You can experiment a bit with View Options to see the effect that changes have on the way files and folders are displayed within the window. When you’re done, close all your folders.

**Finder Preferences**

There are other changes you can make to the way folders are displayed, which you can do in the Finder Preference dialog box. The Finder Preferences are broken into three categories: General, Views, and Labels.

---

**Working with Finder Preferences**

1. Select Edit>Preferences from the menu bar. A dialog box will appear. At the top of the window you will see three tabs — just like tabs in a book or a stack of index cards. The General tab will probably be selected.

   ![Preferences Dialog Box]

   • **Simple Finder** turns off many of the advanced features of the Finder. You should leave this turned off.
The "Relative Date" button determines if the Finder displays dates as "today" and "yesterday" or as their exact dates. When relative dates are turned on, the display shows familiar terms:

If Relative Dates is turned off, the exact dates are displayed:

- **Spring-loaded folders** are something that you've had some experience with. You can adjust the speed at which folders respond when click-holding an item over them. Simply move the slider left (to make them slower) or right (to make them faster). Note that you can make one open instantly if you press the space bar while you're click-holding.

- **Grid Spacing** determines how close you can put files together when you have a folder's Always snap to grid feature turned on. Remember when we could layer files horizontally but not vertically? Turn on Wide (neater appearance) and files will stay away from each other horizontally as well. The grid is bigger and files stay further apart.

2. In the lower left hand corner of the dialog box, you will notice a small Help icon — a question mark inside a circle on a button. Click it.

3. This is an example of context sensitive help; clicking the Help button from within the General preferences window accessed specific topics from the Mac Help system that pertain specifically to what you're working on at the moment. You can look at some of the responses, and when you're done, close the window.

4. Click on the Views tab. The Views preference window will appear.
5. Take a moment to familiarize yourself with the Views preferences. Set Standard View Options lets you set the default, or standard, settings for viewing the contents of a folder as icons, a list, or as buttons. Take some time to experiment with the settings in this dialog box and when you're done, click the Labels tab.

6. You can change any of these labels by clicking in the box containing the name of the label. Try it.

7. You can even change the colors associated with labels. Click on the first box. It's probably the orange one. The Color Picker is displayed.
The Apple Color Picker is a very powerful tool, and one that you will work with more in a later chapter. It offers the professional designer, photographer, videographer, and graphic artist incredible control over colors in their work. It's also — as is the case with almost everything Apple develops — unique looking, fun, and interesting to work with.

8. You can move the cursor around inside the circle and pick a color, or click on the Crayons in the left column and choose from a box of crayons.

9. Pick one you like and click the OK button to put the Color Picker away.

10. Open the Project folder, then open the Graphics folder, and select the Berries Picture.TIF file.

11. Choose File>Label from the menu bar. You will see your personalized labels in the list, along with your custom color. Select a label and assign it to the folder. If you used our label names, select Harrison Project.
12. Open the Finder preferences again, and go to the Views tab. Set the name and label as the only columns displayed in View>As List.

13. Click on your Graphics folder, and Command-click to change the view to As List. Notice that the changes you made in the Finder preferences dialog box did not yet take effect. Click the Standard Views button. This matches the current window’s preferences to those that you set in the Finder preferences.

14. Look at the window.

15. Label the other two files.

16. You’ll notice that there isn’t enough room in the column to display the full labels. Move your cursor until it’s exactly over the right border of the Labels column, and a double arrow appears. Drag the column to the right to make it wider.
17. Next, click on the Label column over the file list, and the list will sort by labels. You can do this with any column by simply clicking on it. This is yet another way to control how your files and folders appear.

18. When you're done here, go back to the Finder preferences and set the List-view settings back to where they were before. You might want to leave the Label selection active.

19. Put this window away, and close all your folders. Select the Project folder, and choose File>Get Info>General.
20. You will see the General Information window for the folder. From here you can add comments in the bottom of the dialog box, or set a label for the folder. You can do the same with document files.

21. Enter a comment if you like. This column can be turned on in the As List view, so you can keep short notes to yourself and display them in the List views.

22. When you're done, close the dialog box.

**Using the Trash**

We know people who could best be described as computer-age pack rats. They have every file, folder, icon, picture, game, played game, email, and downloaded file they ever had. At some point they buy more hard disks, hook them up, and continue building their electronic equivalent of Idaho's **The World's Largest Ball of Twine** museum.

In the real world, there will be times when you want to throw something away. It might be a file that's been replaced by another, it might be something you just don't need anymore, or it might be the game that you paid $60 for and can't make it out of the very first room of the 12,000-room dungeon.

At times like this, it's fortunate that you have the Trash. The Trash is your friend. It lets you junk, trash, rip-up, discard, and otherwise get rid of stuff you don't want anymore. It also lets you discard important stuff that you need really badly (fret not, you can always dig around in there and find it — at least until the garbage truck comes, so to speak).

**Throwing Things Away**

1. Open your Project folder. Make sure the view is set As Icons and As a Window. Make three new folders inside. Call them "Junk", "Misc.", and "Stupid Games".
2. Make sure the view is set As Icons and As a Window. If necessary, resize the window so you can see the contents, and can also see the three new folders you just made.

3. Drag the Junk folder to the Trash icon. Let it go.

4. As soon as you drop the folder in the Trash, the icon changes, so that it looks just like our garbage can does — filled up and overflowing with junk.

5. You can also throw something into the Trash by using the Control-click method. Position your cursor over the Misc. folder. Control-click the mouse. Slide down until you highlight Move to Trash. Let go of the mouse button. The folder will fly away, landing directly into the Trash icon.

6. Oh, no! That Misc. folder contained the latest revision of your next great novel! Don’t fret. Double-click the Trash icon.
7. That's right, you can simply drag either of these folders (or, by digging into them, something inside one of the folders) back to the land of the living. Unless...

8. Control-click the Trash icon. Take a look at the pop-up menu that appears.

9. Select Empty Trash. The can is empty. At this point, you would need special utility programs made especially for situations where you did throw away something critical. They can usually recover trashed files, at least for a while after you threw them away and emptied the trash. These utilities are not included with the Macintosh, but have to be purchased from a third party.

10. There's another way to empty the trash, and that's from the regular menu bar at the top of the Desktop. Drag the Stupid Games folder to the Trash, and empty the Trash from the Special menu. Good riddance to bad rubbish.

In general, you should be very careful before you empty the Trash. It can easily destroy something you didn't mean to discard, because once you choose empty, it's pretty much over. You can, however, set the Trash to ask you just one more time if you're sure you want it emptied.

---

**Turning on the Trash Warning**

3. See the small box in the lower left corner, in front of the words "Warn before emptying"? Click once inside it. A check mark will appear in the box, indicating that the option is active. This is a very common interface item, and it's called a Check box. You will see them from time to time when presented with a choice of something being turned on or off (as is the case with this warning option).

4. Create two more junk folders in the Project folder window, so you have something to throw into the trash. Drag them there, Control-click the Trash icon and choose Empty Trash. You'll see the warning message you just turned on.

When first learning how to use your system, it's probably a good idea to keep this warning active. Once you're an experienced user, you can turn it off, so that if you want to throw something away — no matter how critical it might be — you can do it instantly without any chance of recovery.

**Recovering Deleted Files**

In order to recover files once you've emptied the trash, you will need a special utility. Here is an example of Norton Utilities, one of the most popular set of utility programs on the market today — both for the Macintosh as well as Windows-based systems. The program gives you a wide selection of services, among them the ability to (hopefully) recover unintentionally deleted files.
Icons

Throughout this chapter you’ve been working with files and folders, using their icons. Icons are yet another cornerstone of the Mac OS. As we move on in the course, you will begin to see other types of icons in addition to the ones you’ve been looking at so far. You can see that picture files, such as Berries Picture.TIF, have small pictures for their icons. Each program on the Macintosh (and on Windows for that matter) has its own unique set of icons. This table should help.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>Standard Folder</td>
<td>These are the most common icons that you will see on your Macintosh.</td>
</tr>
<tr>
<td>System Folder</td>
<td>System Folder</td>
<td>This folder contains components of the MacOS.</td>
</tr>
<tr>
<td>Hard Disk</td>
<td></td>
<td>Hard disk icons look like this. Some systems have more than one.</td>
</tr>
<tr>
<td>CD-ROM</td>
<td></td>
<td>CDs containing music, applications, or data appear on your desktop.</td>
</tr>
<tr>
<td>Application</td>
<td></td>
<td>Each application has a unique icon. This one is for Adobe Illustrator.</td>
</tr>
<tr>
<td>File</td>
<td>(Illustrator EPS)</td>
<td>When you create a file, the program applies its own unique icon.</td>
</tr>
<tr>
<td>File</td>
<td>(Photoshop)</td>
<td>Some icons are actually small thumbnail versions of the file.</td>
</tr>
<tr>
<td>Font</td>
<td></td>
<td>Many fonts come in two parts, with two icons. See Fonts for more info.</td>
</tr>
</tbody>
</table>

As you can see from this table, the look of an icon shows you what the icon represents. An icon that looks like a folder is just that — a container in which other folders or files may be located. An application icon is usually a small picture that (hopefully) is related to the type of tool the program provides; and finally, each application has specific types of icons that it uses when you save a file.

Chapter Summary

In Chapter 2 you learned about files and folders; how to create and manage folders, how to move files in and out of folders, and how to delete items you no longer need. Also, you’ve experienced the different ways that you can view the contents of your folders, including lists, icons, buttons, and pop-ups. You learned about icons, and how they help you to identify what a file contains, or what application was used to create it.
CHAPTER 3

Using Programs

CHAPTER OBJECTIVE:

To learn how programs are used to create files. To understand how to create, save, open, and modify files. In Chapter 3, you will:

- Learn what files are, and how they are created with applications, or programs.
- Understand how to launch or start a program from the Desktop.
- Learn to run more than one program at a time, and how to use the built-in Application Switcher to change back and forth between various applications.
- Explore the use of a floating palette, by learning how to “tear off” the Application Switcher and place it on your Desktop.
- Learn to save files into specific folders, to keep your projects and daily work well organized.
- Become familiar with basic word processing, including the formatting of text elements through font changes, size changes, and positioning.
- Understand how to make changes to text once it’s been entered into a simple word processing program called SimpleText.
- Learn to create aliases of files.
Using Programs

So far we've been exploring some of the fundamental ways the Macintosh works — in particular how you can create and manage folders. Folders are the basic building blocks of file organization and structure on the Mac. In this chapter, we're going to use application software — programs that provide functionality to the system.

Programs are tools that allow you to perform specific tasks, such as writing, drawing, working on images, laying out pages, putting together video footage, creating animations, and accounting for all the money that you're going to make. When you use a program to create something — whatever it might be — the resulting information is stored in a file, and saved somewhere. Somewhere might be your own internal Hard disk, a centralized Hard disk on a network, or on a removable media, such as a floppy disk or removable Hard disk.

Working with Files

So far, we've explored the Desktop, menu bars, and folders. Now, it's time to talk about data files.

A file is something that was created within an application and contains data. That data might be words, pictures, sounds, combinations of items, tables, numbers — in short, anything that can be generated from software on your computer. There are dozens and dozens of different types of files that you will encounter as a Macintosh user — particularly in the graphic arts, where the type of file you send out for production is especially important. (If you send out a disk with a project saved as the wrong file type, you will get it back with a sticky note containing a not-very-nice message to fix and resend the file.) For now, it's sufficient for you to know that files contain data.

Examining a File

1. Open the Project folder, and then open the Copy Files folder.
A "stationary document" is one that is specially locked by the Macintosh. You can tell a stationary document by its icon.

Example File 

A stationary file opens automatically into an untitled window, protecting the original from change. That way, when you open one and make changes, if you want to save it you're forced to assign a different name than the original.

Simple Text, as well as certain other applications, allows you the option of saving a file as a stationary document. Another way is to change the document's attributes under the Get Info command, which we discussed in the last Chapter.

2. These files were created with a very simple application called SimpleText, which came with your Macintosh (specifically, it's included with the operating system supplied with your Macintosh). Double-click the called Sample File #1. This action of double-clicking on a file icon launches the SimpleText application and opens your file at the same time.

3. You'll notice that the document itself is in a window, which acts in the same way as a folder window. The only difference is that this window contains data — not files and folders. You can size the window, move it around the Desktop, or close it just like a folder window.

4. Take a moment to look at the options on the Menu bar. Notice that they have changed from the ones in the Finder menu bar. The commands you now see are specific to this particular word processing program. This is an example of context-sensitive menus — one of the hallmarks of the Mac OS. If it helps, go to the Finder (by clicking anywhere on the Desktop), and turn on Balloon Help. Click back on the document to activate SimpleText and move the cursor to the Edit menu.

5. When you're done looking at the file and examining the menus, you can close it by selecting Close from the File menu, clicking once in the Close box (at the upper left corner of the window), or by pressing Command-W.

Running Multiple Applications

Using SimpleText isn't the first time you've worked with an application. To the contrary, every time you turn on your Macintosh you work with the Finder, which is an application program itself. Now that we've started working with SimpleText, you actually have two different programs running — the Finder and SimpleText.
Managing Multiple Applications

1. Look up in the upper right hand corner of your Desktop. There is a small icon there. Click on it and hold it down for a moment. You will see that the names of the two programs are displayed on your monitor. (We had more than two programs running when we made this screen shot).

2. If SimpleText is selected, you will see the Menu bar for that program.

3. Pick the Finder in the list, and it becomes active.

4. Notice that when you select one program or the other, the icon in the corner changes to reflect which program is running. If you want, you can show the name of the program rather than just the icon. Grab the small dotted bar between the time and the program icon. Drag it to the left until the program’s entire name shows.

5. While you’re up there, notice that clicking on the date displays the time, and clicking on the time displays the date.

6. There’s a very neat trick that you can do with this Application Picker, which is to create what’s called an Application palette. Click on the menu and drag down until you actually pull it right off the bar.
Although we tried to supply you with a good collection of hands-on activities, don’t be afraid to experiment. We do suggest that you make a copy of any files you want to experiment with, so that, when you do try to follow one of these exercises, the machine acts the way we say it should. You can copy any file by holding down the Option key and dragging it to another spot in the folder or into another one.

If you hold down the Option key when you double-click an icon to launch the program that created it, the folder it was in will automatically close when the application starts up. That way when you close the file, the folder it was in will already be closed.

7. Once you’ve grabbed the menu and dragged it onto your Desktop, simply drop it. It becomes a stand-alone object known as a palette. This feature of dragging menus off of the bar is known as tear-offs.

8. Once you’ve torn off the palette, you can select the program you want to run simply by choosing it from the list. If you want to get rid of the palette, use the Close box in the upper left hand corner.

As you can see from the screen shot of our Desktop, when you have a number of programs running at the same time, Application Picker can save you time and energy in switching back and forth between programs.

Creating Files

With few exceptions, all of your activities on your Macintosh will result in the creation of files. Each application creates its own type of file, and under normal circumstances, these files are directly connected to the application that you used to create them. This is why double-clicking the file in the last exercise started up the SimpleText program (another word for starting up an application is launching).

Creating Your First File

1. First make sure that SimpleText is active. Choose New from the File menu.

2. A new document will appear. If you look in the Title bar, you will see that it’s called Untitled. Enter the following copy. To make blank lines, just hit the Enter or Return key.

   My First File
   Dear Emperor Commodus.
   I find that working conditions here at the Colosseum are even worse than they were in the forests of Germania. Please accept my request for two weeks vacation to the Baltic sea.
   Sincerely
   General Maximus

3. Keep the file Open for the next exercise.
Many popular graphics applications exist for the Macintosh — indeed they were originally developed specifically for and on Macintosh systems. Adobe Systems, in particular, created some of the earliest and most powerful graphics tools ever seen on desktop systems. Programs like Adobe Illustrator, Photoshop, and PageMaker (which is the program we use to layout the ATC courseware), are examples. Other programs include QuarkXPress, which is the graphics industry’s most popular page layout package. QuarkXPress was originally a Macintosh word processing program called WordJuggler.

**Saving a File**

At this point, you’ve entered some text into the file — but the file exists only in RAM memory, which is only temporary. It doesn’t reside in a folder somewhere on your Hard disk.

Saving files is obviously a very important function, and that’s what we’re going to do right now. We just thought it would help if we took a moment and mentioned that when you save a file, you should always think about where you’re going to save it.

Whenever you’re working in an application, the Macintosh is keeping track of what folder the program was “looking” in the last time you saved something. If you haven’t saved something recently, it’s likely that the program will save the file in the same folder that the program is stored in.

That’s usually the last place you want to save a file. Normally you want to save your files either inside a specific folder (related to the thing you’re working on), or directly on the Desktop. Some people choose to save their files on the Desktop while they’re working, and drag them into the appropriate folder before they quit for the day.

---

**Saving a File**

1. Choose Save from the File menu.

2. When you do, you will see something called the Save dialog box. Almost every program you will ever use has a Save dialog box, and, although some have features that others don’t (depending on the exact application), they all work exactly the same way.

---

**The Save Dialog Box**
You might have noticed that when we show screen images of our Finder, there is a small icon in the menu bar that’s not likely on the system you’re working on. It looks like this:

![Stuffit Icon]

This icon belongs to a program called “Stuffit” that allows us to compress files. This particular component of the program is called a Magic Menu, and let’s us Stuff files by selecting them on the Desktop and pressing Command-S.

In the graphics industry, the ability to compress files is quite important. Although disk space is important, it’s quite inexpensive these days. The real need for compression comes when you have to move large files around the Internet, or across networks. Then the reduction in size that comes with compression equates to increased speed when transmitting files. Smaller is naturally faster.

3. By clicking the Up/Down arrows on the right side of the pop-up menu, double-clicking the names of folders, or by clicking a folder then the Open button, you can explore, or navigate through your Hard disk until you find the folder where you want to save your file. Alternatively, you can choose to click the Desktop button and save the file there. Pressing Command-D will automatically take you to the Desktop as well.

4. Type the name of your file, “Vacation Request.TIF” in the field reserved for the file’s name. Click the Save button and save the file inside the Copy Files folder, which is inside the Project folder that you created earlier.

![Copy Files Window]

5. After you click the Save button, the file will be written onto your Hard disk, safe from (almost) anything.

6. Once you’ve saved the file, choose Close from the File menu. The file will be closed, but the program will continue to run while we work on something else.

Renaming Files

There will be occasions when you’ll need to change the name of one or more files. You can do this directly from the Desktop. It works the same way as changing the name of a folder.

**Changing the Name of a File**

1. Open your Project folder, then open the Copy Files folder.

2. Highlight the file you just created.
If you check "Locked" in a file's Info dialog, the file can't be thrown away, at least not so easily. Try locking one of the sample files, dragging it to the Trash, and then emptying the Trash. You'll see a dialog box appear.

As the message says, you can choose to delete a locked file. If you do get this warning, it's usually a good idea to check to see exactly what you threw away.

3. Put the cursor inside the name, highlight just the word "Request" and type the word "Demand".

5. Hit Return or click anywhere else on the Desktop and the file will be renamed.

Copying Files
There are numerous cases where you will need to make copies of files. A very simple and basic example would be where you wanted to make a backup copy of a file onto a floppy, or into another folder somewhere on your system.

You can make copies quite easily on the Macintosh. There are several ways to accomplish this basic function.

Making a Copy of a File

1. Click once on the file you just renamed Vacation Demand.TXT.
2. While the file is selected (highlighted), go to the File menu and choose Duplicate.
3. The file will be duplicated and named **Vacation Demand.TIF copy**.

4. Drag the copy to the Trash (and empty it if you like).

5. Click on the Vacation Demand.TIF file again. This time we’re going to copy it to the Desktop. Hold down the Option key and drag the file out of the folder and drop it on the Desktop.

6. You will see a graphic appear. It’s called a **Progress bar**.

Notice that the visual we used here shows almost 300 files being copied. We used a large folder to make this screen image so we would have time to capture and discuss the function of the Progress bar. With a tiny file like the one you’re working with, the bar appears and disappears very quickly.

If you’re copying a large file, or group of files, you can click the arrow to the left of the Time remaining text (below bar) and the window will expand to display additional information about the copying that’s in progress.
7. Once you’ve dragged the file to the Desktop, there will be two different copies of the file; one inside the folder (the original document), and another on the Desktop.

8. You can delete Vacation Demand.TXT.copy from your Desktop.

**Working with Text**

When the Macintosh came out, it was the first popular, mass-produced computer that gave its users the ability to change typefaces. It was that feature, more than any other — including icons, the mouse, and other innovations — that led to the desktop-publishing revolution. The way the Macintosh handled text (also called fonts) and graphics brought real computer power to designers, publishers, artists, and other people in the graphics industry.

While this isn’t a course on graphic design (we have more than 25 such books in the Against The Clock library), it is important that you know the basics of formatting text elements in a document.

**Text Formatting**

Almost all programs allow you the opportunity to select text, and apply characteristics to that text. For example, there’s italics, which you’ve seen throughout this book (and many others); there’s also bold text, which is darker and heavier than the text around it. And let’s not forget outline text, Shadow text, superscript (x²) and subscript (H₂O), underlined, strikethrough, and something called SMALL CAPS. Naturally some programs give you more flexibility than others; spreadsheet and database programs give you the ability to format text elements with these standard styles.

If, on the other hand, you find yourself working with sophisticated illustration, imaging, and layout applications, you can achieve stunning results using type.
Applications, such as Adobe Illustrator and Adobe Photoshop, give you sublime control over things like depth, lighting, coloring, shading, drop shadows, embossing, beveling, and what is called materials shading, or the application of textures to type. The possibilities are limitless.

**Working with Text**

1. In the SF-MacOps folder, double-click on the **Formatting Text** file. This will launch the SimpleText program that we used earlier and open the file. Check out the copy.

   ![SimpleText interface](image)

   Moby Dick
   a novel
   Herman Melville

   Filled with allegory and symbolism, this classic story of good and evil unfolds among the whaler community in the 1800's. The great white whale, Moby Dick, is pursued by the obsessive and cruel Captain Ahab. In a prior battle with the leviathan, Ahab had lost a leg, and many say, his mind.

   Aboard the Pequod, Ahab and his men chase the beast across the world's oceans, until they finally meet him --- and their combined destinies --- in a final, brutal battle of will, determination, and obsession.

   A Book of the Month Club Selection

2. When you move the cursor into the area of the type, it will turn into a small *I-beam*. Drag the I-beam across the first line, Moby Dick. It will become highlighted (the same way that folders or icons become highlighted when you click on them).
Illustration programs in particular are great for achieving special effects with type. Most type elements can be turned into an art object, which you can stretch, pull, twist, color, and distort in endless ways.

**Something Fishy**

Your font menu will probably look different than ours.

3. Go to the Font menu. Click on it and move the mouse down the list until the font name Palatino is selected. Click on it and watch the type style change in the document.

4. With the text still selected, go to the Size menu, and select 24 point. When you do, the title will become considerably larger than it was.

5. Now make the title bold using the Style menu. Bold type is slightly darker than normal type, providing a means of making something stand out from the rest of the text.
6. Highlight the words “a novel.” Using the menus, select 10-point, Helvetica and make the words italic.

```
Moby Dick
a novel
Herman Melville

Filled with allegory and symbolism, this classic story of good and evil unfolds among the whaler community in the 1800's. The great white whale, Moby Dick, is pursued by the obsessive and cruel Captain Ahab. In a prior battle with the leviathan, Ahab had lost a leg, and many say, his mind.

Aboard the Pequod, Ahab and his men chase the beast across the world's oceans, until they finally meet him — and their combined destinies — in a final, brutal battle of will, determination, and obsession.

A Book of the Month Club Selection
```

7. Look at the changes that we've made to the document. One hint: we changed the font for all the text below “a novel” to Times, and played around with the sizes a bit. We also italicized some of the words within the text itself.

```
Moby Dick
a novel
Herman Melville

Filled with allegory and symbolism, this classic story of good and evil unfolds among the whaler community in the 1800's. The great white whale, Moby Dick, is pursued by the obsessive and cruel Captain Ahab. In a prior battle with the leviathan, Ahab had lost a leg, and many say, his mind.

Aboard the Pequod, Ahab and his men chase the beast across the world's oceans, until they finally meet him — and their combined destinies — in a final, brutal battle of will, determination, and obsession.

A Book of the Month Club Selection
```

8. When you’re done experimenting, save the file in your projects folder. Name it “Moby Dick.TXT”. We’re going to use it again later on.
When you're typing into a word processing program, don't use two spaces behind a period. It looks bad in the finished copy. That's because fonts on the Macintosh or on a PC are spaced proportionately, not monospaced like on an old typewriter. Two spaces will make a huge, visible, and unsightly gap in your copy.

Editing Text

Although SimpleText is far from being a powerful word processing program, it will provide you some insight into how the more powerful commercial programs operate. Since it relies on the Apple Developer Guidelines, and some of them cover selecting, editing, deleting, and editing text, when you move up to Microsoft Word, or Adobe PageMaker, you'll find the same things work there that you learn here.

Editing Commands

- When you click the cursor and begin typing, the new text you enter is inserted into that space, pushing everything else to the right.

- If you select a word, phrase, sentence, or entire document, and begin typing, the highlighted material will be replaced with what you’re entering.

- If you highlight a word, phrase, sentence, or entire document and hit the Delete key, it’s gone.

- You can delete text by highlighting it and hitting Delete, or putting the insertion point to the right of it and pressing Delete until it’s gone.
Copying, Cutting, and Pasting

Another set of very powerful editing functions can be found under the Edit menu of just about any program you will ever find yourself working with. These functions are called cutting, copying, and pasting.

Moving Text with the Clipboard

1. If SimpleText is still open, select Open from the File menu and open the file called Moby Dick.THT.

2. Highlight the phrase at the bottom of the page, “A Book of the Month Club Selection,” Choose Edit>Cut. (Notice that the keyboard equivalent of Edit>Cut, Command-X, is displayed in the menu. It will make your work flow more efficient if you learn to use these shortcut keystroke commands.)

3. The text will disappear. It goes to the Clipboard. The Clipboard is a temporary holding area, used when you copy or cut text. The cut or copied text remains on the Clipboard, which makes it possible to paste the text into another part of the file.

4. Put the cursor behind the words “a novel” and hit the return key twice. You can see that this inserts blank lines.

5. Choose Edit>Paste or press Command-V. The copy will be pasted into place.

6. Close the file without saving.
Remember, the Clipboard can only hold one thing at a time. If you cut something that you want to paste somewhere else, and accidentally copy something else before you paste the first thing, the first thing could be gone forever.

If you want to store more than one thing at a time where each item can be copied and pasted at will, then you’ll have to use the Scrapbook, which we talk about in the Chapter on Built-In Software.

Cutting, copying, and pasting are basic features of almost any application program you will ever use on your Macintosh. They will become second nature to you as you gain experience working with the Mac OS. Which of the techniques you use will depend on what you’re trying to accomplish.

- **Moving an object or text.** To move something from one place to another, use cut and paste. Cutting an object removes it from its original location.
- **Copying and object or text.** To copy something from one place to another, use copy and paste. Copying an object creates a clone of the selected item that can be pasted somewhere else. It doesn’t effect the original item in any way.

**Using Aliases**

An Alias is a special function—one that occupies almost no space at all on your Hard disk. What it does is point to another file or program. The item to which the alias points is called the original, and the alias acts just like that original in every way. You can put an alias anywhere on your system, and when you double-click it, it acts exactly as if you had found and double-clicked the original.

In a real working environment, you’ll eventually end up with lots of files, and many levels of nested folders. To access any program or file on your system will require double-clicking your way through the maze of folders until you have found the correct item—the one you need at the moment.

Here’s an example:

**Finding and Launching an Application**

1st click
Hard Drive icon

2nd click
Applications folder

3rd click
Drawing Programs folder

4th click
Adobe Illustrator Folder

5th and final click
Application Icon

3rd click
Drawing Programs folder
Nesting items inside folders is a great technique for organizing your folders, data files, and applications, but can easily lead to an awful lot of double-clicking to get where you need to go. In this case, you have to double-click five different times to launch (another word for start) the Adobe Illustrator program. That's a lot of clicking.

In this next illustration, we've created an alias of Adobe Illustrator, and placed it on the Desktop. Check out the savings in clicking time.

When you create an alias, the same icon is used for the alias as was assigned to the original item. To keep aliases from being confused with original files, the Mac OS italicizes the names of aliases, and adds a small arrow to the alias icon. This is a good idea since you can throw an alias away without causing any problems, since it's only a pointer file. The original, on the other hand, represents an entirely different story — throw it away and you might be in trouble.
Here are some rules and guidelines for using aliases:

- An alias can be duplicated many times, and each copy, regardless of where it’s placed, relates to the original.

- An alias can be trashed without hurting the original. And if the original is a folder, it will not hurt any of the contents.

- An alias can be renamed. This does not affect its connection to the original file.

- An alias can be created (once the original is selected) either by going to File>Make Alias or by pressing Command-M.

- If an original has been moved to another location that you can’t recall, it can be tracked and found by selecting the alias and choosing File>Show Original or by pressing Command-R. The last folder that the original resides in will come to the Desktop, showing the original.

- Any item with an icon — the Hard disk, the Trash, the System Folder, control panels and extensions — can have an alias.

- If you are working with the alias of a document folder, then you can put items into the original folder simply by touching the items to its alias. In some cases, you might prefer to hold the Option key to send duplicates of the items into the folder.

**Duplicating an Alias**

Once an alias is made, you do not have to trudge back to the original to make more aliases for other access locations.

- If you select an alias, then go to File>Duplicate, a copy will appear.

**Accessing the Original**

There might come a time when you actually need the original on the Desktop to make some modifications. You do not have to go digging through folders to locate it. You also might have forgotten just where the original resides. Just single-click its alias icon to select it, then go up to File>Show Original. The folder that contains the original will open on the Desktop.
Creating an Alias

1. Go to the Hard disk icon and double-click to open the Hard disk folder. Listed in the Hard disk should be an Apple Extras folder. Open it.
2. You should see an AppleScript folder. Open this folder.
3. Inside this folder you should find the Automated Tasks folder. Open it.
4. Inside the Automated Tasks folder, press Command-N to create a new folder. Rename this folder “Hidden Tasks”.
5. Click on the About Automated Tasks document to select it. Press Command-M to make an alias of it. Drag the alias into the Hidden Tasks folder.
6. Select the Hidden Tasks folder. Go to File>Make Alias to make an alias.

If you have aliases lying about in various folders, and you choose to remove or delete the original, you will see a warning message if you double-click on one of the related aliases. The warning tells you it could not find the original.

The best thing to do in this case is trash the defunct aliases.

Drag the alias out of the Automated Tasks folder and onto the Desktop.
7. Now close all the folders you opened in this exercise.
8. On the Desktop, you will see the Hidden Tasks alias you placed there.
9. Double-click on the alias. The Hidden Tasks folder, which still resides deep in the folders, will open on the Desktop. Inside this folder will be the About Automated Tasks document alias.
10. Double-click on this alias. The application, SimpleText, will launch in order to open this text document.
11. You have succeeded in manipulating items without needing to dig deep in folders to get their originals. Close the SimpleText document. Close the Hidden Tasks folder.

Chapter Summary

In this Chapter you learned how to start up a simple word-processing program named SimpleText that was supplied with your Macintosh. You used it to create files, and save them into appropriate folders on your Hard disk. You also learned to enter and edit text, along with the basic formatting functions available in most Macintosh programs. You learned to change fonts and sizes in order to add more graphic interest to your documents. You also learned how to use aliases, which are small pointer files that can dramatically improve your ability to navigate through nested folders with a minimal number of mouse clicks.
CHAPTER 4

Built-In Tools

CHAPTER OBJECTIVE:
To learn about the many built-in tools and applications supplied with the Mac OS. In Chapter 4, you will:

- Learn about the two types of built-in tools — Apple Menu Items and Control Panels.
- Understand how to launch the Apple System Profiler and how to use its reports to help with certain types of system problems.
- Learn to run the built-in calculator, a simple application that takes advantage of the numeric keypad.
- Learn to use Stickies, an electronic version of the famous yellow notes that you find stuck on everything in the office.
- Learn to use the powerful Appearances control panel, which allows you to control the color schemes of your system and even place pictures on your desktop.
- Become familiar with Extensions Manager and how it can be used to control which special-function programs are launched when you start up your system.
- Learn to use and organize Launcher, a powerful productivity tool that acts as a launching pad for applications, folders, and files.
- Explore the use of the Sound control panel, which lets you change how your Mac sounds and what it says when it wants to get your attention.
It doesn't matter which application menu bar is active. The Apple menu icon will always be on the far left of the Menu bar. Also, items in the Apple pull-down menu are the same regardless of which program is running.

**Built-In Tools**

There are several powerful tools and applications that come with the Mac OS. They're installed into special locations on your hard disk the first time you run the installation program to set up your machine. In this chapter, we're going to explore some of these tools and applications, and examine how they can make your working environment more friendly and effective.

There are two different places where these tools and programs are located. The first is under the **Apple menu**, and the second is within a special folder called **Control Panels**.

**Apple Menu**

The Apple menu is the pull-down menu you see when you click the Apple icon in the upper-left corner of your Menu bar. It contains a collection of applications and tools that are contained in a special folder inside the System Folder on your hard disk.

The Apple menu contains applications and tools that are available all the time.

If you were to open your hard disk and double click the System Folder, you would see, among many other things, a special folder called **Apple Menu Items**. It is within this folder that the applications you see in the pull-down list are contained. Anything you put into this special folder would appear in the Apple menu.
By opening the folder, you will note that the list inside the folder is exactly the same as the one you see when you access the pull-down Apple menu.

![System Folder](image)

Anything you drag into the Apple Menu Items folder will appear in your Apple Menu.

The best way to understand what these applications and tools are designed for is to experiment with them.

**Using the Apple Menu**

1. Select *Apple System Profiler* from the Apple menu. This tool is designed to display a profile of the system you’re working on. It’s invaluable when you’re seeking technical support and need to know specific characteristics of your computer.
Any media — floppy disk, removable drive, hard disk, or CD is considered a volume to the Mac OS. Some drives allow a technique called "partitioning," which lets the user split one large drive into several smaller ones. This allows you to manage your files somewhat more effectively than having one huge space where everything is placed. We typically split our drives into several parts, reserving one for the System Folder and Applications, and others for specific projects and data files.

2. Click on the small triangle next to Software Overview and Profiler will give you detailed information about the Mac OS version running on your machine.

3. Next, click on the Devices and Volumes tab and you will see information about the hard disks and volumes attached to your system.

A system with multiple volumes and drives connected might generate a fairly complex report.

4. You can use the information from this application in a number of ways. One effective technique is to use the Mac OS Clipping feature. Go back to the System Profile tab and click on the Software Overview triangle. Drag the entire section onto your desktop.
You should remember the Clipping feature, as it can prove quite useful in the real world. It works in just about every program. Just select a range of copy, a picture, or both, and drag them onto the Desktop. This will automatically create the clipping file, and you can use it later for anything you want. It's more effective than copying and pasting, because the stuff will remain inside the clipping file until you throw it away. When you copy something and don't immediately paste it somewhere, you might forget about it and copy something else over it.

5. As soon as you let go, a new file appears on the Desktop. Double-click it and the clipping will open. You can copy and paste this information into any program, such as SimpleText or the word processor of your choice.

6. You can generate formal reports of the entire profile, or any parts thereof, by using the Report function. Select File->New Report. A dialog box will appear that lets you select which of the information panels you would like to include.

From this dialog box, you can select which panels you would like to include in a report.
You can flip through each of the information panels by using the keyboard commands:

- Command-1: Software
- Command-2: Volumes/Devices
- Command-3: Control Panels
- Command-4: Extensions
- Command-5: Applications
- Command-6: Systems

One of the best uses for Profiler is to check for duplicate files and/or applications. Some programs, like SimpleText, are often included in the installation utilities that are used to install new programs. Each time you install a new program, you potentially install another copy of SimpleText. With Profiler, you can periodically check to see if there are eighteen copies of Dark Raiders of the Moon floating around on your hard disk, and get rid of the extras.

7. When you’ve selected the information you would like to include in your report, click the OK button and the software will format and create a report.

8. Note that you keep the document formatted as it is, or select Text Document from the radio button at the top of the report. This option is sometimes more effective when you want to open the report in another application, such as a word processor.

9. Before you close the program, select the Commands menu and familiarize yourself with the functions you find there. Among them is the ability to refresh, or reassemble the information from your system into its original order. This is useful if you put a new device on your machine, such as an external hard disk.

10. When you’re done looking around the Profiler, press Command-Q or choose Quit from the File menu.
Calculator
Another useful tool — one that’s been around as long as the Macintosh — is the calculator. It is selected from the Apple menu.

You can either use the Numeric Keypad (if there’s one on your keyboard), or click the operators directly on the calculator itself.

The Calculator is a very useful desk accessory that’s even easier to use if you have a numeric keypad.

The operators are the same as on a physical calculator:

+ **Addition.** Adds two or more numbers together.
- **Minus.** Subtracts the next number entered from the amount in memory.
/ **Division.** Divides the number in memory by the next number entered.
* **Multiplier.** Multiplies the contents of memory times the next number entered.
= **Equals.** Completes any equation.
C **Clear.** Clears memory and lets you start over.

There are a number of other Apple menu items that we will discuss later in the course as we explore the functions to which they’re related. For now we’re going to use one more application that many people find useful — the Stickies feature.
Stickies

Stickies are the digital version of those little notes that you leave stuck all over your desk (dead center on the monitor is our favorite spot) to remind you to do things that you forget to do anyway. Just like their paper counterpart, Stickies can be any color. But unlike the paper version, you can use different typefaces the same way you can with a word processor and you can import or export copy to and from other word-processing programs.

Using Stickies

1. Select Stickies from the Apple menu. One note will be blank. Enter something in it; here we wrote “this is a note to myself...”.

2. There are two ways to create a new note. The first is by selecting File> New Note.

3. A new note will appear. Type something into it and go to the File menu. You will notice that there is no option for saving only one note. There is, however, a Save All selection. Choose it and all the notes are saved at one time.

4. The second way to create a new note is to import text from an existing document. It will automatically appear in a new note. Choose Import Text and find the document called Stickies that is contained in your SF-MacOps folder.
5. Read the story.

```
Very few people know the real story about the invention of 3M's very popular sticky notes. Here it is:

As part of their normal activities, the engineers and scientists at 3M continually seek new glues and adhesives for products like signs, sandpaper, and the thousands of other things that they make.

One of their experiments was a glue that was meant to be used on the back of a label. Unfortunately, the glue didn't stick very well, so it was abandoned.

One of the engineers on the project was also a choir director at the local church, and he felt that although the glue didn't stick well enough for the original use, it would provide a great way for him to put notes on the choir books that could later be taken off without damaging the pages. He worked so well for that application that he made a few dozen pads and distributed them to secretaries throughout the company. It worked so well for notes on circulated documents that they decided to make it a real product.

The rest is history.
```

6. Select Note>Text Style.

7. Change the font to New York and the size to 14 pt. You will see all the copy immediately respond. Note that you don't have to select the copy before you make the change, as you do in a program like SimpleText or a word processor.

8. You can also change the color of any note. Try it by selecting the Color menu.


Unless you have a pretty large monitor, you probably won't want to keep too many Stickie notes around, although collapsing them down till they're small helps a bit.

Many productivity programs, such as AppleWorks or Microsoft Office provide sophisticated To-Do lists and Note functions, and if you end up working on a computer that's equipped with such a program, you will probably use these more robust commercial applications in place of Stickies.

Very few people know the real story about the invention of 3M's very popular sticky notes. Here it is:

As part of their normal activities, the engineers and scientists at 3M continually seek new glues and adhesives for products like signs, sandpaper, and the thousands of other things that they make.

One of their experiments was a glue that was meant to be used on the back of a label. Unfortunately, the glue didn't stick very well, so it was abandoned.

One of the engineers on the project was also a choir director at the local church, and he felt that although the glue didn't stick well enough for the original use, it would provide a great way for him to put notes on the choir books that could later be taken off without damaging the pages. He worked so well for that application that he made a few dozen pads and distributed them to secretaries throughout the company. It worked so well for notes on circulated documents that they decided to make it a real product.

The rest is history.

Very few people know the real story about the invention of 3M's very popular sticky notes. Here it is:

As part of their normal activities, the engineers and scientists at 3M continually seek new glues and adhesives for products like signs, sandpaper, and the thousands of other things that they make.

One of their experiments was a glue that was meant to be used on the back of a label. Unfortunately, the glue didn't stick very well, so it was abandoned.

One of the engineers on the project was also a choir director at the local church, and he felt that although the glue didn't stick well enough for the original use, it would provide a great way for him to put notes on the choir books that could later be taken off without damaging the pages. He worked so well for that application that he made a few dozen pads and distributed them to secretaries throughout the company. It worked so well for notes on circulated documents that they decided to make it a real product.

The rest is history.

Closing this note will delete it from the desktop. Do you want to save its contents as a text file before closing it?

Don't Save  Cancel  Save
10. If you want to delete your file, you can do so by choosing Don’t Save. If you want to keep it open, click Cancel. If you want to save it for use in another program, such as SimpleText, click Save and pick a name.

11. Quit the program when you’re done.

**Scrapbook**

We’ve already discussed the concept of cutting and pasting text and graphics. One of the major limitations of the process is that you can only have one item copied or cut at a time, because the Clipboard (that special place in memory that stores copied or cut items) can only hold one thing at a time. If you have something on the Clipboard, and copy or cut something else, the original item is gone and replaced with the new item.

The Scrapbook is like a clipboard that can store multiple items. Choosing the Scrapbook from the Apple menu presents a window containing a number of items that were put in there by the people at Apple Computer. They haven’t changed much over the years.

Like the copy says, you can use the Scrapbook to store multiple objects that you copy or cut from another source.

You can store different types of objects in the Scrapbook. The process is to copy or cut something from a document, open the Scrapbook (Apple>Scrapbook), and paste the object in place. Objects pasted into the Scrapbook appear before the entry you’re looking at, so you can position them wherever you want.

At the bottom of the window, you can see that there is a horizontal scroll bar to use for finding the items in the Scrapbook. If you look through the items, you will find graphics.
Although it's possible to use the Scrapbook for creating a library of graphics elements, in the real world this simple accessory/application isn't robust enough to meet the demands of a professional graphic artist. File formats and the ability to attach searchable text to the items are two of the many limitations that the regular Apple Scrapbook exhibits.

There are a number of graphics and at least one sound stored in the Scrapbook that came with your Macintosh.

You can even put QuickTime Movies (a special type of file for video and animations) in the Scrapbook, and play them from there. We will be learning about QuickTime later in the course.

Control Panels

The second place we'll find a collection of application programs and tools is in yet another special folder called Control Panels. There are quite a few items in the Control Panels menu; some of them come with the Macintosh and others are commercial applications that professional users purchase to add functionality to their systems. In this section we'll go through most of the important and useful control panels so you can get a feel for how they work. At the same time, using these applications will give you more experience with using your Macintosh.

A special folder within the System Folder contains the items that you see when you access the Control Panels menu from the Apple menu. This screen capture shows items that probably aren't installed on your system — and many that are.
The ability of a commercial application to manage graphics, sounds, video, and text information is known as Media Asset Management, or MAM. This is a very competitive field, with a number of high-profile companies offering solutions that range from less than $7,000 to over a million dollars in demanding environments where there are millions of different items to track, multiple languages, and copyrighted materials. Although the Scrapbook can come in handy, it cannot replace these industrial-strength commercial programs.

**Appearances**

In the Appearances control panel, you can modify the look and feel of the Finder and the Desktop. You can change backgrounds, use pictures as wallpaper, and choose which fonts are used to display text in Menu bars and dialog boxes.

**Changing the Appearance of Your Desktop**

1. Choose Appearances from the Control Panels. The Appearances dialog box will appear. It is probably set to the Desktop tab. If not, select that tab so that your screen matches the image below.

2. Use the scroll bar to slide down the list until Mac OS Default pattern is highlighted. This is the standard desktop background that comes with your Macintosh. If it’s already selected on the computer you’re working on, pick another one and choose Set Desktop. The entire desktop background displayed on your monitor will change.

3. Select the Themes tab. Feel free to experiment with the various themes. Notice that they change color combinations as well as the fonts being used for dialog boxes and title bars.
When you place a desktop picture into the Appearances dialog, you will see three small icons in the upper right hand corner of the Open dialog:

The hand icon accesses the volumes connected to your computer.

The books icon lets you add a document to your Favorites folder (another Apple menu item that keeps important documents in one place for easy access).

And the Clock keeps track of recently used files.

4. Go back to the Desktop tab, and select the Place Picture button at the bottom right side of the dialog box. Navigate to the SF-MacOps folder and select Garden Panel.PCT.

5. Double-click the file name and it will be imported into the Appearance dialog box, where you can apply it to your Desktop by clicking the Set Picture button.

From the Appearance dialog box you can select pictures to use as backgrounds on your Desktop.
6. You can experiment with the different positioning options, which let you fill the screen, center the image inside the desktop, and tile, or repeat the image across the desktop as many times as it will fit.

7. When you’re done, you can choose to remove the picture, or leave it on your Desktop. We took this photograph ourselves, so feel free to use it if you want.

8. If you would like to continue experimenting with the Appearance feature, feel free to do so. When you’re done, quit the application.

**Apple Menu Options**
The Apple Menu Options control panel lets you make a few minor adjustments to how menus behave.

**Using the Menu Options Control Panel**


2. The radio buttons on the top of the dialog box control how submenus work. If, for example, you have them on, the contents of folders within a menu show a small arrow, and allow you to slide down one menu into another. If it’s off, you have to select the folder and have it open. Turn this feature on and off and look at your Apple menu.
There are several built-in tools that we'll cover later in the book. A few examples are Chooser, which lets you pick a printer or network volume, and Configuration Manager, which is used to control your Internet and Email profile.

3. On the bottom of the dialog box is a checkbox that lets you turn on the Mac's ability to "remember" documents, applications, or servers (network hard disks) that you used recently—and how many to remember. Turn this feature on and the Mac will begin to remember programs you launched and files you opened. They're stored in the Recent Applications and Recent Documents folders, which are inside your System Folder.

4. Close the dialog box when you're done.

Control Strip

The Control Strip is designed to let you quickly access certain core system settings, including monitors, sounds, network, printers, and others. It was originally designed for laptops, and found its way into the Finder feature of desktop Macs as well.

Using the Control Strip

1. Choose Control Strip from the Control Panels menu. A dialog box will appear.

2. Choose the Show Control Strip radio button. A tiny icon should appear on the left side of your Desktop. You might have to search for it—it's pretty small and looks like a seat belt latch. Keep looking, it's there.
3. Click on the icon. It will open to the right.

4. Click on each one in turn. Each provides setting for specific items. Don’t make any changes at this point — just read the choices. As we move forward in the course, the ones that you don’t understand will become clear.

5. When you’re done, select the Control Strip control panel, and choose Hide Control Strip.

Date and Time

The next control panel is Date and Time. This tool allows you to change the way today’s date and the current time of day are displayed. It also lets you set your clock from several Internet web pages, assuming that you’re connected through a modem, a cable modem, or some other communications device.

With this control panel, you can set the Time Zone you happen to be in, and let the computer know whether or not it should automatically adjust for Daylight Savings Time.
Letting your computer sleep is better than shutting it down, because simply touching a key brings the machine back to life almost instantly. Any well-configured computer is going to take a few minutes to start up after being turned off. That's because the system checks its memory, loads software and accessories, and might even look for viral infections during the startup process.

The Server Options button lets you choose the Web Server that will provide your computer with the exact time.

Most users choose to have the system automatically check and adjust the time.

Lastly, you can use this control panel to adjust the way your Menu Clock (the one in the upper right hand corner of the Finder menu bar) behaves.

There are quite a few options for your Menu Clock.
As we mentioned, when you're using a laptop, the ability to conserve your battery is critical; it's really disruptive when your battery runs down in the middle of writing an important proposal on the airplane, or when your city is being attacked by berserk Viking warriors and you need to quickly design a new catapult.

**Energy Saver**

Energy Saver is a control panel that allows you to control the Sleep mode. The idea is that if your Macintosh is not in use (for example, when you take ninety minutes for your half-hour lunch break), how long should it wait before putting itself to sleep. It uses less energy, stays cooler, and comes on much faster than if you had turned it off completely.

![Energy Saver](image)

*Energy Saver lets you determine if and when your Macintosh should go to sleep.*

A second component of the Energy Saver is the Schedule dialog box.

![Schedule](image)

*In the Schedule dialog box, you can set times for automatic startup and shutdown.*

**Extensions Manager**

Extensions Manager is a control panel that allows you to manage extensions, Control Panels, Startup Items, and Shutdown Items from one convenient interface. It lets you create sets that contain specific tools, and lets you load them at startup through the use of special function keys.

When your Macintosh starts up, it loads certain items into memory, so they are continuously active during the session. Depending on what you're doing on your Macintosh, you may begin to collect different types of extensions, drivers (that control hardware devices such as printers), fonts, and specialized tools. An example of a specialized tool is the screen-capture programs we use to create the screen shots you see throughout this courseware.
The more extensions you have, the longer it takes for your Macintosh to start up.

Extensions can prove quite problematic. At times, they can cause your machine to "hang" during the startup process. When this happens, your machine begins to start up, and then either freezes up (nothing works and nothing happens) or displays an error message. Being able to turn off extensions during the startup process will let you get to the desktop, where you can begin to diagnose the problem. We discuss this issue at length in the Troubleshooting section.

Another example is the collection of fonts that you're using for a specific client's logos and branding images.

Be aware that extensions can cause problems. For example one extension that gives you the ability to use your digital camera might conflict with another designed to let you use your tape drive. While sometimes you might be able to solve the problem by contacting the manufacturers of the products and finding a working version, at other times you simply have to shut one or the other extension off.

That's where Extensions Manager comes in handy. You could, for example, create one set and call it "Tape Drive" and create another set that you named "Digital Camera".

### Using Extensions Manager

1. Select Extensions Manager from the Control Panels menu. You'll notice that the view is very similar to viewing the contents of a folder as a list. (If your Extensions Manager window looks different from the one here, choose View>as Folders from the Menu bar. Now it should look like ours.) On the left side are triangle buttons indicating which folders are opened in the list. Click the triangle so all the folders are collapsed and only the category heading is displayed for each folder. The dialog box should look like this.

![Extensions Manager window](image)

2. From here you can see the primary categories of items that you can control from Extensions Manager. Notice the plus (+) and minus (-) signs in the left hand column? A plus sign means everything within the folder/category is activated at startup; a minus sign means that some things within the folder are turned on, and others turned off; a blank checkbox means that nothing in the folder/category is active.
There are several categories of items that are stored in your System Folder and loaded during the startup process:

**Extensions** are programs that provide additional functionality. Generally, they're preset; you put them in the System Folder and they just work. A good example would be an extension that lets you use a digital camera.

**Control Panels** give you control over many of the basic settings for your computer.

**Fonts** are available to any application you use, such as word processors, page layout programs, or image editing tools.

**Startup items**, which are programs that you want to load at startup. For example you might put an alias of your word processor into this folder if you wanted it to be available whenever you started your machine.

3. Click the Duplicate Set button. You will have the opportunity to name the new set. Call it “No Appearance”. Click on the Control Panels icon and turn off Appearance and Apple Menu Options.

![Extensions Manager](image)

Unchecking the box next to a control panel or extension deactivates it on startup.

4. Click the Restart button. When the machine has had a chance to come back up, check out the Control Panels menu — the two items you turned off won’t work.

5. Load Extensions Manager again by selecting it from the Control Panels menu. Turn on the original set (My Settings) by choosing it from the pop-up menu at the top of the dialog box. The two deactivated Control Panels will reactivate as soon as you restart your computer.

6. If you want, you can look through the other folders, but make sure that you don’t turn off any extensions. It’s a good idea never to turn off extensions unless someone who knows a good deal about the Mac OS tells you to do so. Failure to follow this rule might result in your machine not turning on at all.

7. Take a look at the Startup Items folder. It probably contains two things. Launcher, which is normally active on most Macintoshes, and Stickies, which we made a Startup item in a previous lesson.
If you want to start up your Macintosh without any extensions or control panels activating, simply hold down the Shift key during startup.

If you want to automatically open Extensions Manager during startup, hold down the Spacebar.

You can make any program or file load at startup by creating an alias and dragging it into the Startup Items folder in the System Folder. Later, if you want to turn it off for some reason, you can do so from Extensions Manager.

8. When you're done looking around, close Extensions Manager.

File Exchange

File Exchange is a control panel that allows you to identify which program you want to use for specific types of files (like a word processor for text documents or Photoshop for image documents). Secondly, it lets you map extensions from Windows systems (such as .doc, .p65, .jpg) to specific Macintosh applications.

This is a very handy utility, since it lets you open a file created with another application (one you don't have) using a program that you do have.

File Translation lets you identify which Macintosh program you want to use to open specific types of files.
PC Exchange lets you map specific extensions on the PC to specific Macintosh applications.

**General Controls**

The General Controls panel lets you make changes to settings such as the cursor blink rate, which folder you're looking in when you go to open a file, and whether or not Launcher is added to the Startup Items folder.

This control panel lets you change the cursor flash rate, how fast menus blink when you select them (if at all, and let's you determine where a program looks to open or save a file).

**Keyboard**

The Keyboard control panel lets you pick the language you’re going to be working in (which changes the behaviors of certain keys), and the repeat rates for the keyboard. The Options button allows you to determine how keys will react when called in an AppleScript program.
You can control the language and response rate of your keyboard from this control panel.

Launcher

Launcher is a window that appears at the bottom of your Desktop, as well in the Application menu (on the far right of the Menu bar).

Launcher provides an easy way to manage and launch the programs, files, and folders that you use most often. It allows you to create buttons, organized into logical groups, for each of these items. Lastly, it is an application that can operate simultaneously with any other programs you might be using, letting you quickly access files from a standard location.

Even though the Launcher is a control panel, it does not have a dialog box in which to make change settings. When you start the program by selecting it from the Control Panels submenu (under the Apple menu) or double-click on its icon in the Control Panel folder, the Launcher appears at the bottom of your screen.

Using Launcher

1. If it’s not already on your desktop, start Control Panels > Launcher

The Launcher window is a launching pad for often-used applications, files, and folders.
Whenever you want to add something to Launcher, simply drag the icon onto the window. An alias will be created and the original left intact.

2. Open the System Folder on your Hard disk, choose View>as List, and scroll down until you see the Launcher Items folder. Click the triangle button to view its contents if it's not already open.

3. You'll see two aliases in the folder (you can tell that they're aliases because their names are shown in italics). They correspond to the items in the Launcher window.

4. There are two ways to put items into the Launcher. First, you can drag something directly onto the Launcher window. Second, you can create new Category folders, which we will do in the next exercise. Drag the Launcher Items folder onto the Launcher window. Watch what happens.

5. An alias of the Launcher Items folder was automatically created when you dragged the folder onto the Launcher window. Close the System Folder. Now whenever you want to access the Launcher Items folder, all you have to do is click the button.


Launcher Category Folders

You can create Category folders within the Launcher window. These special-function folders become Category buttons which appear across the top of the Launcher window. They allow you to segregate items by function, project, or any relationships you might find useful.
Creating and Managing Category Folders in the Launcher

1. Inside the Launcher Items folder, create a New folder and name it “• Tools”, using Option-8 to create the bullet (•) character. (Please note that there is a space between the bullet and the word Tools in the folder’s name).

2. Look at the Launcher window. See what happened? There are now two buttons across the top. The one named Applications is automatically created as the highest level of the Launcher window whenever you create a new Category folder. The Tools category was created from the “• Tools” folder.

3. Click the Tools button in the Launcher window to activate that Category folder. Open the Control Panels folder, and shift-click to select the following four items.
If you want to create a Category folder inside the Launcher window, you have to use the special Option-8 bullet (·) character, or else the folder will simply be another button in whatever Category folder you were in when you created it.

You might notice that when you drag an item onto the Launcher window (or a Category folder) and an alias is created, it doesn’t contain the word “alias” in its name — nor does the name display in italics in Launcher. In the Launcher Items folder, however, the names are in italics.

4. Drag them onto the Launcher window. Make sure that Tools are active; there shouldn’t be anything in that window at the moment.

5. The four Control Panels will appear in the Launcher Tools window.

6. You can close any windows that might be open, but leave Launcher active.

Launcher is arguably one of the more powerful productivity accessories that come supplied with your Mac OS. As you gather applications and begin to work on multiple projects, you may find — as many do, that using Launcher can save you mouse clicks. And a mouse click saved is an extra minute to think.

The Launcher Utilities category folder in our system, populated with commercial software.

**Memory**
The Memory control panel provides you with several tools with which to manage the internal memory of your Macintosh.

![](Memory.png)

The Memory dialog box
There are basically three different settings that you can control from this dialog box.

- **Disk Cache.** A disk cache is a portion of your computer’s hard disk that is reserved to hold files, folders, and applications that you use most often. The Mac OS tracks this usage information and stores components of these items in the Cache. Generally speaking, a 7k or 8k Cache is sufficient for most users.

- **Virtual Memory.** If you don't have a lot of regular RAM memory, you can set aside a portion of your hard disk to fool programs into thinking that you have more memory than you actually do. Since memory is relatively inexpensive, most users choose not to turn this on. It can slow down your system, because information is constantly swapped back and forth between real RAM and fake (disk-based) RAM.

- **RAM Disk.** A RAM disk is the opposite of Virtual Memory. In this case you set aside a portion of RAM memory that acts like a hard disk—except much faster. Users working with a lot of large images often create RAM disks to store their files.

### Mouse

You saw the Mouse control panel early on in the course. You used it to change the speed and click-response time of your mouse or track pad.

*The Mouse control panel provides controls over mouse tracking and double-click speed.*

### Numbers

Once you begin doing business internationally, you quickly realize that not everyone in the world formats numbers the way we do here in the United States. The Numbers control panel provides a method of formatting figures using a range of different International conventions, so if your Macintosh finds itself in, let's say, Finland, it will be able to figure out the difference between your Markkaas and your Pennias.

*If you want to see how the Finns format their numbers, use the pop-up menu in the Numbers control panel to take a look at how others count. We wouldn't want to get into a verbal math contest in Finland.*
Sound
The Sound control panel provides several choices for setting the sound — both getting sounds into your Macintosh (input) and getting sound out (output).

If you have third-party sound hardware, it would display here.

The Macintosh comes with the Simple Beep as the default sound. You can listen to the others from this dialog box.

Startup Disk
When the Macintosh goes through its startup procedure, it checks to see if there is a System Folder with the requisite extensions and accessories available on your internal hard disk. If it doesn’t find a System Folder, it can’t start up at all.

When we talked about using Extensions Manager to create special Startup sets, we indicated that at times you might want certain accessories, extensions, and fonts available for specific needs. The Startup Disk control panel takes this concept a step further and let’s you set any hard disk (or partition of a hard disk) as the Startup Disk — or the drive from which the Macintosh loads the System Folder and resources.

If you have a System Folder on more than one hard disk, then you can use this accessory to select which hard disk you want to start from. This window shows that there is only one system folder — and that’s on the internal hard disk. That’s why the other icons are dimmed.
Text
Last in the list of control panels and built-in accessories is the Text control panel. This is another tool designed to allow you to internationalize the way your Macintosh behaves.

Audio CD Player
A great addition to your collection of built-in programs and tools is the Apple Audio CD Player. The Player automatically launches when you want to play music on your Macintosh. If you put a CD into the internal CD drive, its icon will appear on the Desktop.

If you double-click an audio disk, you will see the tracks on it, with their own special icons.

You can see the tracks on any CD — unfortunately you can't see their names.
Double-clicking any of the icons in the folder will launch the Player, and you will see a window that looks remarkably like the front of a high-end stereo system, with the same controls that you would expect from any CD Player.

While the built-in Player is a neat tool, and quite helpful, if you’re really serious about doing more than playing music from a CD, then you should check out some of the commercial applications out there. A good place to start would be the Real.com site, where you can download RealPlayer and RealJukeBox, two powerful tools for managing your music library, and downloading music to portable players.

**QuickTime**

QuickTime Player is a system tool supplied with your Macintosh that allows you to play movies, animations, and sounds created in a wide variety of different applications. QuickTime itself is more than the Player — it’s a complete suite of system extensions and tools that provide the Mac with a built-in ability to view movies. QuickTime is an industry standard, and used on the Windows platform as well as the Mac to provide this additional functionality. Although it’s not the only way that movies can be played, it is a unique and powerful feature of your Mac OS.

There are several versions of QuickTime. The one that came with your system, and a commercial version that provides additional functions — such as the ability to cut and trim clips, combine them together, and overlay music. Naturally we can’t cover all the extended functions and applications of QuickTime technology, but if you’re into professional video production, you will find many resources on the Web and at Apple’s site about how to learn more.
Most popular media applications can save in QuickTime format and read QuickTime documents. If you attempt to open a video or sound file created on another system, you can choose to use the QuickTime player from the Application dialog box.

If you want to view a video or listen to a sound file created on another platform, try using the QuickTime Player. It knows how to translate most popular formats.

**The QuickTime Player**

When you open a compatible media file, the QuickTime dialog appears. If it's a video file, there will be a black screen where the clip will play. At the bottom of the window is a Play button and a Pause button. The following illustration should help you understand how the Player operates.

![The QuickTime Player dialog box.](image)
Once a movie has successfully loaded, clicking the Play button will start the movie playing. The controls at the bottom of the window act exactly as they do on a regular VCR or DVD player, with fast forward and reverse, sound controls, a pause button, and a timeline showing how long the movie or sound is, and how much of it has played.

The movie begins to play. You can load this movie about an extraterrestrial (Sol.mov) from the SF-MacOps folder. It was created in Adobe Premier, but can be run in the QuickTime Player window.

You can use the slider on the timeline to advance a movie, rewind it to a specific location, or begin playing it at any point. As you move the slider, you can see the frames advancing in the Player window.

The timeline slider gives you direct control over the movie or sound clip.

Channels
Another excellent feature of the QuickTime Player is the ability to play Channels — special Internet sites specifically optimized for use with the Player, with much of the available content in QuickTime format.

If you look under the Favorites menu, you will find a number of preset "favorites" which are channels of QuickTime content updated on an almost constant basis.
Our ATC staff is based in Florida, so you might think we don’t care much about the weather. We live in constant danger from hurricanes, tornados, lightning, and torrential downpours. That makes watching the Weather Channel on our Macs particularly comforting.

Having a high speed direct connection to the Internet makes using Channels a more rewarding experience.

Chapter Summary

In this Chapter you gained a good deal of experience with some of the built-in programs and applications that were supplied with your Macintosh. We discussed the concept of the Apple menu and control panels, and looked at several different ways to access the items they contain. We spent time looking at a range of different tools, including the Extensions Manager, which allows you to choose the programs and accessories that will load at startup.

We spent time learning how to set up and manage the Launcher control panel, a highly productive application designed to act as a launching pad for programs, files, and folders that you access often. Finally, we learned how to use the built-in CD Player to listen to our favorite sounds directly on our Mac, and how to use the QuickTime Player to view movies and animations.
In Chapters 1 through 4, you learned about the basic building blocks of the Macintosh Operating System (Mac OS). After completing the first half of this course, you should:

- Know what the Mac OS is and how it controls basic functions of the computer through two main interface components — the Desktop and the Finder. You should also have a basic understanding of RAM memory and drive storage — and the difference between the two.
- Understand how to use the mouse and the keyboard, including the two core modifier keys — Command and Option. You should be able to use menu bars. Additionally, you should be comfortable managing windows on the desktop, within which much of your work will be stored and organized.
- Know how to use the built-in Mac Help system, which provides extensive documentation in an easy-to-use, searchable database.
- Be familiar with Folders, what they are, how to create them, how to manage them, and how to throw them away. You should be comfortable with navigating into folders to find what you're looking for. You should know how to control the way items are displayed through the use of the View commands.
- Understand how programs create files, and how to start a program from the desktop. You should feel comfortable saving files into specific folders, and making aliases of important files to cut down the time it takes to open them. You should know how to enter text into a simple word processor and how to format text using font styles.
- Understand how to access and use the two types of built-in tools — Apple Menu Items and Control Panels. Your knowledge should include how to use the Calculator feature, how to change the appearance of your desktop, how to use Stickies (built in desktop notes), how to control which Extensions load at startup, and how to activate and manage Launcher, a powerful utility that gives you instant access to your most important files and folders.
In most applications, Command-P brings up the Print dialog box and Shift-Command-P accesses the Print Setup dialog box.

There are many popular laser printers on the market. Hewlett-Packard is the dominant manufacturer of office laser printers, with Canon and Tektronix leading the pack in color printers designed for the graphic arts marketplace. Other manufacturers, including Epson, are beginning to produce extremely high-quality color printers that are truly inexpensive. Although they're not designed for high volume output and are somewhat slow, for under $400 — and in many cases under $300 — you can produce really great color from your Macintosh or Windows workstation.

- **Ink Jet.** An ink jet printer sprays ink onto the paper from small nozzles in the print head. Many really large format printers (used for signs, banners, and posters) use this technology.

- **Dye Sub.** Dye sublimation printers spray a special heat-sensitive colorant onto the page and heat it, bonding it to the surface of the paper. Some very high-end digital proofing systems use sublimation technology.

### Printing from a Macintosh

Whenever you issue a print command — whether from a word processor, image-editing application, or page layout tool, it's the Macintosh Operating System that actually handles the command. This is another aspect of the Apple Developer Guidelines, which we discussed earlier in the course. Printing resources are a part of the Operating System. Software developers need only to connect their programs to the tools provided by Apple, and the Mac takes over.

Among the advantages of this approach is that printing from one program is the same as printing from another. While it is true that some applications (necessarily) offer more sophisticated printing controls than do others, the process remains the same from program to program.

### Elements of the Printing Process

There are four different components that come into play whenever you want to print your work on a Macintosh:

- **Application program.** The first element is the program that was used to create the file. Examples might be the use of Microsoft Word to create a business plan, containing spreadsheets created in Microsoft Excel.

- **Printer driver.** The second component in printing a document is the printer driver. We talked about drivers a bit in the last chapter, when discussing extensions. A driver is a specialized type of extension designed to facilitate communications between your Macintosh and other hardware devices, such as printers. A print driver is a small program that you access either through Chooser (an
Remember that printing a file to a printer — no matter how simple or sophisticated — is only one form of output. There are others. For example, the Macintosh is very popular in the video production and post-production industries, where output is done either to high-end editing systems or directly to a variety of different forms of video tape. Video can also be "output" to digital media, such as interactive CD-ROMs. Another category of output devices are known as "slide recorders," which are often used to create 35mm slides for use in professional presentations. Some presenters simply output their slides directly to a video projection device, that projects their slides onto a screen.

Remember that the Finder is an application program, so you can print from the Desktop. You can output the contents of any window using any view that you choose to set for the folder.

Apple Menu Item that we'll be using later on) or, in some cases, from within an application's Print Setup dialog box.

- **System extensions.** The third component is the System extensions, such as Chooser and Print Monitor, that provide the tools to set the priority of printed jobs, pause, cancel them, or set specific time schedules for when they should be sent to the printer.

![Extensions](image)

Here you can see several printer drivers and the Extension for Print Monitor.

- **Printer.** The fourth component of the printing process is the actual printer, also called the output device, that will create the hard copy of your digital file. There are many different printers available in the marketplace. In today's world, we would argue that laser printers dominate the field. They're reasonably priced, offer a wide variety of options, including large format sizes (11 x 17 in.), color, and the common ability to output to transparency materials.

![The Phaser 750](image)

This image is from the Tektronix web site. The company (part of the Xerox family of companies) is a leading manufacturer of color printers (note the British spelling of colour).

If your work is destined for high-end commercial printing, you will also learn about devices called Imagesetters or Platesetters, which are like laser printers but with the ability to output very small dots. The smaller the dot, the higher the resolution of the device is said to be.
CHAPTER 5

Printing

CHAPTER OBJECTIVE:
To learn about printers and how you can print documents from your Macintosh. In Chapter 5, you will:

- Understand the different printing technologies commonly found in the marketplace.
- Learn how programs, drivers, extensions, and hardware work together to generate printed pages.
- Learn to use Chooser, which allows you to select and manage multiple printers — either on one machine or on a network.
- Learn to install and configure a Desktop Printer, which provides instant access to your printers.
- Understand the use of spoolers, which let you prioritize, schedule, and cancel an entire series of print jobs, while freeing up your system for other tasks.
- Learn to print from within any application, as well as from the Finder.
- Learn about Adobe’s Acrobat PDF (Portable Document Format), an output option that creates documents that can be viewed on any computer — regardless of its operating system.
- Learn about the different types of fonts; including how to install new fonts into the Mac OS so that they’re available to all of your programs.
WYSIWYG, pronounced "Wizzy-Wigg" is a term used by professionals in the graphics industry for "What you see is what you get." Recently, computers have begun to have the ability to accurately display on a monitor what will be produced on a printing press, digital output device, or proofing system.

A proofing system is a high-end device that prints an accurate hard copy of what will be reproduced on a printing press, digital output device, or proofing system.

Printing

As we’ve seen so far, the Mac OS is a visual experience; every aspect of the Macintosh is based on a graphic interface. You can see the available choices in any dialog box; you immediately see the results of a font change; windows display scroll bars, close boxes, and you’re able to view their contents in a variety of ways.

Displaying or viewing your work on a monitor, however, is only half the battle. The other half is creating what’s called hard copy. Hard copy can be anything from a simple page output from a laser printer to the glossy, perfect-bound annual report from a Fortune 500 company.

Output

Printing is a form of output. There are basically two ways that you can look at what’s on your system. The first is to look at it on your monitor, and the second is to print it as hard copy.

Monitors

Your monitor is the window into what’s going on inside your Macintosh. Almost all computers are equipped with color monitors these days, and if you’re going to be using your Macintosh to create graphics and other visual items, then it is critical to have a color monitor.

The next issue to consider when thinking about your monitor is how big it is. Since many Macintosh programs use a varied collection of tools that sort of "float" around the screen in their own little palettes (you’ll learn more about this later), the amount of space you have to arrange your work, the tools you have available, and other things you might want (or need) to have available to you at the time, becomes very important. The general rule of thumb is to buy as good (and big) a monitor as you can possibly afford. If you’re working on your system all day — as many of us are — it’s much easier to sit there if you’re not looking at a tiny screen and spending a lot of time arranging things on the monitor.

Printers

The printer your computer is connected to is a critical component in your system. Without the ability to create hard-copy output, all the work that you do on your system would be "stuck" on your Hard disk — and you wouldn’t be able to show it to anyone, use it for communicating with the outside world, making cool pizza flyers, worldwide best selling novels, or the latest recipe from your social group.

There are several different types of printers:

- **Laser Printers.** Laser printers are probably the most popular type of printers in use today — especially in the graphic arts. A laser printer works much like a photocopier, using toner to image the page. They come in several different configurations, and are available from a wide selection of manufacturers.

- **Dot Matrix.** Dot matrix printers use a print head comprised of some number of small pins that drive ink from a ribbon onto the surface of the paper. They are mostly used for low-end accounting and noncritical graphics functions.
If you want to see some really expensive, high-end output devices in action, you can always make a call to a few local printers or imaging companies. Most of them have systems that work in commercial manufacturing environments, where extremely high resolution, accuracy, and "repeatability," or the ability to produce exactly the same image dozens or hundreds of times, are critical requirements. Most, if not all of them, would be more than happy to arrange a tour at a convenient (for them) time for a student of their industry. Talented and skilled individuals are very hard for them to find, and they're always interested in meeting new people.

**Chooser**

Chooser is a system-based tool that serves several purposes. In an environment where there is more than one printer (either attached directly to your system or on a network), Chooser lets you select which printer you want to use to output a specific job. That's the feature of Chooser that we're going to explore in this Chapter.

The second function of Chooser is to let you select networked volumes, servers, or specific portions of the Hard disks of other users on the network. Those functions will be covered in a later Chapter, when we talk about networking and connectivity to other computers.

By selecting Chooser from the Apple menu, you gain access to a dialog box from which you can select printers or network resources.

**Chooser is the place from which you control printer and network resources on the Mac.**
PostScript is a Page Description Language developed by Adobe Systems of Embarcadero, California (http://www.adobe.com). Before the introduction of PostScript, each printer had its own way of interpreting data being sent to it from a computer program, and every program had its own way of describing a page to a printer. PostScript is a computer language built into many of today’s printers — especially ones used in the graphic arts world. It uses a mathematical model to describe curves, shapes, fonts, fills, colors, patterns, and objects, and can therefore send the same page to ten different printers and have them all come out at the maximum resolution each device is capable of. This is called “resolution independence.” It was the introduction of PostScript, and its adoption in Apple’s first laser printer (the Laserwriter) that led to the desktop publishing revolution.

If you select a printer driver from the left side, the right side of the dialog box will display the printers that are available from your workstation. Select one, and the next job you print will be printed on that device.

Creating and Configuring a Printer

When you buy a new printer, or move one from another machine onto your system or network, you have to create or install a driver for that device. In most cases they’re supplied with the printer (usually on a floppy disk or on the CD that comes with the device). If they’re not, almost all manufacturers maintain web sites from which you can find and download the required software for any of their printers. You simply put the driver in your System Folder (in the Extensions folder) and restart your machine. The Mac OS will then load the extension and you’ll see it in the Chooser next time you access it.

There’s an even more productive way of handling more than one printer on your system than opening Chooser and selecting the device. You can use Chooser to create something called a Desktop Printer, which is an icon that’s placed on the desktop. When you’ve created a Desktop Printer, you can simply drag a file onto the icon, and it will automatically be directed to the correct printer. If you work in an environment where there are several different printers available, and you find yourself using them all at various times, then this is probably the best way to go about managing your output.

Creating a Desktop Printer

1. Open Chooser. You should see several icons on the left side of the window, representing printer drivers installed on your machine. Pick one of them, then pick a printer from the right side, and click the Create button.

If a desktop printer has already been set up for the device that you select, you’ll see the Setup button instead of the Create button. If this is the case, close Chooser, find the icon on the Desktop, and delete it. Reopen Chooser and start this exercise again.
When you're in most dialog boxes on the Macintosh, the Escape key (marked esc in the upper left corner of your keyboard) will cancel the action and close the dialog box. Try it.

If you have a Desktop Printer icon on your Desktop with an X through it, this means that the necessary extensions (Desktop Printing Extension and Desktop Printer Spooler) weren't loaded. Check your Extensions Manager to make sure that they're loading and restart your machine.

2. You will see a dialog box from which you can select options for the printer. Your Mac OS will automatically select the proper drivers and settings for the device that you selected. Select Printer Info.

3. Click OK after you've looked and the information about your printer. (When you're on the phone to tech support to find out why your printer is spitting out garble, this is where you’ll find some of the information they’ll ask you for.) The Update button will cause the Mac OS to go out and “poll” the printer to refresh the information. You might do something like this after you install more memory, for example.

4. Click the Select PPD button. PPD stands for PostScript Printer Description files, and are a collection of extensions that come with your Mac and correspond to most of the major printers in the marketplace that you might come across in your travels. They’re installed in the Extensions folder in the Printer Descriptions folder.

5. Select the proper PPD for the printer you’re working with.

6. When you’re done, you can quit Chooser.

7. Look on your Desktop and you’ll see the icon for the desktop printer we just created. Select it.

If you have more than one desktop printer, the default printer (the one that will be used if you don’t select a different one from within Chooser) is the one with the dark border around it.
When you install a printer driver on your Macintosh, an icon for the printer is automatically placed on your Desktop. If you try to drag the printer icon to the trash, you'll find that the system won't allow it. If you do want to get rid of printer icons (not the printer drivers themselves) start up your Macintosh with no extensions on (by holding the Shift key during the Startup process). This will turn off all your extensions (including the ones related to desktop printers and drivers) and let you throw them away for good.

If you're working in critical color environments, you need to be sure that what you see on your monitor is what you will get when you print your files. Apple produces excellent monitors using color-matching technology that accurately displays what you will get from the printer.

8. Notice that when you’ve selected a Desktop Printer icon, the Finder menu bar changes — there’s a new item called Printing.

9. With the Desktop Printer icon still selected, go to the File menu and choose Info (or press Command-I). A dialog box will appear that displays general information about the device.

10. Select Status and Configuration from the pop-up menu at the top of the dialog box.

Notice the error message under the Current Status heading. Our own laser printer was low on toner when we were writing this book — and the Mac knew it.
Not all documents behave well when they're sent to the printer. In particular, files with large and/or complex graphics—especially from certain drawing programs—can cause the printer to generate an error message. If that happens, your Application menu will blink, and you'll be directed to Print Monitor, which will display exactly what the problem is. Unfortunately, it doesn't tell you how to fix the problem, only what the problem was. If a PostScript error occurs, for example, the message will say “Document cannot be printed; A PostScript error was generated by the Laserwriter.” What then? You go back to the original document and see if you can simplify it before trying to output it again.

When you're using Print Monitor, you can select Stop Printing from the File menu. This will cause your Mac to print the documents but not send them to a printer. Later, when you want to send them, simply choose Resume Printing and they'll all go. This saves you time if you're not connected to a printer at the time (for example, when you're using a laptop).

11. Lastly, choose Show: Fonts. When the dialog box appears, click Get Font List. The Mac will look at the printer you've selected and provide a list of the fonts that are either built into that model or have been downloaded (which we'll talk about a little later).

Most printers today—especially PostScript-enabled printers—come with a library of built-in fonts, which can be used in any of your applications.

12. When you're done exploring the information dialog boxes for your new desktop printer icon, close them and any other windows that are still open.

Spooling

The term spooling refers to the feature in an operating system that manages more than one document at a time while they're in line waiting for the printer. In many cases, it takes a printer a few moments (or hours, depending on the length and complexity of the document in question) to actually image the page. If you're printing a few documents, they can pile up, waiting for the last document to finish printing. The “line” that they wait in is called a Spooler.

Let's say that you send three or four big files to a desktop printer. They sit in a place called the Print Monitor. The desktop icon changes and shows a page as part of the icon.
You can send documents to a printer directly from the desktop by opening their folder, highlighting them, and issuing a print command from the desktop. The application that created them will open directly to its Print dialog box, where you can select the options for each file. You can shift-click to select and print multiple documents as well—even from different applications. They will open in turn and let you change the print settings if you need to.

When you send a bunch of documents to the printer, and double-click it, and the desktop spooler is displayed, listing the documents that are in the queue, or waiting list.

From the Spooler window, you can pause, cancel, or schedule specific times at which you want certain documents to go to the printer. They'll wait patiently until that time.

The Clock icon at the top of the Spooler window allows you to set a specific time for a document to print.

PrintMonitor
If you're not using Desktop Printer icons, then a second type of spooler program comes into play called PrintMonitor. This is a stand-alone feature (like Desktop Print Monitor) that can be used to manage your output.

Documents waiting to be printed would appear in this window, just as they do when you're using a Desktop Printer. This application works the same way but looks slightly different.

In either Print Monitor window, you can rearrange the order in which specific jobs will print by dragging them around in the list.
The Cover Page option that you see in the Print dialog box prints an extra page containing your name, the name of the file, and the time the document was printed. This can prove quite useful in an environment where different people are sending documents to the same printer—a common occurrence in a networked professional environment like an office or a design studio. A cover page lets someone sort out your output from theirs, and vice versa. Otherwise lots of things end up somewhere other than your desk—like the resume you sent to your competitor.

PrintMonitor provides a number of options as well. If you choose File>Preferences, you will access the settings for the spooler.

There are several options available to you when you’re using the regular PrintMonitor as opposed to using the Desktop Printer.

**Printing from an Application**

In the end, it all comes down to being able to print from within a program—whether it’s an application like SimpleText or it’s the Desktop, where you can print the entire desktop, or the contents of any folder.

**Printing from an Application**

1. Navigate to your Copy Files folder, and find Moby Dick.THT.

   ![Image of the copying files folder with Moby Dick.THT selected.](image)
If you turn off Background printing, then the document will go directly to the printer, without stopping at PrintMonitor or Desktop Print Monitor. This is usually not a great idea, since you'll have to wait idly by while your document is being printed. You won't be able to access anything else in the meantime.

The Print to File option lets you create a print image on your Hard disk. This is sometimes useful if you want to place one document inside another, or pass a file to a computer system that you can't easily communicate with.

An upright page (taller than it is wide) is called a Portrait layout. A page printed sideways (shorter than it is wide) is a Landscape layout.

2. Open the document and select Print from the File menu.

3. You will see the Print dialog box.

Your dialog box might appear slightly different if you're using a different printer driver.

4. Click the Options button. You will see a dialog box from which you can control such options as the output resolution and other device-specific features that are being stored in the driver for that printer.

5. Click OK, then click the Print button on the Print dialog box. Your file will be sent to the printer.

6. Open the Project folder that you created before, and after setting the view to As List, open all the folders so every file is showing in the list. Select Print Window from the File menu, and click OK to print a copy of the list.
Whenever you save files onto a floppy disk or other removable media, it's a good idea to print the contents of the disk. This is easy to do just double-click the disk, set the views to List, open all the folders, and issue a print command.

Most removables like Jaz and Zip disks come with little cases, and you can either tape the printed list to the outside or fold it up and keep it inside with the media.

7. Open the Graphics folder, and change the view to As Icons. Print it and you'll see that the view is reflected in the output when you print from the Finder.

8. When you're done, close everything.

Page Setup

There is another dialog box that is available to you from within almost any applications (ones that print, anyway) called Page Setup. The Page Setup dialog box allows you to make changes to several global printing settings.

From this window, you can, for example, create a tiny or huge version of your page. If you set the size too large for your output device, many programs (but not all) will tile the output, using as many pages as are necessary. Once they’re output, you can tape them together to create the finished page, poster, or billboard. If the application doesn’t support tiling, it cuts off what it can’t print.

You can also change the orientation of the page, rotating the output so that it prints sideways on the page. Additionally, you can choose to print more than one object on a page, using the Layout pop-up menu.
Adobe has a great web site where you can not only find out about (or buy) their products, but also access excellent free information, tips, tricks, and a wide variety of very interesting PDF files covering everything from Shakespeare to Alice's Adventures Through the Looking Glass. All are free and either fun, useful, or both. Their address is http://www.adobe.com.

Actually, there are several components to Acrobat. Several of them are included with your Macintosh, and others are available commercially from Adobe. Included with your system are:

- **Acrobat PDFWriter.** This is a print driver that lets you print your documents to PDF format instead of the printer. Once in Acrobat format, it can be viewed (but not modified) using the second component.

- **Acrobat Reader.** Acrobat Reader is a free product manufactured by Adobe and distributed both by them directly as well as by many third party companies who distribute it with PDF files so that the viewer can open them on their computer. Acrobat Reader is also a free downloadable program available on the Adobe web site.

The amazing thing about Acrobat is that once a file has been printed into this format, it can be viewed — with every detail, including fonts, images, pages, and more — on any computer that has Acrobat Reader installed. Whether or not they have the application that created the document, they can view and print it as if they did.

The not-for-free parts of Acrobat are tools that allow you to add buttons, animation, interactivity, contents listing, export the files to other applications, and modify them in other ways. The name of the product is Adobe Acrobat and is available from a wide variety of sources. It comes with a product called Acrobat Distiller, which is an industrial strength program designed to batch-process multiple documents into Acrobat format.

Some programs provide specialized features that you can use when generating PDF files. This screen image is from PageMaker's Export to PDF function.
There are times when you have to prepare a file that you intend to print in another location. Creating a PDF file is an excellent way to ensure that the file you printed at your own place will print the same way somewhere else. Since PDF files contain all the fonts, graphics, and layouts of the original, when the quick printer, commercial printer, or office across the country needs to output your file, they won't get any surprises; they won't need the fonts you used, or the program with which you created the file. All they'll need is Acrobat Reader and they can efficiently send your document to their printer.

The Acrobat Reader program provides a player that can be used to scroll through pages, attach notes, and print any PDF document to your own printer. It's becoming a very popular method of moving rich documents (ones that contain their original formatting, fonts, images, and layout) across the Internet.

Acrobat Reader, which is available free of charge, can be used to view, annotate, and print files which have been output to Portable Document Format (PDF).
Emailing a PDF file is more efficient than emailing the original because Acrobat contains extensive tools that compress files. Even simply printing to a PDF driver (selected in Chooser) creates a much more compact version of the original file. For example, ten pages of this courseware, complete with the images and fonts necessary to output them, takes up about 20mg to 25mgs of disk space. The same file, output to PDF, weighs in at an astounding 2.5 mg. This doesn't mean that PDF can be used for every possible output contingency; there are times when production demands the entire package — original files, the graphic files used to illustrate the document, and the fonts used to lay it out. However the PDF model is becoming increasingly mature and robust, and more and more high-end professional documents are, in fact, being manufactured using PDF workflows.

**Acrobat Resources**

As we've mentioned, a great place to find out more about PDF is from the Adobe web site, at http://www.adobe.com. Another great site that we make use of is called planet.pdf.com. You sign up as a member (free) and gain access to thousands of PDF users from around the nation and around the world, discussing every possible aspect of PDF use, particularly in the graphic arts environment.

The Planet.pdf web site is a great resource for information about using Acrobat in the real world, and provides information about add-on products that can enhance the program's functionality.

In conclusion, we feel that it's a good idea to experiment with PDF, and to explore the possibilities that it presents for making documents platform independent, meaning that a document you create on your Macintosh can be viewed and output — exactly as you intend it to look — on Windows or Unix computers. Although this book isn't the place for a fully detailed discussion of all the possibilities, PDF is increasingly becoming a standard file format in both the graphics-arts world and the general business community.

**Fonts**

Fonts are the characters that make up a typeface. Some come with your Macintosh, others are commercially available, and still others can be found for free on the Internet and among user groups and shareware organizations. Still others can be found with certain types of software packages. For example, Adobe Illustrator — a highly popular drawing and illustra-
Typography, or the art of using typefaces, is a combination of science and design. Modern page layout programs such as Adobe InDesign or QuarkXPress provide powerful tools for using type in your designs. The ability to use multiple typefaces electronically was actually introduced by Apple—at least when considering that electronic typesetting equipment prior to its introduction as an Apple feature, were very expensive, complicated, and the domain of the professional typesetting industry. That industry no longer exists in any meaningful way since it fell victim to the fact that designers could now control their own typography.

The art and science of typography is a complicated subject, and one that's definitely worth exploring in depth if you intend to enter the graphics field.

Fonts add character to your documents (no pun intended). If the world had only one or two fonts, it would be a much less interesting place. Fonts can set the tone of your message and give it emphasis. Their misuse, however, can distract from an otherwise great design and obscure the message. (This is not a good thing, especially if the message happens to be, “Buy our product.”)

A core mission of the original Macintosh development team was to provide a relatively low-cost platform that offered powerful graphics and type functions. That goal is still reflected in the Mac OS. Fonts remain an integral component of the operating system.

Font Styles
In the past, fonts were constructed of individual pixels. Each output device had a certain way of describing fonts as a series of (square) dots. A good example of a bitmap font can be seen on your monitor. If you look closely enough, you would see that each character is comprised of a collection of square pixels that are either on (black) or off (white).

Bitmap fonts were once the standard way of imaging type; in recent years the technology has been supplanted by newer, more accurate processes.

Certain imaging programs can make fonts smoother using a technology known as anti-aliasing, where the edges of the font are softened by introducing shades of gray to soften the edges.

Anti-aliasing is a technique used by some imaging programs whereby shades of gray are used to soften the edges of fonts. This close-up screen image was captured in Adobe Photoshop to demonstrate the technique.

Since the introduction of the PostScript language in the eighties, bitmap font technologies have largely been abandoned in favor of outline fonts, which rely on very accurate mathematical descriptions of each character. With their shapes described as anchor points and
Look around a little — at magazines, books, newspapers, television, the movies, signage, posters, street signs, or just about anywhere else, and you’ll begin to see how many different typefaces there are and how many ways there are to use them in design and layout.

Many commercial output sites — quick printers, commercial printers, and imaging houses — aren’t happy about using TrueType fonts, since they often present problems during output to high-end printing devices. In the professional design world, PostScript fonts dominate the marketplace. TrueType fonts tend to be used more in office environments, where film output isn’t an important consideration.

curves instead of pixels, these fonts can be sent to any compatible printer and reproduce at the highest resolution available from the device.

Outline type technology describes each font mathematically, allowing your documents to contain fonts that reproduce perfectly on any compatible output device.

Types of fonts
There are two primary (and competing) font technologies in common use today:

- **PostScript Fonts.** PostScript fonts utilize Adobe technology and are the dominant technology in the graphics industry. If you find yourself working in the design field, you will most likely be using PostScript fonts (also known as Type1 fonts). Most of the large commercial type houses (Adobe, Linotype/Hell, ITC, and others develop this type of font. Many type purists argue that they’re more true to the traditional typeface designs, which were carved from wood or lead.

  PostScript fonts come in two parts: a **Screen Font**, which is used for screen display, and a **Printer Font**, which is the mathematical description sent to the printer.

  Adobe Type 1 fonts come in two parts: a suitcase icon for the folder that holds the screen font and a downloadable font image that’s sent to the printer when a document containing the screen font is output.

- **TrueType Fonts.** TrueType technology was jointly developed by Apple and Microsoft. Based on an outline model (much like Type1 fonts), this is the type of font supplied with your Macintosh, any Windows system, and many general purpose applications, such as Microsoft Word, Powerpoint, and others. TrueType fonts have only one component, unlike PostScript fonts. The same file is used to generate both the screen and printer versions.

  TrueType fonts, which come as a standard part of the Macintosh and Windows operating systems, are represented by a single icon for both screen display and printer output.
Most output problems associated with TrueType fonts are related to mixing them with Type 1 fonts in the same document. If you intend to send a project to a commercial service provider for output at some point, you should try to stick with a single-font technology.

A font suitcase is an icon for a folder that contains any number of screen sizes for a font. All you really need is one or two, and the Macintosh builds the odd sizes, such as 11 point, or 23 point, from the one in the suitcase.

Professional designers will often say that Type 1 fonts are better — more finely constructed — than are the typical TrueType font. This might be true in some cases, but there are certainly high-quality fonts being issued in both formats. In many cases, you can select which type you want when you purchase a font.

Managing Fonts on your Macintosh
Fonts are stored in the Fonts folder, which is inside your System Folder. When you install a new font, this is where it needs to go. Once you put a font inside this folder and restart your system, the font(s) become available to your word processors, layout programs, imaging applications, and presentation tools. To install a font, all you have to do is place it in the proper folder, and it will become available to you.

Working with fonts

1. Inside the SF-MacOps folder is a folder called Fonts. Open it and look at the contents.

2. Double click the ATCBahama.BMAP icon. It will open to show you the contents of the suitcase.

3. Double-click the ATC Bahama 12 showing in the list. A sample of the typeface will appear in its own window. When you’ve looked at Bahama, take a look at one or two of the others.

The Mac OS lets you look at samples of any font.
Type 1 fonts contain a small amount of program code packaged in something called "hints," which are instructions on how to better image the font at lower sizes and lower printer resolutions. These hints are built into Type 1 fonts and, as far as we can tell, do not exist inside TrueType character sets.

You can view the contents of a TrueType font by double-clicking its icon. A small window showing the font in three different sizes will appear when you do.

4. Close the fonts.
5. Open your Hard disk folder and find your System Folder icon. Select the Fonts folder and press Command-A to select all the icons.
6. Drag them on top of the System Folder icon. The Mac knows where they have to go, and shows you a dialog box explaining that they will be placed in the System Folder. Click OK.

7. Open your Moby Dick.TXT file and experiment with your new fonts.

8. When you're done working with your new fonts, save and close the file. Your new fonts will be available to all your programs.

**Chapter Summary**

In this chapter, you learned the basics about how the Macintosh prints documents, including the interaction between drivers, extensions, system components, and applications. You learned how to print the contents of folders and how to print from within an application. You learned how to control the Print dialog box, and how to create and manage Desktop Printer icons. You worked with spooling programs and you learned about the PDF print format. Lastly, you explored the use of fonts, how they work, how to install new fonts on your system, and how to make them available to any application.
CHAPTER OBJECTIVE:
To learn about the networking and telecommunications features of the Mac OS. In Chapter 6, you will:

- Learn the most popular networking methods in use in the professional marketplace — AppleTalk and Ethernet.
- Learn about the AppleTalk control panel, which lets you select the type of network you're connecting to.
- Learn about DialAssist, which lets you store access numbers, long distance services, and your credit and phone calling cards, and see how DialAssist can facilitate international calling.
- Explore the many features of File Sharing and the File Sharing control panel, which lets you share your files, folders, and applications with other users on the network.
- Understand how to create users, and how to determine exactly what they're allowed to see and do on your machine.
- Learn to use Chooser — a control panel we used in Chapter 5 to access printers — to access volumes on the network.
- Learn to enable Apple Remote Access, a network program that allows you or other users to dial into your computer from a telephone anywhere in the world.
Networking

In this chapter, we’re going to examine one of the most powerful and useful features of your Macintosh — its built-in ability to communicate with other computers.

The Mac’s ability to talk with other computers is universal. You can communicate with almost any other computer — whether it’s next to you in the same room, in another part of the building, across the parking lot, or across the world.

A network in a design studio might have several people, each with different tasks, working together. The network might offer these users shared resources, such as a color printer or a file server — a centralized storage device accessible to everyone in the group.

Types of Networks

There are many different types of networks in use in the marketplace today, and although we’re not going to explore every one of them, we will spend a little time looking at how they work and explaining some of the more common terms that apply to them.

There are two components to a network: the cabling method that connects your Mac to other computers, and the software that’s used to enable communication between computers and other resources, such as printers and file servers.

Most computers today use one of two cabling methods:

- LocalTalk. This was the original networking method used by Apple and built into the Macintosh. It uses regular telephone wire with standard connectors. In the simplest form of network, called a peer-to-peer network, whereby you simply run a telephone wire between two Macs.
The business world is a network environment, utilizing one or more of several popular networking methods. Almost all companies have their own internal networks, and many have multiple networks all connected together. For example, the accounting department might have their own network, the executive offices another, the design group yet another, and so on. These small workgroups are connected together using specialized hardware and software.

The simplest network is a peer-to-peer connection. It exists when you connect two Macs together with a telephone cable and activate the necessary software.

- **Ethernet.** This method uses a cable that looks similar to a telephone wire but contains more wires than its older look alike. The connections are wider than you can get with standard telephone cabling. In many environments, Ethernet jacks are installed in the wall just like telephone jacks.

Of the two types of networks, Ethernet connections are by far the most popular. Ethernet comes in various speeds, measured in megabits, or millions of bits per second. A standard Ethernet connection is called as 10-baseT (or ten megabits per second), and so-called Fast Ethernet is rated at 100-baseT. There is also a gigabit, or million bits per second, Ethernet protocol being used in the field, but it normally requires relatively high-priced cards and special cabling in order to achieve the higher transfer speeds.

Most Ethernet networks use a hub, which is a central connector allowing some number of computers to connect to it. Once they're connected to the hub, they can "see" other computers which are also connected to the hub. This helps to simplify network management, because any computer can be connected or disconnected from the hub without interrupting network services to other connected machines.

**Networking Tools on the Macintosh**

The Macintosh operating system provides several tools that facilitate connecting your Macintosh to other Macs or other computers. In this section we'll look at each of them and how they're used.
Open Transport

Open Transport isn’t an application, but rather an extension that provides the Mac OS the ability to connect to a wide range of commercial networks, such as Novell, Banyon, Sun, and others. In order to accomplish this, the Mac must maintain a library of different protocols, or network communication languages. The operation of Open Transport is transparent to you as the user, but critical to the successful connection of the Macintosh to corporate networks.

Open Transport and its libraries are found in the Extensions folder.

AppleTalk

AppleTalk is the built-in networking protocol developed by Apple to connect Macs together on a simple network. You can access the AppleTalk dialog box from the Control Panels, which is where all the networking tools can be found.

The AppleTalk dialog box lists several options for you to connect to your network. The first, Ethernet, is the one that’s probably in use on your system if you’re connected to a network right now.

The other choices are modem port, printer port, and remote only, which is used to connect to a network from the road.
There are several methods available to connect to other computers over telephones and special-function telecommunications lines available from a variety of sources. Modems normally operate at speeds between 1200 baud and 56k. These numbers refer to the speed at which data moves across the phone line.

DSL is a digital signal line, a special type of connection that uses regular telephone lines to achieve pretty impressive speeds. DSL lines can operate as fast as 7 meg when you're sending files to someone and 3 meg when you're receiving files from somewhere else.

Cable modems, increasingly being offered in different parts of the country provide very high-speed access to other computers, normally through the Internet.

T1 and T3 lines are large, bonded pairs of lines which provide the highest speeds available today.

DialAssist

DialAssist is a Control panel that allows you to store access numbers, view and edit a countries listing, and preprogram outgoing code requirements, such as dialing nine before getting an outside line.

The dialog box uses pop-up lists from which you can easily make or change selections before making an outside call. In the above illustration, you can see how the bottom buttons display give you access to dialog boxes, wherein you can make changes to the pop-ups, adding, editing, or deleting items from them until they meet your personal needs.

You can also add long-distance services to the list, complete with any access codes that must be dialed in order to connect.

On most large phone systems with multiple extensions, you have to dial a special number in order to secure an outside line. In our case, it's a nine, but it can be any number that the you in-house phone system uses. You can enter the dial-out number in the prefix dialog box. Notice in the Number column, the digits are followed by a comma. The comma signals the modem to pause to wait for a dial tone before dialing the phone number. If you leave out the comma, when you try to dial out, you may get an error message that your modem could not detect a dial tone. In some older systems, it was necessary to use two or more commas to allow time for the dial tone to activate.
TCP/IP stands for Telecommunications Protocol/Internet Protocol. It's a method of assigning unique addresses to each computer on the network so that they can identify each other during communications events. The Internet is based on the use of TCP/IP addresses, which are, in most cases, dynamically assigned; that is you get a new one every time you log on to the Web.

Lastly, you can store your personal credit card numbers and/or a phone-card access number by using the Suffixes dialog:

Your credit card numbers don’t show when you access the Suffixes dialog box, but you can add and edit them safely.

**File Sharing**

File Sharing refers to the Mac’s ability to share files (and in some special cases, programs) with other users on the same network. The function is managed by the File Sharing control panel. The File Sharing control panel has three sets of controls marked by tabs in the dialog box.

**Stop/Start**

This set of controls allows you to start and stop file sharing. You don’t have to keep your computer connected if you don’t want to; you can always turn File Sharing on whenever you need to using this dialog box.
A server is a specially designed machine whose purpose is to provide disk storage, tape (or other) archiving and backup functions to users on a network. Since the people using the server have their own computers, they only access the server to store files, and in some cases, applications. Apple makes a complete line of servers designed to connect Macs together and with PCs and other computers.

- **Network Identity.** Lets you enter your name, the name of the computer, and your personal password. It also displays the IP address of the computer, which is the network address, usually expressed as a string of numbers, such as 22.56.123.50. We’ve erased the number from this display for security reasons.

- **File Sharing On/Off.** Turns networking on and off. You can also enable clients to access your machine directly by it’s IP address. This is useful if you’re using your computer to host (or hold) a web site. More on this in the next Chapter.

- **Program Linking.** Allows other users on the network to access a program that’s residing on your computer. Program sharing isn’t very common, except in certain situations where specially-designed multi-user applications are in use.

**Activity Monitor**

This set of controls provides you with options for determining who is accessing your computer from the network, and how they can use it.

- **Sharing Activity and Connected Users.** Keeps track who is connected to your machine, and how much activity is occurring because of it. The more activity going on — especially accessing your hard disks — the slower your machine will perform. This is just a fact of life when two machines are connected directly to each other. That’s why most large networks utilize servers in their layout.

- **Shared Items.** In addition to being able to see who’s connected to your computer, this control panel lets you determine the privileges a specific user has when they access your machine.

  *Read and Write* allows the user to add and delete files exactly the same as you can while you’re working on your own machine. This is the highest level allowable, and lets people accidentally trash something you desperately needed. (Statistically, this has been the number-one cause for ruining relationships, until it was recently replaced by *phoning a friend* who gives you the wrong answer to the quarter-million-dollar question.)
Microsoft provides very popular networking software called Microsoft NT Server (NT stands for New Technology). It runs on Intel or compatible computers, and allows Macintoshes to connect to it through special software. It's arguably the most popular network software in the world today.

Another popular networking software is called Novelle, and has been around for a long time — before the Macintosh, certainly. It is used in large corporate environments and also provides ways for the Macintosh to connect to a network.

Read Only lets people see but not touch. They can open any file on your machine, and can save a copy of that file back to their own machine, but they can’t save anything onto your hard disk.

Write Only is exactly the opposite. They can save something onto your machine but they can’t see anything on it. This is used for mail systems where your machine is a drop box, and other people put files onto it using mail software.

None is assigned when there are network users who do not have access to your system.

Read Only lets people see but not touch. They can open any file on your machine, and can save a copy of that file back to their own machine, but they can’t save anything onto your hard disk.

Write Only is exactly the opposite. They can save something onto your machine but they can’t see anything on it. This is used for mail systems where your machine is a drop box, and other people put files onto it using mail software.

None is assigned when there are network users who do not have access to your system.

Users & Groups
This control panel lets you add, delete, edit, and view the users and groups of users who have access to your machine. From here you can assign passwords and decide whether or not you want someone else to have the ability to change their password. If they do, you can’t find out what it is unless they tell you.
Server software is basically the same as the File Sharing control panel, but more robust. It's normally managed from the server or from a remote machine whose user has the highest access and privilege level. This person is normally called the System Administrator, and can add and delete users from a central location. (In recent years, your System Administrator has replaced the company's Operations Manager as the person whose name should be first on your list of chocolate brownie recipients.)

You will see in this list that there is a user named Guest. This is a special user who doesn't need a password, and can get into your machine whenever they want. In a small private network, this is fine, but in larger environments it's probably a good idea to not allow guests to access your system. You can turn off guest access by double clicking the word Guest on the list and choosing Sharing from the pop-up menu at the top of the dialog box:

You can use this dialog to deny access to Guests without a password.

You can add as many users as you want using the New User button, which brings up a dialog box that allows you to enter Identity information (their name and password):

From the Sharing control panel, you can set program linking privileges for the user, or turn off their ability to access your machine.
The Remote Access control panel lets you determine whether or not a specific user may dial in to your system from outside, for example from the road using a modem. This dialog box provides a callback number so that your computer can connect to them.

The Remote Access control panel gives user the ability to call your computer on the phone.

Modem
The Modem control panel is a simple tool that lets you select from a list of available modems. If your modem doesn’t show up in the list, you’ll have to contact the manufacturer to get the right driver.

Your Macintosh comes with dozens of modem drivers installed in the System Folder. You can add more to the list if yours isn’t already there.
Remote Access
Remote Access is a relatively old software application that allows users to dial in to your computer — or lets you dial into a server or directly to your own computer. If you’re travelling with a laptop and need something from your hard disk, this can be a real positive.

From this dialog box, you would enter your name, your password, and the phone number to dial when you want to connect to another computer using Remote Access. The other computer must have a user set up with Dial-up access privileges, or accept dial-up Guests, which probably isn’t a good idea. Once the fields are complete, the Connect button becomes activate, and clicking it will start the process.

The Connection tab under Remote Access options lets you flash the menu bar while you’re connected, in case you forget. You can also disable the connection automatically after ten minutes of inactivity.

Using Chooser to Access a Network Volume
The most popular way to connect to another (remote) volume or server on an AppleTalk network is through the Chooser. We used Chooser in Chapter 5 to select the printer we wanted to use for output. The other use of Chooser — accessing network volumes — is done the same way.

The Chooser window displays icons for printers as well as for AppleShare. If you click on the AppleShare icon, the right side of the window will display available network volumes — in the same way it shows printers when you click on a printer icon.
In this situation, there's only one volume available on the network, and that's Ellenn's machine. In a large network, the list could be long, in which case you can scroll the list.

If you double-click the server that you want to access, the Connect dialog box appears, where you can enter your password if you're a registered user (the other person has created a user on their machine and given you the password).

Here, Don is about to enter the password that Ellenn provided to him when she created his user in her File Sharing dialog. If Ellenn allowed guests, he could click the Guest button and not be required to provide a password.

Once you get past this dialog box, you can see which (if any) volumes are available on the machine you're connecting to. In this case there's only one.

Selecting the checkbox will cause this volume to automatically appear on your desktop whenever you start up your Macintosh.
Once you double click the drive you want to access, it appears on your desktop.

When you access a remote drive, its icon shows cables, indicating that it's part of the network, not part of your personal machine.

**Network Browser**

The Network Browser application, found under the Apple menu, is similar to Chooser but can access multiple networks at the same time. In most cases, Chooser will suffice for your personal needs.

![The Network Browser Window.](image)

**Chapter Summary**

In Chapter 6, you explored the tools supplied with the Mac OS for connecting to other computers. We discussed the types of network connections in popular use today. You looked at how each of the networking control panels operate. You learned how File Sharing works, and how the File Sharing control panel can be used to provide others access to the files, and sometimes the programs, on your hard disks. You saw how to create Guests and Users, and how to control the specific privileges for each user. You how to use the Remote Access feature.
CHAPTER 7

The Internet

CHAPTER OBJECTIVE:
To learn about the many Internet-related features of the Mac OS. In Chapter 6, you will:

- Learn the two ways you can connect to the Internet — through a dial-up connection that uses regular phone lines to a direct connection, such as those found in corporate settings.
- Learn about Internet Service Providers (ISPs) the companies that buy volume access to the Internet and sell small pieces to companies and individuals.
- Learn about Browser software, which is specially designed to read and interpret HyperText Markup Language (HTML).
- Explore File Transfer Protocol (FTP) and how it’s used to send and receive large files.
- Learn about Chat rooms and Newsgroups, which are excellent research resources with an admittedly dark side.
- Learn how to download files and where to find great games, utilities, and other Macintosh goodies for free or darn near free.
- Explore Configuration Manager, which lets you control every aspect of your Internet environment, from automatically filling out forms to controlling the type of content that you can view on your Macintosh.
- Learn to use the Keychain access function, which provides a secure location to keep track of your passwords and security certificates.
- Learn how to use an email program, and how to use directory services to find anyone anywhere on the Web.
In order to experiment with some of the topics we discuss in this Chapter on the Internet, you will need to either have a modem on your computer or a direct connection to the Internet (perhaps through your school's or company's account). In addition, you will have to be able to connect to the Internet through an ISP, or Internet Service Provider.

Some ISPs offer a range of plans, for example you might pay a certain rate on weekends, or evenings, and another rate during peak hours. Some ISPs offer a range of speeds at different prices as well.

The Macintosh is designed to provide simple and effective access to the Internet. In many ways, the Macintosh is the ultimate Internet appliance; designed from the ground up to take advantage of the Web while offering a safe and secure method to get the most from your Internet browsing experience.

The Macintosh comes complete with a range of tools for accessing the Internet, customizing your Internet environment, and ensuring that your information is secure from prying eyes and hacking fingers.

In this Chapter, we will take a look at the Internet and the related tools available to you.

Internet Connections

Before we talk about how you connect with the Internet, we should take a moment to talk about the Internet service provider, called an ISP — why we need them, and how they work.

Internet Service Providers (ISPs)

At the very core of the Internet are huge fiber-optic cabling networks, connected with highly secure, fortress-like switching centers, much like the telephone companies use to connect their networks. This backbone of cables provides the ability to move huge blocks of data in packets. This Internet backbone is controlled primarily by two companies — Sprint and MCI/Worldcom. They got in early, installed the necessary infrastructure, and are profiting from their foresight and (at that time arguably risky) investments.

The second link in the Internet chain are ISPs, the Internet service providers. ISPs purchase the right to move a specific amount of data (called bandwidth) over the backbone. They purchase large amounts of bandwidth, and therefore are said to have large pipes. A pipe is a metaphor for how much data (water) they can force through their plumbing.

Then they take this product, for which they received a volume discount, and resell it to businesses and individuals.

Once you establish an account with an ISP, they agree to supply you some amount of their bandwidth in exchange for some amount of your money. In the early days of telecommunications and the Internet, the more time you used the more you paid. These days it's quite common to pay a single monthly fee and have unlimited access to the Internet.
Connecting to an ISP
There are two ways you can buy bandwidth from an ISP:

- **Dial-up connection.** A phone line is plugged into your Macintosh, which is equipped with a modem. When you give it the command, your Mac literally calls the ISP up on the phone. A special router at their end answers the phone, and connects you to their pipe. The bandwidth you receive (the speed at which you can send and receive information) is limited by the speed at which your modem can transmit and receive. Modems today average around 56k, or 56,000 characters per second. This is relatively fast compared to a few years ago, but still far short of what’s required to access the more robust features the Web has to offer, like streaming video, audio, and animations. Downloading large files over modems is still a tedious process.

- **Direct connection.** A direct connection is always active — you don’t have to connect, logon, enter a password anytime you want to surf the web. The connection is active 24 hours a day, seven days a week, and you don’t pay an hourly rate for usage. You pay for the entire time whether you surf the web, spend a million dollars on e-Bay, or talk to your friend in Kazakhstan for twelve hours about raising honey bees. Direct connections are expensive (in most cases) and usually the domain of academic institutions and corporations.

There are thousands of companies acting as ISPs, Internet communities, or combinations of the two. You can choose a local provider or a national presence.

**Other ISP Services**
ISPs normally offer other services in addition to simply renting you some of their bandwidth. Some act as local or international virtual communities. America Online, which also owns Compuserve, one of the very first commercial ISPs, is a good example. Another ISP with local presence and high-speed cable modem access services is Time Warner, whose Road Runner product is probably the most popular cable service in the United States.

Regional ISPs like Time-Warner’s Road Runner service often provide access to local services, special interest items, support, shopping, and more.
Browser Software

The Internet is a collection of different services, the most popular and well-known of which is the World Wide Web. The Web is a huge Ethernet network (we talked about Ethernet in the last Chapter) consisting of personal, corporate, educational, and organizational computers with special files known as Web Pages on their hard disks. A web page is a special type of file written in a language called HTML (HyperText Markup Language).

A browser is a software program that translates HTML and displays it in a friendly and familiar manner.

There are several browsers available on the market, but by far the two most popular are Internet Explorer, a program from Microsoft, and Netscape Navigator, from Netscape. You're probably using one or the other on your computer if you're connected to the web.

Throughout this course, the screen shots you see will have been done with Microsoft's Internet Explorer, which we use on both the Macintosh as well as our PC workstations.

Other Services Available from an ISP

The World Wide Web isn't the only service available on the Internet. There are many others. Among the most common are:

- **Email service.** This service provides you with an address for sending and receiving email. (The email you receive often includes stuff you want to see and stuff you don't want to see, such as warnings that it has been scientifically verified at NASA that the moon is, in fact and without doubt, made of blue cheese.) There are two parts to an email system: the email server that gets your messages and another one that handles outgoing mail.

- **FTP.** These initials stand for *File Transfer Protocol.* This service allows you to put files onto a special type of server, where authorized individuals can go to download the files to their own machine. FTP is somewhat faster then using your browser to download a file -- especially large files that you want to view off-line after you've received them. Here at ATC, we make extensive use of FTP servers to distribute to and collect work from our authors, editors, and technical personnel.
An Internet connection that’s running over regular telephone lines is sometimes called a POTS — Plain Old Telephone Service.

Although chat rooms and newsgroups offer excellent opportunities to talk with people of similar interests, they also contain the most offensive materials anyone can find — and we can assure you that there’s something there that can offend anyone, no matter how thick skinned they might be. You must be very careful allowing anyone in your household access to newsgroups and chat rooms — the potential for abuse exists in good measure within these environments.

This page from the Against The Clock web site allows authors to download and upload files from the site without any special software. It is a user-friendly way to let authors and editors access an FTP site with no prior experience.

There is an excellent public domain (essentially owned by the “public” and free to anyone who wants it) software package that lets you access FTP sites directly. The software is called Fetch and is an FTP client, that it is lets you access FTP sites to which you have a password and username. Some sites let you log on as an “anonymous user” without a password (ATC’s site isn’t one of them).

Using Fetch, an author can directly access the ATC FTP site and access the files they need somewhat more efficiently than they can directly from within the web page.
In the screen shots of the FTP sites in this Chapter, we’ve changed the numbers to protect the security of our files. Sorry for any inconvenience this might cause the darkling hackers among you.

People are justifiable concerned with Internet privacy — and with good reason. Wherever a security system has been designed and installed, it’s become the target of people who like to break in just for the fun of it — and sometimes for the illegal profits that hacking can generate. In the case of individuals, however, the problem seems a bit out of proportion to the reality. Hackers are more interested in big sites than they are individuals accounts. That doesn’t mean it doesn’t happen.

- **Chat rooms.** These are virtual rooms where people can get on line and talk in real time with other people who have similar interests. You can find chat rooms on any imaginable subject (and some that are beyond your imagination). To chat you need special software called a Chat client, which lets you log in and begin typing.

- **Newsgroups.** In the early days of the Internet, these were called bulletin boards where people who subscribed to that particular “beeb” could post messages and read all the other messages that had been posted. Beebex evolved into newsgroups with slightly better organized conversation threads take place. (Unlike having a conversation in a room full of real people, you won’t be interrupted in the middle of a thought.) A newsgroup lets people interested in a specific subject post questions and receive answers. Answers can be sent by email directly to the person asking the question or posted where the entire group can read the responses. The subjects that you can find covered by newsgroups is as diverse as those in the chat rooms.

Here you can see a posting from the Seattle Mac Users Group newsgroup. The original poster had a problem shutting down his iMac, and three people responded with answers. Newsgroups are an excellent support network used by millions of people worldwide.
In Chapter 4, we explored the built-in applications provided with your Macintosh. However, we skipped the ones having to do with the Internet and networking until Chapters 5 and 6, which cover these subjects. Now that we're discussing these issues, we'll revisit the tools we didn't cover. Almost all the functions we're looking at here are control panels, which can naturally be turned on and off using Extensions Manager. If any of the tools that we feature in this Chapter aren't on your list, be sure to check that they're loading at Startup.

Internet Tools
Let's explore some of the tools that came with your Macintosh and provide control over your accounts, your access methods, and the security of your personal information.

When you sign up with an ISP, you get an account number, a user name, and a password. The provider also gives you certain codes required to access their system, for example the name of their server, and the names of any special servers, such as those that provide email services, FTP services, chat rooms, and newsgroups.

You must manage all this information, and have access to settings that control your connection with your ISP. That's where the built-in Internet applications come into play.

Configuration Manager
The most useful of all the Internet management programs that Apple provides with the Mac OS is the Configuration Manager control panel.

General Controls
The General Controls section of the Configuration Manager stores the fundamental information about your account, including your Real name, your email address, and the company you're working for.

You'll notice that there is a field under Sending Mail named SMTP host. This is the server that's used for your outgoing mail. You can get this information from your ISP, and should have it if the machine you're working on is able to send email. Under Retrieving Mail, you'll see that the protocol being used is called POP. This means Point of Presence, and is the most common way of receiving mail. Whatever program you're using to send and receive mail requires this same basic information.

AutoFill
Lots of Web sites require that you fill out forms. Whether you're registering with an offshore blackjack company or buying books on Amazon.com, you often have to provide basic information about yourself. When you are, you can select the AutoFill feature.
There are two functions available from this dialog box. The first is the *Forms Completion Editor*, which gives you the ability to create a sort of shorthand where the Mac recognizes what you’re about to type by looking at the first few letters. This is handy if you have a long email address, or if you want to quickly enter a positive or negative comment. You can enter the phrase here, and when you start to enter information into a form, typing the first few letters will result in the rest of the phrase appearing automatically.

The second function of the AutoFill dialog box is to provide a place for you to fill out complete personal information form. You can enter the information you need into this form, and retrieve it by clicking the AutoFill icon, which will be available to you whenever there’s a form you need to fill out on the web page you’re working with.

The AutoFill command is simple to use. Once you’ve entered all the information into the AutoFill profile window, all you have to do is click one icon, and a form will be filled out automatically. This illustration is from Internet Explorer 5.0 for the Macintosh.
Network Settings
The next category of items over which Configuration Manager offers you control are the network settings for your Browser. These include Protocol helpers, which let you map specific file types to applications on your Macintosh. Most of the default settings are fine the way they are.

![Protocol Helper Settings](image)

Standard Internet file formats are mapped to specific Macintosh applications using the Protocol Helper Settings in the Configuration Manager.

In many corporate environments, a security device known as a fire wall is deployed. A fire wall is a special application, normally running on its own separate server, which monitors incoming and outgoing traffic in an ongoing effort to protect the contents of the company’s network from unofficial access. Fire walls often limit the way an individual workstation on the network can access the Internet, as well. Because they’re designed to stand in between the Internet and the corporate network, most IS professionals choose to install what are called “proxy” servers. Proxy servers are a security device that lets people behind a fire wall access the Internet normally.

![Proxy Server Configuration](image)

Your system administrator would have this information if you’re behind a security fire wall.
We will talk more about password management when we discuss the Keychain feature, which when used in conjunction with the Multiple Users feature, can provide limited access to questionable areas for users within your household.

Shareware is software that you can download for free and use for a while before paying a nominal fee for permanent registration and the ability to receive information about updates and new features. Freeware is software that you don't have to pay for but often doesn't get updated by the authors.

All sites that have anything to do with commerce or, in some cases, proprietary information will require that you have a password to enter the page. You can keep a list of your passwords in one place within the Configuration Manager.

You can use the AutoFill to keep track of the passwords for specific sites.

**Downloading Files from the Internet**

Surfing the Internet often includes downloading, or receiving files from other sources, you can set exactly where these files are saved from within the Download options category here in Configuration Manager.

Once you've identified where you want your Macintosh to save downloaded files, all you have to do is find something to download. There's plenty to find. You can start with http://www.tucows.com, or shareware.com.

This image is from TuCows.com, an excellent shareware site where you can find plenty of Mac software in dozens of categories.
Most shareware sites allow you to search within categories for particular products, then they supply you with a list of items that fit your criteria.

When you begin the download process (usually by clicking the Download button or the name of the file that you want), the Download Manager comes alive.

Download Manager is a system-level application that automatically activates whenever you choose to access a file from the Web. It maintains a list of files that you've recently downloaded, and you can access them directly from within the download manager, pausing or cancelling them if need be.
Don't think that downloading files can't lead to trouble. There are malicious people out there who want to wreak havoc because they think it's fun. Every day on the news we hear about new virus attacks bringing large corporations and at-home surfers to a halt through a variety of damaging programs that infect your computer when you download and open the files they created.

To be somewhat safe, we highly recommend that you buy a good virus protection program. You can check Norton Utilities — they have a very robust product that hooks into your browser to check files when they're coming over, as well as being able to scan them once they arrive.

When your file arrives, it will be stored in the folder you targeted in the Configuration Manager. In this case it's the Downloads folder, which is at the top level of our internal hard disk.

The Downloads folder is, by default, the location where your downloads are stored. Once you've unstuffed them and installed the software, you can throw away the original stuffed files. They can really add up if they're large files, so watch this folder carefully.

**Controlling the Behavior of your Browser**

The Browser controls within Configuration Manager control how your browser functions, including how it looks, what site it uses as your “home page,” and other useful features.

**Display**

In the Browser Display dialog box you can select a color to differentiate between links you've visited and ones that are yet to be explored. The Toolbar setting allows you to customize the toolbar that sits above the Browser. In our case we're using Microsoft's Internet Explorer, but if you're using Netscape instead the controls are essentially the same.
Web Content
Web Content determines whether or not pictures are displayed, if video can play, whether or not animated GIFs go through their motions, and other settings related to the graphic quality and complexity of the content your browser can put on screen. This is naturally related to how fast your connection is. If you’re using a slow modem, it’s a good idea to turn off some of the more processing-intensive functions (such as video).

Home/Search
This dialog box lets you determine which page (if any) will load whenever you start up your browser and log onto the Web. It also lets you determine what search engine you want to use when you click your browser’s Search button.

Select any site in the world as your home page, or have the Browser open without any pages showing — just waiting for you to command it where to take you.
Language and Fonts
The Language and Fonts dialog box lets you pick the language you want to use and which fonts are used to display page content in your Browser.

Some Internet sites send different language depending on the language your browser is set to. If you are accessing one of these sites, select the language you would like to see.

Language: English (en)

Fonts
Select the default character set and font to use when servers or web pages do not provide one.

Character set: Western (Latin1)

Proportional font: Times

Fixed-width font: Monaco

Proportional fonts are for reading text and fixed-width fonts are used for tables.

Subscriptions
Subscriptions provides a way for you to be notified if a web page has changed. Some sites, such as cnn.com or msnbc.com are changing every five minutes, and therefore aren’t well suited to being set to “notify by email.” If it was, you would be getting about thirty thousand emails a day. Others, like corporate sites, or sites that list press releases for specific corporate sites, might be a good candidate for notification.

Java
Java is a programming language originally introduced by Sun Microsystems and put in the public domain. It provides much of the animation, flying logos, lighting buttons, and scrolling marquees we see on the Web these days. Because it is a program that runs on your computer, there is a remote possibility that someone could write a Java program that did something bad — for example, erase your hard disk. Although it’s not likely that will happen (there are much more devious ways to accomplish this if someone really wanted to), you can turn off Java so that it can’t run. It will make the Web a less interesting place if you do, however.
Ever visited a web site that knew who you were, and welcomed you back? That’s the case with many commercial sites these days. The trick is accomplished through the use of something called a cookie. A cookie is a small file that contains information about you, your surfing habits (at that site, at least), and other information, such as your buying preferences. You can turn off your Mac’s ability to download cookies from the Configuration Manager, under Cookies. It will show you which ones are on your machine right now, as well. You can also set the Mac to ask you before it accepts a cookie, then you can decide who to let into your kitchen and who to keep out.

The Java dialog box does offer some security measures. It’s a good idea to leave the security settings as they are when you set up your computer.

Ratings
The Ratings tool provides some control over the type of content that can be viewed on your system. If you have kids in the house, it’s a must-have. There are a number of commercial products available as well that will provide access control over your system.

Don’t ask us — it was Dr. Roberts of Stanford University who came up with the Rating System adopted by Apple for the Mac OS.
A security certificate is a special type of file that's downloaded to your browser when you're visiting a so-called "secure" site. A secure site is one that is using high-level encoding and encryption software, and maintains a level of security that is acceptable in the eyes of the issuing company, which normally and routinely performs security checks of its client's sites. This service costs the subscribing web company a fee, but it's well worth it in these days of increased concern over internet security.

**Advanced Settings**

There is a collection of advanced settings, that control, among other things, how many of the site you recently are kept in the Browsers History tab.

**Keychain**

One of the newest features in the Mac OS is the Keychain feature. The keychain is a special, secure file that stores passwords and security *certificates* for specific web pages.

The Keychain is a control panel. The first time you access it, the program asks you if you would like to create a New Keychain, and explains what the Keychain does for you.

If there isn't a Keychain on your system, you have the option of creating a new one when you launch its control panel.

If you click the Create button, you can create a new keychain, by providing a name and password.

Providing a name for the Keychain and a password (which you have to retype to confirm it's the one you want) creates a new keychain with that name.
You should make sure that you pick a password that's at least six characters long when you create your keychain. Any less than that is considered not to be a secure password, because there aren't enough characters to make sure someone can't figure out the word or phrase you used. If you attempt to use too short a password, the Keychain program will warn you with an Alert box.

Once you provided the password and name for the keychain, the Keychain window appears.

Once you log onto a site that requires a password, you will see a checkbox asking you if you want to save your password. Clicking 'yes' will add the site to the keychain.

From the Edit menu, you can choose to modify the keychain by changing the password or a time after which — if there is not activity on the system — the keychain automatically locks.

You can set options for an individual keychain from the File>Settings menu. From the same menu, you can choose to view the built-in certificates. There are several companies listed, with VeriSign arguably the leading Internet security company on the market today.

Here you can see several different types of certificates from two companies: Thawte and VeriSign.
Certificates are highly complex objects that contain chains of numbers, which when accessed with the proper key, are able to verify the security of the documents being sent, the passwords being used, and the transactions that might occur between the connected machines. You can view the contents of the certificate by choosing one of the certificates in the list and choosing View Certificate.

![Certificate Information]

Viewing certificates and trying to memorize their serial numbers is a great way to spend a rainy day.

**Email**

Although we can't be sure which program you're using as a Browser for the Internet, or for your email, but since Microsoft's Internet Explorer ships with Macs and includes an excellent email program called *Outlook Express* we felt safe using that program for the examples in this chapter. Even if you're using something else, the basic concepts are the same.

Email is, without question, the most popular Internet-related tool in the world. It has replaced millions of phone calls, saved millions of dollars in postage, and helped create a new brand of worker — the telecommuter.

Launching Outlook express displays the Outlook Main Window, which shows a list of functions and objects on the left side, and your email *Inbox* on the right.
Although Outlook is the target of many virus attacks, it seems that for certain reasons the Macintosh version of this excellent email client is impervious to them. A part of the reason that many of them are written in a language called Visual Basic, a Microsoft language that’s limited to the Windows and Windows NT platforms. The Mac OS is not as easy to break into; many programmers who are perfectly able to disable any PC on the planet simply can’t figure out how to do it to the Mac. Also, since the PC is so dominant in the marketplace, with some 85% of all computer users working on Windows machines, you can concentrate your meanness more easily and more effectively if you mess up PCs. Who cares about a few million artists, designers, free-thinkers, and graphic professionals anyway?

Sending an Email
To send an email is quite simple. You click the New button in the upper-left corner and select New Message.

When you do, you’ll be presented with a window that allows you to compose a message to anyone. The first thing you have to do is let the system know who you’re sending it to. This requires an email address — usually in the form of someone@something.com.

The new message window, where you can compose a message to a friend or associate.
Outlook has the very useful facility to add anyone who sends you an email to a built-in address book. Additionally, you can add people to the list yourself, and include their email address. If you already have names in your list and click in the To: field, you can access your address book. If you type in the first letter or few letters of a name, the address book intelligently assumes you’re looking for someone in that range of letters.

Once you’ve picked who you’re going to send the email to (and you can send it to any number of people by separating their names with commas), you can enter the body of your message in the space below.

You can also attach a file to be sent along with the email by clicking the Attach button and browsing through folders until you find the file you want to send. It will automatically be saved to their computer when they receive the message.

**Signing Your Emails**

A very useful feature is the ability to store a list of signatures, and then use them for specific types of emails.

You have access to a list of three standard signatures. You can add more or double-click any of them to add your own signature.
You can delete your mail by selecting it and clicking on the garbage can icon in the Outlook Express toolbar. It's a good idea keep your Inbox cleaned out by sorting through old mail and deleting what you no longer need. If your Inbox is full of emails that you need to keep, use File>New>New Folder to create places where you can store stuff.

To permanently delete emails, you have to open deleted items and throw them away again. An alternative is to set your preferences so that the trash is emptied every time you quit. This might prove troublesome, though, if you ever want to retrieve something from the trash. We try to do it about once a week, to make sure we don't accidentally trash something we really needed.

Once you've created your list, you can select any of them from the pop-up menu that appears on your toolbar.

When you're done, click the Send Now button, or the Send Later button (to which you assign a time and day it should be sent), and you're done. Outlook closes the window and takes you back to the main page.

**Receiving Mail**

You can see all the mail that's in your Inbox in the right side of the main Outlook window. To read one, click on it, and its contents will be displayed in the lower half of the window.

All of your emails are listed at the top of the inbox window. Unread mail shows in blue and has a star icon to its left indicating that it hasn't been opened yet.
Using Outlook for Newsgroups

You can use Outlook Express to browse newsgroups. First you will need the name of the news server that your ISP is using (some ISPs only offer limited access to newsgroups, so you’ll have to check with them to make sure they offer the service). Once you have that name, you can enter it in the Tools>Accounts>News window.

You can add your new server to this list if you have the proper address from your ISP.

Once you’re connected to your ISP’s news server, you can find the thousands of newsgroups that are out there on the net. Here we typed in the word Macintosh and you’re looking at one-tenth of the groups.

These are a few of the 41 Macintosh-related newsgroups we found on our news server.
Using Directory Services

You can use Outlook Express to access a list of directory servers — virtual phone books containing millions of email addresses for people all over the world. You do this by clicking the triangle icon next to Directory Services and pick one of the books.

We have a list of four different resources with two servers each. Interestingly enough, each of them contains items that the others seem to not contain.

To find someone in the directory, pick a book, enter their name (or their email address), and you will be presented with a list of matching entries. Here we entered the name Smith.

Surprisingly, we were able to find quite a few Smiths in the Bigfoot directory, proving the effectiveness of this powerful tool.
In the next Chapter we’re going to explore the use of Sherlock, Apple’s answer to the ultimate search engine. Sherlock can be used to find things on your hard disk as well as people, places, and things on the Internet. Directory services is an effective and powerful search engine though, especially when you’re looking for people.

The Multi-User feature is available as a control panel. There is one default user — you, and you’re listed as the system’s Owner. Your first name (taken from the Configuration Manager) is your user name, and it’s also your password. If you’re going to use the feature, it’s a good idea to change this right away.

Security

Although the Internet isn’t the only place where the security of your data comes into play, its rapid development has certainly left many experts a little behind the curve. It’s clear that the systems at any company or organization — no matter how secure they feel their systems are and regardless of how much money they spend — can be breached. There are constantly reports of break-ins. Some are benign and others destructive. There’s only so much an individual can do to protect their secret information. If a really talented computer thief wants to see your grocery bill, or how much you spent at the liquor store, they’re going to see it. You have to decide what is top secret information that really needs protecting and what’s just dull, useless information. If you want to send relatively secure information to someone via email, or you want to protect certain information on your computer from prying eyes, then there are two tools included with your Macintosh that can help you do just that.

Multiple Users

In offices where more than one person needs to share the same computer, and in homes where it seems that every member of the family has a different use for (and simultaneous need of) the one computer in the house — Apple provides a powerful yet elegant method of ensuring that everyone’s experience is personalized. The feature is called Multiple Users. We felt that it was best to discuss this feature in this Chapter, since the Internet and online services create the need for solid security measures, as well as creating a situation where what’s appropriate for one user is totally inappropriate for another.

How it Works

Inside your System Folder is a folder named Multi-User Items. This folder contains a special collection of folders and preference files that combine to provide the facility to present custom desktops, custom system folders, custom control panels, and access to only those items and applications that the Owner deems appropriate.
Normally, the Multiple User function is turned off, and can only be turned on (or off again) by the Owner. No other user — no matter how much access they have to the machine — can disable the function. If you forget your password, there are very few ways that you can get around any security or access settings. One way is to completely format the machine, but if the other users on the system can't see all the other user's documents, you can't effectively back up all your data up before you go and fry the drive.

Additionally, when there are multiple users set up on the system, a folder named Users is created on the hard disk where your System Folder is located. Inside this folder is the actual user information, as well as aliases of a Shared Items folder, which any user who has the privilege is allowed to put files that are visible to other users on the system.

As the Owner, you have the option of determining the User Status of a New User at the time you create them. You can also change an existing user's status to a higher (or lower) level, or edit any of the privileges. Such changes will take effect the next time they log onto your system.

User Levels
There are three different levels of user besides the Owner.

- Normal. A Normal user has essentially the same access as the Owner. Exceptions are the ability to turn off the Multiple User option, and the ability to open other users' document folders. A Normal user can be granted the ability to manage other accounts.

- Limited. A Limited user also sees a Desktop and volume icons the same way the Owner or a Normal user does — but their access is limited to exactly the applications, folders, and resources that the Owner (or Normal creator) has assigned. By default the only thing that a Limited user can do is save files into a global Shared Items folder.

- Panels. Designed for the user whose access is limited to a very narrow selection of applications, volumes, and system resources. The Panels user sees an interface different from that seen by Owners, Normal, and Limited users.
Creating Users

Creating a new User is as easy as clicking the New User button, which activates the New User dialog box. If Multiple Users isn’t turned on at the time, you can still make changes, but you will see an Alert dialog indicating that the modifications won’t take effect until you restart the computer.

Changes take effect when Multiple Users is turned on.

Multiple User accounts are currently turned off. Any changes made in user settings will take effect when the owner turns Multiple User accounts on.

You can create new users and edit the settings for an existing user even if the Multiple Users feature isn’t turned on at the time.

The New User dialog box presents an array of choices for customizing the User’s experience and what they can and cannot do. First, you create a User Name and Password.

The New User dialog box (which is the same as the Edit User dialog), can be expanded to show Setup Details by clicking the triangle below the “Kind of User Account” icons.

In this example, Tommy is a Normal user. You can see four tabs in the bottom portion of the dialog. User Info is the only one that’s applicable to a Normal user. You can allow them to Log in, to Change their password, to manage other User accounts. By checking the “Access by others to user’s documents,” you can determine if other people can read them, change them (read/write), or write only (for mail drops, for example).

When you create a Limited user, however, the other tabs — which control access and establish restrictions — become active.
When you're creating a user, you can assign them any of the several icons that are supplied with the program, or — if you have an image-editing program — drag custom icons into the User Picture window.

The Multiple Users feature is a real space hog — it essentially creates an entire duplicate System Folder for every user you create. Be aware of this when considering creating new users. If you have plenty of drive space, then it's not a problem. If you're limited on space, though, you should check to see how much room is left after you create a new user, and remember that you should try to never use more than 70% of the available space on your drive.

The first choice you have when creating a Limited user is which applications the person is able to use. The Control Panel maintains a list of all the applications on the computer. You can go down the list, and activate any program by checking the box to the left of its name. When that User logs on, these are the only programs that they'll be able to run.

The Privileges tab is where you determine if the user can access CDs or DVDs on the system. You can also restrict or allow the user to access removable disks, such as Jaz or Zip disks. Additionally, you can determine if they can see the Shared folder, use the Chooser and Network browser, and whether or not they can print. You can even limit their output to specific printers if there are more than one on your network.

You can use this dialog box to limit or allow access to Control Panels and other Apple menu items.

The third kind of user — the Panels user — is the most limited type of User status you can apply. In this mode, the user doesn't see the normal desktop when they log in. They only see a set of panels, which display the applications they can use, and their own documents folder. If they double click a folder, a third panel opens displaying the contents of that folder. It's a very useful mode for users that are likely to break something if let into the basement.
The Panel User doesn’t see the regular desktop. Instead they’re presented with only those options the Owner allows.

Logging On
When the Owner enables the Multiple Users option, the machine will begin to start up, and then display the Log In window. From there, the user selects his or her icon from the list, and are then asked to enter their password (if one was assigned).

If the wrong password is entered, the User will be unable to use the computer. The dialog box will simply sit there and shake its head, so to speak.
Deleting Users
As the owner, you can delete any users you want with the exception of yourself; there always has to be an Owner. To delete a user, select their name from the User list displayed in the control panel and choose delete.

When you do, you will first be asked if you’re sure that you want to delete the user. You cannot Undo this command. Once you delete the user, you will be asked if you also want to delete their documents folder.

As the owner you can delete a User and the files they created — but you have to do it in two steps.

Chapter Summary
In Chapter 7 you explored how to connect your Macintosh to the Internet. You looked at Browser software briefly discussed services available on the web, such as File Transfer Protocol, chat rooms, newsgroups, and email. You learned the use of Configuration Manager for controlling the behavior of your browser. You explored the use of Download manager, and learned how to connect to shareware sites and download files for use on our own computers. You also learned about the Keychain Access control panel.

You looked at the operations of Outlook Express for creating, sending and receiving email. You also saw how Outlook provides access to newsgroups and directory services. Finally, you explored the Multiple Users feature, which allows you control how your Macintosh can be used by other people.
CHAPTER 8

Sherlock

CHAPTER OBJECTIVE:
To learn about Sherlock, the search engine which is a core feature in the Mac OS. In Chapter 6, you will:

- Learn about Sherlock channels — special search categories that let you organize the sites you search into logical groups.
- Learn to use Sherlock to search for files and folders stored on your own drives and drives that are connected to your network.
- Learn to use Sherlock to print, copy, delete, make aliases, and reorganize found files.
- Explore Indexing, a method whereby Sherlock scans and remembers the contents of your hard drives, allowing for much faster searches and the ability to search for a file based on its contents.
- Learn several methods to manage Sherlock’s indexing feature to make it more useful and faster.
- Understand how to use Sherlock to search the Internet for stories, people, that special gift, bargains, and more.
- Explore Configuration Manager, which lets you control every aspect of your Internet environment, from the ability to automatically fill out forms to the ability to control the type of content that you can view on your Macintosh.
- Explore ways to customize Sherlock by modifying existing channels and adding new ones.
- Learn where to access over three hundred custom plug-ins for Sherlock, which can dramatically enhance its ability to find what you want when you want it.
Sherlock

Finding a specific file on your hard disk or network is one thing; finding what you're looking for on the vast universe of the Internet is another. Of the hundreds of tools designed to help you effectively perform a search, Sherlock is the best of the breed. It can look around the world almost as quickly as it can find that important letter somewhere on your system.

Designed to function seamlessly within the Macintosh operating system, Sherlock is worthy of study. The more you use it, and the more you understand its subtleties, the less time you'll spend tunneling through garbage to find the one article you're looking for — or that one best high-school friend.

Sherlock

Sherlock is a unique and powerful application known as a search engine. It's an important component of the Mac OS, unique because it's the first tool offered as a component of a commercial operating system that's able to search both locally (on your machine or network) and globally, using the World Wide Web. It's both intuitive and intelligent.

Sherlock is an Apple Menu Item called Sherlock2. It is the second generation (the first was released with Mac OS 8.5) of the program, and it is unlike most other searching tools available on any computer platform.

Channels

Sherlock operates with what are called Channels; that is it maintains separate lists of places to look under several built in categories. Additionally, you can modify and add to this list of Channels, to make Sherlock increasingly customized to the way you work.

Channels are represented by the large icon buttons that you can see across the top of the dialog. Each of them is designed to search for and find a specific type of object or piece of information.

The Disk Drive channel looks for files and folders, and can even search the contents of files, seeking out and locating a specific word or phrase within, let's say advertising copy, or a newsletter layout file. In the window below is seen the drives and volumes currently con-
You can activate Sherlock from the Finder by pressing Command-F for Find. Command-W closes the Window and puts the tool away where it will patiently await your next command.

You can collapse the bottom half of the window — the part that shows a file's hierarchy — by grabbing the slotted bar in between the top and bottom windows. Slide it up or down to adjust the sizes of the windows.

You can connect to your computer or mounted over your network and visible on your Desktop. It is the only Channel that doesn’t require an Internet connection to work.

The World Wide Web channel looks for web pages containing the copy you enter as a search criteria. Unlike using a single search engine, like Yahoo.com or CNet.com, for example, Sherlock will look at multiple sites at one time, each running in parallel, and display the combined results in a logical and meaningful fashion. Sherlock makes searching the web much easier and more effective than any other application we know of.

The People channel looks for individuals, using directory services much like those we used from Outlook Express in the last Chapter. Actually, in their default states, the Outlook directory services contains three search servers, compared with the two that come standard with Sherlock.

The Shopping channel (not to be confused with that award winning television program of the same name) is used to access retailers, a few of which have been selected for your shopping convenience. Later on we’ll show you how to find and install new servers within the Channels that Sherlock offers.

The News channel looks for articles containing your search criteria within about a dozen high-profile news sites, including one of our favorite sites, CNN Interactive. Naturally you could use your browser, access the sites, and read everything, but if you’re interested in a particular subject, or wanted to check out a story you heard somewhere but haven’t read yet, this channel can prove quite useful and effective.

This Apple channel provides the ability to search an extensive service, product, and support database maintained on several sites, among them the Apple site. It can return a wealth of information about the most esoteric questions, as we’ll see a bit later on.

The Reference channel looks in dictionary and encyclopedia sites to find references to almost any subject imaginable. You can also add the ability to search a thesaurus for alternative words if you’re in the midst of writing the great American novel, or simply a computer training book.
My Channel is a custom channel to which you can add your own search sites, and catego-
ryze them under any subject that interests you or is required for your work. We’ll explore
how to modify this and the other channels in this Chapter.

Searching Drives and Volumes

The Disk Drive channel provides the ability to search any mounted volume — either a local
drive — whether they’re on your machine or anywhere on your network, assuming they’re
mounted on your desktop.

Finding Files with Sherlock

1. If you’re at the Finder, press Command-F or select Sherlock2 from the Apple menu.

2. Your screen display might differ from this one, because we have a different configura-
tion then you do. When you select the drive channel, you will see a list of the available
drives showing in the middle portion of the window — they’ll be the ones mounted
on your machine and/or network. In the empty field as the top of the window (below
the Channel icons), enter the word “Moby.”

3. Click the Magnifying Glass icon to initiate the search. The drive will spin for a second
and the results of your search will be revealed in the middle window, replacing the list
of the drives that was there a minute ago. Select the file named Moby Dick.TXT.
If you create a custom search — for all PageMaker files creating in July, for example, or every Microsoft Excel spreadsheet you created in the past ten days — you can click the Save button and they'll be saved in the Custom Search list. The next time you want to do a similar search, you can simply pick it from the list and avoid having to make all the same settings over again.

4. When you select the file, the bottom portion of the window will display the file’s hierarchy, showing exactly what folder it is in, and whether or not that folder is within another folder.

5. Hold down the option key and drag the file’s icon onto your desktop. A copy dialog box will appear and a copy of the file will be created on your desktop.

6. Click the Magnifying glass again to refresh the view. Two Moby files will now appear in the list; one on the Desktop and one in the same place you found it (probably in your Projects folder we created in a previous Chapter).

Clicking the Magnifying Glass refreshes the search and reveals any changes that happened since the last time you looked.
If you create a custom search — for all PageMaker files creating in July, for example, or every Microsoft Excel spreadsheet you created in the past ten days — you can click the Save button and they'll be saved in the Custom Search list. The next time you want to do the same type of search, you simply pick it from the list and can avoid having to make all the same settings over again.

7. With the new copy selected in the list, hit Command-Delete, which will send the file to the trash. Look at the display; Sherlock knows where it put the file.

8. Empty the Trash and put away Sherlock by pressing Command-W.

**Working with files within Sherlock**

As you can see from this brief exercise, when you find a file with Sherlock, you can access it directly from within the dialog box. You can:

- Copy or move the file by either dragging it or option-dragging it to another location.
- Print it by pressing Command-P. The creator application will load directly to its print dialog box, from which you can control the output using the program's built-in features.
- Throw it away either by dragging it to the Trash or by using the Command-Delete key command.
- Sort the list by clicking in the titles above each column. For example you can sort by the date created, the size of the file, the name, or the file type.
- Create an alias of the file by selecting it and pressing Command-M for Make Alias. Once it's created you can move it to wherever you want it to permanently reside.
- Get information on the file by selecting it and pressing Command-I.

You can expand the criteria for your searches by selecting Custom Options from the menu bar (Find>More Options) or by creating a Custom Search.

A custom search provides you with a broad range of basic and advanced criteria, each available in either a pop-up menu (for ranges that are predetermined, such as bigger than or less than) or a field where you can enter specific information (like a phrase within a file's comment box, for example).
Until you get used to working in an intense commercial environment, you cannot begin to understand how much time and headaches a good search tool like Sherlock can be. Finding files by date ranges when they were created or modified, for example, can often help you located something whose name you simply can't remember. In environments where files are numbered and not named (like in our courseware-design studios), these types of searches can be a real life saver — because no human can remember that the file was named 03_18.tif. At least none of us humans.

Sixteen different search criteria are available to you from within the More Search Options dialog box. You can also use this window to Save custom searches for later use.

When Sherlock is looking through a lot of material during a search, it naturally takes longer than when the program's search vista is limited to only a portion of your drive. You can do this by dragging a folder onto the area of the window where the drives are displayed. Then, if you check off the drives and leave the folder, the program will run considerably faster. You can make it even faster if you index the drive or folder, which we'll cover later in the Chapter.

By placing a folder in the Sherlock window you can speed up the search considerably.

You can leave the folder in the window, or delete it when you're done. Deleting the item in the Sherlock window does not delete the original folder from your drive.

Indexing Your Drives

The Indexing feature is new to Sherlock, and causes the program to scan your hard disks (or any folder therein) in order to create an index file. An index file is an invisible file that's stored on the indexed drive and contains pointers to key information within those files.

Indexing has its pros and cons. Among the negatives are the fact that it can take a long, long time to index a large drive containing thousands of files. The second problem is the size of the file itself — it can range to 20 megabytes or more. Adding to the problem is the fact that the file is invisible — you lose space and you really don't know where it's going.
In an earlier Chapter we talked about the ability to assign a label to a file, and modify the names of the labels?

You might notice that one of the choices in the More Search Options dialog box is the ability to search by label. Sherlock will deliver a list of all the files marked with your custom labels.

Once a volume is indexed, you can search for files by the content they contain — for example a specific name, word, or phrase within a word processing or layout file. To perform content searches the drives containing the files must be indexed.

The upside to having your volumes indexed is the blinding speed at which Sherlock can find things on an indexed volume — practically instantaneously.

There are a few work-arounds that can lessen the negative impact of indexing. They are:

- Index your drives as soon as you get your Macintosh. That way subsequent indexing commands don’t have to start from scratch — all they have to do is update an existing index.

- Schedule your index commands for a time when you’re either away from your machine, away from your office, or both. From Sherlock’s Find menu, select Index Volume.

That invokes the Sherlock Index dialog box, from which you can select the volume you wish to index at some predetermined time.

From there it’s a simple matter of clicking the Schedule button and setting a convenient schedule for the indexing to take place. Late at night is usually a good time, unless your Mac is tied up playing the latest DVD movie.
Finding invisible files — of which the Index file created by Sherlock is one kind — use Sherlock. Create a custom search set called Invisible Files. First use the Advanced Find under More Search Options.

Once you've selected the criteria under Advanced Options, save the set under the name Invisible Files. Select that search set from the Custom list whenever you need it in the future.

- Index folders that contain the files you're likely to be looking for. This way you're only indexing the folder and not the entire drive. You can index any folder by Control-Clicking it and choosing Index Selection.

Control-clicking allows you to selectively index individual folders within a volume. It can take a considerable amount of time to index a complex folder. The selection here, which contained 879 items occupying a total of 376.5 megabytes, took a little over 25 minutes on a 500 megahertz G4 Macintosh.

Searching the Internet

As we've mentioned, one of the truly unique features of Sherlock is that it's as capable of searching the Internet as it is of searching your hard disks. Of the seven predefined channels, all but one (the Disk Drive channel) requires that you have an active connection to the Web.

Understanding Sherlock's Internet Channels

When Sherlock is first installed on your system, each Channel is pre-loaded with a select number of sites specifically selected for that Channel.

For example in the World Wide Web Channel, we see fifteen sites already in the list, and several of them, like Aladdin Systems and Cnet have multiple offerings.

Sherlock comes pre-configured with a list of search sites under each Channel category.
Open Sherlock's preferences and turn down the slider that says "responsiveness." The higher the setting, the more sluggishly your system will perform during an indexing. This is fine if you're scheduling your indexing while you're away from your machine, but if you're doing it while you're working on something else, it's best to turn it way down.

Another thing that speeds up Sherlock's indexing is making sure it's only doing it in one language. Select the Languages button and turn off any languages you're not using.

If you look at the Shopping Channel, you'll see several Amazon sites, Barnes and Noble, and e-Bay.

You can see that each of these sites is listed as "built-in" under Kind.

If you look inside of your System Folder, you'll find another folder named Internet Search Sites. Opening it reveals folders that correspond to the Channels in the Sherlock dialog.

The Internet Search Sites folder contains the actual Channel information for Sherlock.

Inside each of these folders are special files with an .src extension. They're written in HTML. If you look inside of the News folder, for example, you can see that the .src files reflect the names in the New Channel list.

Items in each Channel reflect the contents of its folder.

You can fully customize the lists contained in Sherlock's Channels by adding .src files to the proper folders, or alternatively by taking files out of their respective folders. We will explain how to find new Channel resources later in this Chapter.
**Searching for Web Sites**

If you’ve ever used a search engine on the Internet, you’ll find that the method is similar.

- Sherlock searches all the sites in the Channel list at one time (assuming that your ISP allows simultaneous connections, which they probably do).

- Sherlock understands common language a shade better than do conventional search engines.

- Sherlock is *extensible*, that is you can customize the search process through the addition of freely-available .src files. If you know HTML, you can even create your own (see the Sidebar on the previous page for more information).

- You can save custom search criteria for Internet channels exactly the same way as you can for the Disk Drive channel. This allows you to repeat a search at any time without reentering the criteria.

Using English language queries makes Sherlock much friendlier than most Internet search engines and portal sites — even the ones listed as Sherlock Channel resources. In the following example, we asked where to find information about growing orchids, and were rewarded with a list of sixty or so sites.

When Sherlock returns a list of potential sites with information relative to your question, it rates that relevance and displays a comparative graph under the Relevance column, which you can see in this list.

You can also access a brief description of each site by expanding the bottom half of the Sherlock window. A paragraph of text will explain a bit about the site.
Finding People

Using the People Channel, which searches several directory services sites, we looked for the President’s email address by entering Bill Clinton in the search field. Over 100 entries were returned, and not surprisingly, the President’s email address was, in fact, in the list (it’s Prez@whitehouse.gov).

There it is, second in the list — the President’s email address. Isn’t technology wonderful? If you double click one of the names in the list, you will automatically launch your email program, which in this case was Microsoft Outlook, and a New Message window, with the person’s name already in place, will appear. Type your message, click send, and await the arrival of the FBI (Hint: they usually drive Mercury Marquis with moon hubcaps).

Shopping

Shopping on the Internet has mushroomed dramatically over the past several years. If you haven’t bought anything on the Internet, you’re in a growing minority. Although we did spend time at the local malls this past holiday season, it was more for people watching then it was for buying (well, maybe some buying). Sherlock makes the process even easier than it already is. Here we looked for Bikes. We found dozens.
You can drag people's names to the Desktop or a folder as well. The resulting file will automatically launch your email client with the person's address in the To: field of a New Message.

You can sort any column in ascending order by clicking in its name in the title bar. You can reverse the order of the sort by clicking in the little sort arrow, which is at the top of the vertical scroll bar.

Looking for News Articles

For anyone doing research — whether in an academic environment or a corporate marketing department — the ability to simultaneously search multiple sites for news articles is an effective and convenient feature.

In the following example we searched for articles containing references to Apple Computer. We could have used the More Search Options dialog to narrow the search down to a range of dates. If you were doing competitive analysis, for example, you could check every week or so to see if any new articles appeared. That's an excellent way to stay on top of the competition, or to see what people are saying about your company.

Using a custom search for news articles about a specific company and constraining the search to a range of recent dates could prove quite effective for an ongoing research assignment.
Searching Apple’s Technical Archives

If you’re looking for support information about anything having to do with the Macintosh (or any Apple product, dead or alive, for that matter), this Channel is the first place to look. It contains site addresses for their Product Guide, Tech Library, and Apple.com. The Apple iReview, a publication dedicated to the iBook laptops, is also optionally available (by default it’s not checked off, and therefore inactive).

For example, a search for additional plug-ins for Sherlock resulted in 44 references from the predefined sites.

The Reference Channel

The Reference Channel provides virtual models of a traditional encyclopedia, a dictionary, and if required, a thesaurus. If you or a family member needs to produce a report or term paper in short order, this Channel is a great starting point. A search for references to Vikings, for example, resulted in a considerable body of material.

Need to know about marauding Berserkers? Check out the Reference Channel.

Don’t limit your searches to the Channels that seem logical; searching for references to PDF files on the Web Channel might very well produce better results than using the Apple Channel. If you don’t find what you’re looking for the first time you try, think of other ways to phrase your question and other search sites that might contain what you need.
As you can see from these brief examples, Sherlock provides a dynamic method of searching for the exact information you need at exactly the time you need it. Or does it?

**Customizing Sherlock**

As we’ve mentioned earlier in this Chapter, one of the most powerful features of Sherlock is its **extensibility**, or the ability of a savvy operator to completely customize and expand where and how Sherlock looks for the information you’re seeking. In this next section, we’re going to show you just how to make Sherlock work the way you want it to.

The first thing you’ll need is additional site resources — the .src files that you can see if you open the Internet Search Sites folder in your System Folder. There are two ways to get them:

- **Download them from the Internet.** Without question, the best place on the Web to do so is from the Apple-Donuts site. This excellent Macintosh support network provides — free of charge — over three hundred different .src files that you can use to immediately customize your Sherlock search engine.

- **Write them yourself.** If you have a fair knowledge of HTML, you can write your own resource (.src) files and drop them into the correct folder. Although it is a relatively simple process, HTML coding is beyond the scope of this book, so we would suggest that if you want to do so you find the Apple Developer’s site we talked about in the sidebar.

For now we’re going to look at using the ones that we can get for free from the fine folks as Apple-Donuts.

The Apple-Donuts home page is chock full of goodies for your Macintosh, and for Sherlock in particular.

If you log onto the site and follow the instructions, you can download a huge collection of Sherlock search site resource files.
As of last count (the day we were writing this Chapter) there are over 300 different add-ons for Sherlock on the Apple-Donuts site. If you download them, make sure you drop these guys an email thanking them for the great stuff.

Modifying an Existing Channel

To add resources to an existing channel, all you have to do is drop the appropriate resource files into the proper folder. In this following example, we’re going to move the contents of the Mac folder into the Apple Channel. Here’s the original Apple Channel contents.

In the Apple-Donuts Mac folder, there are more than a dozen excellent Macintosh reference sites, all in neat .src files. Drag (or copy) them into the Apple Channel folder inside of Internet Search Sites, and then check out the Apple Channel from within Sherlock. Once you’ve made this change, the chances you’ll find exactly what you’re looking for are greatly enhanced.
You can also add resource files to a Channel by dragging them directly into the list, or simply dropping them directly onto the System Folder. In this latter case, the Mac will ask you if you want to store the files in the Internet Search Sites folder. Responding yes to this question will result in the new resources going into My Channel because the Mac doesn’t know exactly what Channel you would like to place them in. You can always open the folder later and drag them from one to another so as to better organize them to meet your needs.

Once you’ve placed new .src files into the appropriate folder, they will appear in the Channel, listed as “custom” resources in the Kind field.

Modifying My Channel
Sherlock comes with one predefined Channel called “My Channel.” You can place .src files into it just as we did in the above example. Simply drag the .src files that you need into the My Channel folder and the sites will appear in the list.

Another, even easier way to add resource (.src) files to yours or any other Channel is to simply drag them onto the Channel icon in the Sherlock window. They will automatically appear in the Channel list.

Creating A New Channel
There’s plenty of room for New channels in the Sherlock interface. If you drag the lined bar that’s under the Channel icons down a bit, you will see blank spaces. These are for any New Channel that you create.

You can add dozens of custom Channels to Sherlock if it suits your needs.
To create a New Channel you can select New Channel from the Channels Menu, assign the Channel a name, and pick an appropriate Icon to represent the Channel in the Sherlock dialog. Fortunately, for our new Travel Channel, we were able to find an old, sticker-bound suitcase. Looks like one we used to own, as a matter of fact.

You can select icons for your New Channels, and assign a name and a comment if you want to.

Once you’ve created your new Channels, simply drop in resources that match the content. In this following illustration, we’ve added a Channel for Travel, one for Schools, and another that contains mailing lists. The contents of all three came from the download set on the Apple-Donuts web site.

You can see our three new Channels in the second row of icons. They add to the functionality of Sherlock.

Chapter Summary

In this Chapter, you explored Sherlock, Apple’s second-generation search engine. You’ve seen how it relies on a special folder within the System folder which contains Internet Search sites, in a special file format known as .src, or search resource files.

We looked at how you can use Sherlock to find files on your hard disks and connected volumes in a wide variety of ways; how to limit searches to specific portions of your drive, how to create and save a custom search command or criteria, and how to use the Index feature to speed up searches and save time. We discussed several ways to speed up the index process, including setting Sherlock to index specific volumes at scheduled times, when you’re away from your system.

Lastly, we used Sherlock to search the Internet, seeking specific information in a variety of categories. We learned how Sherlock segregates search criteria into categories known as Channels. We also saw how to download new resources from the Web, how to use them in existing Channels, and how to create New Channels for personal searches.
CHAPTER 9

Troubleshooting

CHAPTER OBJECTIVE:
To know what to do when you experience the inevitable crashes, bombs, and things that can go wrong with your Macintosh. In Chapter 9, you will:

- Learn to recognize the most common problems you’re likely to encounter while working with your Macintosh.
- Understand what to do if your machine refuses to start up, or starts up and then freezes.
- Learn to identify and repair common program problems.
- Learn to assign additional RAM to programs that are acting strangely or not acting at all.
- Learn about the relationships between programs, their Preferences files, and the temporary files they create while they’re working.
- Explore various hardware related problems, and how to identify and repair them.
- Learn various startup procedures and how you can identify conflicts between extensions and control panels.
- Learn to rebuild your desktop so that programs can once again identify their data files.
- Understand what Parameter RAM is, how it can sometimes lead to mysterious and confusing problems, and how to zap it back into line.
Although we make light of it, don’t let us scare you when we talk about things going wrong. Sure, it happens, and there will certainly be times when you lose the most important file in the world — the one you worked on for 214 hours straight with no sleep and less energy. But fortunately the real horror stories are the rare ones. Most of the time when your Mac bombs, freezes, or otherwise acts up, your data is perfectly safe and can be recovered. In some cases you might need professional assistance, but most of the time you can recover almost anything from a hard disk that’s not at the bottom of the ocean or inside an incinerator.

Troubleshooting

Although the Macintosh is a relatively stable computer platform, there are times when things don’t work the way they’re supposed to. In this Chapter, we’ll discuss what kinds of bad things happen, why they happen, and what you can (hopefully) do when something does go terribly, horribly wrong.

There are several common problems that most Macintosh users encounter at some point in their life. Of course these things happen when you least expect them, and at the most inconvenient time. All you have to do is know how to respond, and in most cases you can get out of trouble.

• Your machine won’t start up. When it does, it displays an icon of a blank floppy disk with a question mark inside it.

• Your computer begins to start up, makes a weird chiming noise, and shows an icon of a sad Mac, with crosses where its eyes are supposed to be (indicating it’s dead and not at all OK) and a sad expression on its down-turned mouth.

• Your Mac starts up, and might even appear to be working fine, when it suddenly freezes up on you; the mouse doesn’t respond, typing doesn’t work, and cursing definitely doesn’t work (except, perhaps, to make you feel better).

• A program acts crazy, displaying weird things on the screen or just not doing what it’s supposed to be doing.

• You can’t open that critically important (and sole) copy of the annual report you’ve been working on for three weeks and it’s still late.

• You’re cranking along, writing your most recent theory on Black Holes and how they can harnessed to supply power to the each of the city’s 140 Rave venues, when the application just quits. No warning, just closes up and goes away. Sometimes after this happens you can’t start it again.

• You’re informed that your Mac is critically low on memory, and that you better save your stuff before you lose every little tiny bit of it.

Although this isn’t the absolutely comprehensive list of everything that can and will go wrong with your Macintosh, it’s a good place to start. If you know what to try in the event of one of these things happening, then it’s less likely that you will just jump out the window when you think you’ve lost important work.

In the following sections, we’ll discuss each of these problems at length and offer some suggestions as to what might make the problem go away. We’re going to say this a few more times in this Chapter, but it’s worth repeating before we’ve even said it the first time: Shutting down your computer, counting to ten (so the hard disk can have a rest, and so you can cool down) then restarting it, will solve maybe 80% of your problems without having to do another thing.
Don't forget Sherlock's Apple channel when you're having a problem that you can't seem to resolve. There are a tremendous number of technical bulletins and papers on their sites — and more if you customize Sherlock using the Mac folder from Apple-Donuts.com.

There are two more sites you should check out if you have problems that you can't resolve. One is macfixit.com and the other is macintouch.com.

If you get a blank disk at startup, the Macintosh was unable to find the System Folder. Start from another disk that contains a system, and check your internal hard disk to make sure the System is OK. Also check the Startup Disk control panel to make sure the Mac is looking in the right place for the System Folder.

**Startup Problems**

You know you're having startup problems when you see a blank disk icon, a sad-looking Mac face, and your computer freezes during the process. If your Macintosh refuses to start up, then one of three things has gone wrong.

**Hardware Failure**

The sad Mac isn't good. It is an indicator that something didn't work properly during the startup procedure. It can be generally traced to a few specific problems.

- **RAM, boards, or new hardware.** If you just put memory into your computer, installed a new board to add functionality (such as a graphics board), or installed a new hard disk (internal or external), this could cause a hardware failure. Make sure to reseat the card or memory chips, ensuring that they're well placed and firmly seated in their slots.

- **SCSI problems.** SCSI (pronounced “scuzzy”) stands for Small Computer Systems Interface, and is the connection method used for many external devices — particularly hard disks and storage devices. Each SCSI device has a dial or other method of changing its address (usually one through nine, with Zero reserved for the internal hard disk). If more than one device has the same address, this can cause a sad Mac or other hardware freeze failure.

  Read the documentation that came with the device and learn how to change its address. Check all the other devices in the chain and make sure no two have the same address. Restart your machine when you're done checking and changing addresses.

- **General hardware failure.** If you continue to get a sad Mac and chimes, and cannot locate a loose board, RAM chip, or conflicting SCSI device, then it's probably time to call a pro or carry your Mac to the McHospital.

**Freezes**

If your Mac appears to be starting up just fine and suddenly just stops or freezes, there is a chance that you have a conflict with an extension or startup item. Certain extensions and control panels have been known to conflict with others, and when that happens your Mac will just **hang** (another word for freeze up, lock up, stop working, and dying in its tracks).

If you suspect that an extension conflict is causing the problem (because, for example, you just installed a new extension or a new application which may have placed an extension in your system folder), try the following steps.

1. **Restart your Machine.** If it's hung up, press Shift-Command-Startup (the key in the upper right hand corner of your keyboard) and the machine will restart.

2. **Hold down the spacebar during startup.** This will turn off all your extensions. If the machine starts up and the desktop appears, then the problem is in the Extensions folder. Restart the machine again.
3. Hold down the Shift key while the startup process is occurring. This will cause Extensions Manager to appear.

![Extensions Manager](image)

You can load Extensions Manager during the Startup procedure by holding down the Shift key. Then you can turn off which ones you think are the offending extensions and try again.

4. When you load Extensions Manager during the Startup procedure, you should try to find any new extensions. You can tell which ones came with the Mac by the Mac OS 9 title in the Package column — they’re probably OK. Look for new ones, especially ones associated with any software you recently installed.

5. Turn them off, and continue the startup process. If the Machine comes up OK, you found the problem.

6. If the machine hangs again, turn that one back on and look for the next one. It’s usually a matter of trial and error, but with patience you can often find the conflict.

7. If it is a new piece of software, it’s time to call the manufacturer and ask them if they know about any conflicts that their software causes. They usually have received other reports by the time you find a problem and have an answer.

**Program Failure**

Program failure can take many forms. The most common are:

- The application has problems with screen display. Things don’t disappear when you close them, garbage appears on the screen, or something doesn’t look right.

- The application starts and freezes, or freezes during some routine operation. And it does it every time you restart the application.

- The application quits in the middle of something. You might get a message that says something similar to, “The Application FramusFixIt has quit.”
Under most circumstances, an application that doesn’t run is either:

- Having memory problems — there isn’t enough memory for the program to run.
- There is a corrupt file somewhere. Usually it’s a Preferences file that’s loaded by the program when it launches.

So what do you do when a program isn’t working properly? There are several things to try.

**Allocating Application Memory**

The first thing to try when a program isn’t working right is to give it more memory. Programs have two memory settings in their Info dialog box. One is the minimum memory under which the program can run. The second is how much you want to allocate to the program. If you have plenty of memory, for example, you can give a program 4 megabytes when it only needs 2 megabytes to run. In most cases, this fixes memory-related problems.

To allocate more memory to a program, you select the icon and press Command-I to access the Info dialog for that application. Set the pop-up menu to Memory and give it more.

Giving a program more room to work with often solves performance problems.

Once you’ve given the program more memory, restart it and see if you can duplicate the problem. If not, you’ve found and solved the problem.

**Preferences Problems**

Some programs store a special file inside the System Folder in a folder named Preferences. These files are where your default values are stored, such as the default type size, the default page size, and so on.

If these files become corrupt, they can cause their corresponding applications trouble when they’re loaded. A corrupt file is one where digital garbage of some sort was written to the file by mistake. This can happen if the machine bombs or hangs, or if you turn the machine off without quitting the program or using the Finder’s Shut Down command. You can find the Preferences folder inside the System Folder. In it are the Preferences files for all the applications on your system.

Almost all applications have a preferences file in this folder. If the program starts up and can’t find one, it creates a new one from scratch during the launch procedure. Therein lies the fix: delete the preferences file for the offending program. Restart it, which will make it build a new Preferences file for itself, and see if the problem goes away.
Sometimes your machine doesn't have enough RAM to run certain programs. Make sure that your configuration provides the application what it needs to operate. If you don't, you can try going to the Memory control panel and turning on Virtual Memory, which uses a part of your hard disk to act as RAM. While it isn't as fast as real memory chips, this trick can sometimes fool a program into thinking you have more memory than you really do. Like driving a car that's too expensive for you.

Temporary Files
Some applications create temporary files when they're running, and (hopefully) delete them whenever you quit the program. If the program shuts down unexpectedly, and won't start up again (or starts up part way then dies), use Sherlock to look for files with the letters temp or tmp in them. If they're associated with the program that failed, trash them all. Then try starting the application again. This is a somewhat esoteric problem, but we've seen it happen.

Although you may have to reset all of your defaults that customize the program for your working environment, at least you can run the application.

Broken Applications
There are times when an application program just breaks — it refuses to work anymore. You've trashed the temp files, thrown away and rebuilt the Preferences file for the program, and still nothing. It continues to hang, not start, or quit by itself. It's time to reinstall the application.

Before you begin reinstalling anything, you must make sure you throw away any files associated with the offending application. To do this you must use the application's distribution CDs to uninstall the files. If you don't uninstall first, you may have the problem happen all over again and not be able to figure out what went wrong. What
Not all problems have fixes or causes that you can discover. There are times when your Macintosh will hang up and crash for no apparent reason; the same goes for most applications. Sometimes they'll just die and there's no obvious reason for it.

Quite often, restarting your machine or the offending application will make the problem go away. If this happens, chalk it up to the McGremlins, and get back to work. An occasional bomb isn't a problem unless it's happening a lot or you can make it happen whenever you want. That's when it's time to look for a fix.

**Corrupt Files**

Sometimes an individual file is broken — that is, it can't be opened. This is not a good problem, because if the file is truly corrupt, there are times when it cannot be recovered.

Although your Macintosh comes with a program called Disk First Aid, its features are limited. We strongly suggest that you purchase a file and hard disk utility program such as Norton Utilities. You can find out more about Norton and the excellent drive utilities and virus programs they offer from their website at http://www.symantec.com.

**SYMANTEC**

A world leader in Internet security technology.

June 23, 2000

Though Symantec is famous for virus software, they also make an excellent series of disk and file utilities that can sometimes pull your pants from a fire.

If you try to open a file and receive an “Error 39” or “Error 43,” find the backup; you're going to need it. There are times when a file cannot be recovered using the Mac OS, but can using third-party utilities. One common example is a file that you've trashed and emptied. There's nothing you can do unless you have something like Norton. With it, recovering recently deleted files is a snap.

**Other Fixes**

There are several other problems that display specific symptoms and have simple fixes. Here are the most common:

**PRAM**

What the heck is PRAM, you ask? It stands for Parameter RAM, and is the reserved portion of RAM that the Mac uses for such system level information as the time and date. PRAM can sometimes become corrupt — just like a file can — and cause problems throughout
your system. PRAM problems can cause disk drives to apparently disappear (same with your printer in Chooser); it can cause peripherals to act up, and it can cause your machine to hang for no other apparent reason.

The fix is pretty simple — if you’re an ambidextrous octopus. All you have to do (having a friend around helps) is hold down Command-Option-P-R while the machine is starting up. This causes your machine to beep and forget what time it is. When it restarts, set the time and date and see if the problem went away.

**Rebuilding your Desktop**

Your desktop file stores icons, aliases, and pointers to all sorts of files and functions — most of which are invisible to you as a user. If you go to launch a file and the application can’t be found, for example, or if stuff seems to disappear randomly, or you can’t get your icons to stay aligned to the grid inside a folder — you might have a problem with the Desktop file.

The Macintosh can rebuild its own Desktop file if you tell it to. To do so, start up your machine while holding down Command-Option. You will see a message asking if you want to rebuild the Desktop (and that it might take some time). Click yes, and once your Mac has built itself a shiny new Desktop, see if the problems went away.

**Last Resorts**

The last resort for some major problems is to rebuild your system. You have to do this from another hard disk, or preferably, from the original distribution CD with the Mac OS on it. In extreme cases, you should probably just back up your documents, format the drive, and reinstall the system. Once you’ve done that and checked to see if it’s working properly, reload all your applications, then put your documents back in their folders. If this doesn’t fix the problem, take a nap then rethink your career choice.

**Troubleshooting List**

Let’s recap the list of things to try when something goes wrong.

- **Restart your computer.** Often this will make problems go away and they won’t happen again.

- **Trash the preferences and temporary files for the application.** There’s a good chance that if an application isn’t working properly, one of its parts is broken. It’s a good bet that it’s a temporary file or the program’s Preferences file, which is inside the Preferences folder in the System Folder.

- **Reinstall the program.** If all else fails, throw away everything having to do with the offending application and reinstall it. That’s why it’s such a good idea to actually own the software you’re using — in case you have to reinstall it or (the worst of all fates) call the manufacturer to get the answer to a question.

- **Turn off Multiple Users.** The Multiple Users option can lead to an array of problems with applications that require a single preferences file. There’s an entire list of things that can go wrong if this option is active, and it’s a good place to look if there is something going wrong that nothing else seems to fix. Be sure the check this before you reinstall an entire clean system.
• **Reinstall the system.** This is a pain in the neck, but sometimes it just has to be done. You have to have the distribution CD or another drive with a System on it to accomplish a complete system rebuild.

• **Restart your computer with the extensions and control panels disabled.** To do this, hold down the space bar while starting up. If the machine starts, restart it holding down the Shift key to access Extensions Manager during the startup procedure. Try to find and disable the conflicting extension until you find which one was causing the problem.

• **Assign more memory to your application.** This is done in the Info dialog box. Set it as high as you can spare. If you don't have enough memory, try using Virtual Memory (in the Memory control panel) or buying more RAM.

• **Upgrade your system software and/or hardware.** You may need upgrades to meet the requirements of the application you're trying to run. Make sure your computer is configured to meet the minimum requirements of the program.

**Chapter Summary**

In this Chapter you've learned some of the more common problems that you might have and how to go about troubleshooting a fix. You've explored problems that occur during startup, when your Mac might not start up or might start up and freeze. You've seen the types of problems that you can encounter because of extension conflicts, and how to use Extensions Manager to find and solve the problem.

You've also learned about applications, how they need the proper amount of memory, and how to give it to them. You've learned about corrupt files, particularly preference and temporary files. You've also learned how to reinstall applications to avoid additional problems, and you've learned to refresh the parameter RAM of the Macintosh to stop bad behavior on the part of your Mac OS. Finally you learned that sometimes you just have to start all over by reinstalling your system software.
**CHAPTEBS 5 THROUGH 9:**

In Chapters 5 through 9, you learned about printing your work. Additionally, you studied networking — including the powerful Internet tools available in the Mac OS. After completing the second half of this course, you should:

- Understand how programs, drivers, extensions, and hardware work together to generate printed pages. You should know how to select a printer using the Chooser, which lets you manage your printers — whether attached to your computer or on a network.
- Know how to configure a Desktop Printer, and understand the function and use of spoolers. You should be comfortable printing from within an application or directly from the Finder.
- Know about Acrobat PDF (Portable Document Format) and understand the role that fonts play in the printing process.
- Be familiar with networking, including the most commonly used protocols — AppleShare and Ethernet. You should know how to turn on File Sharing, and how to allow guests or registered users to access to your computer over a network. You should understand the two ways to connect to the Internet—through a dial-up connection or direct access to a corporate network. You understand the definition of Internet Service Provider (ISP).
- Be familiar with the role that HTML plays in the Internet and how browsers are related to this digital language.
- Know about Chat rooms and Newsgroups, two potentially powerful resources for research on almost any subject. You should know how to download files, and know several places on the Internet where free (or nearly free) software is available.
- Be aware of how to use Configuration Manager to control access to the Internet. You should understand how the Keychain Access feature works.
- Know how to use Sherlock. You should know how Sherlock’s channel function works, and how to customize Sherlock to meet your exact needs.
- Understand how to recognize the most common problems you’re likely to encounter, and what to do if your Macintosh stops working correctly. You should understand the first steps to take to isolate hardware and software problems, and how to use the process of elimination to find and repair specific errors.
Acrobat
This program by Adobe Systems, Inc. allows the conversion (using Acrobat Distiller) of any document from any Macintosh or Windows application to PDF format, which retains the page layout, graphics, color, and typography of the original document. It is widely used for distributing documents online because it is independent of computer hardware. The only software needed to view these documents is a copy of Acrobat Reader, which can be downloaded free.

Alias
An alias is a stand-in for an item on the desktop (the item’s name appears in italics). Opening an alias actually opens the item it represents.

Apple Menu
This is the menu at the left end of the menu bar, indicated by the Apple logo.

Application Switcher
This is the area at the right end of the menu bar, indicated by either a computer icon or the icon of a running application. (It can include a name as well as the icon).

Balloons
Small boxes containing text identifying objects on the screen and explaining their use. You can hide or show balloons by choosing the appropriate command from the Help menu.

Bitmap
A bitmap is a type of image file that uses pixels to form the picture displayed on your screen.

Browser
An application that allows visitors to see the contents of a Web server.

Chooser
A program which lets you designate devices, such as printers and shared disks on a network for your Macintosh to use.

Clipboard
Your computer’s clipboard is a portion of its memory where items you cut or copy are stored.

Control Panel
A control panel is a utility that controls various aspects of a Macintosh computer, from simple controls (like the volume of the speaker) to complex ones (like an entire macro program).

CPU
Central Processing Unit: A computer consists of a number of physical parts. The CPU is the part which holds the processor and the memory. This is sometimes in the same case as the monitor but on many computers the monitor is separate from the CPU.

A CPU is often the part of the computer which contains any internal disk, CD, or tape drives.

Desktop
Your working environment on the computer (the menu bar and the background area on the screen), on which you work.

Drag
To position the pointer on an object, press and hold the mouse button, move the mouse, and release the button.

Driver
A driver is a type of software that controls communication between your Macintosh and a peripheral device such as a printer, scanner, hard drive, and removable media.

Ethernet
A high-speed standard for connecting computers and other devices in a network. Ethernet ports are built into most newer Mac OS computers and laser printers.

Extension
An extension is a file that modifies the behavior of the Mac Operating System.

File Compression
The process of reducing the number of bytes in a file, file compression is usually used when transferring files between computers.

Finder
This application program maintains the Macintosh desktop and starts up other programs at your request.

Folder
A container for documents, programs, and other folders on your computer’s desktop or directory windows.

Guest
A network user who is not identified by a registered name and password.

GUI
Graphical User Interface. GUI is the interface we all know and love by which we communicate with our computers. GUI was developed at Xerox PARC, and recently copied by Windows.

Hard disk
A magnetic storage medium consisting of one or more specially coated metal disks, and associated mechanical and electronic equipment. A hard disk can be found inside most personal computers. A hard disk can store a tremendous amount of information (depending on its size), but it is not removable or portable.

Home Page
The first page readers encounter when opening a Web site.

HTML
HyperText Markup Language. The special language used to format Web pages.

Icon
Icons are small pictures or symbols on your computer screen that represent documents, applications, devices, and sometimes processes.

Imagesetter
A raster-based device used to output a computer page-layout file or composition at high resolution (usually 1000 - 3000 dpi) onto photographic paper or film, from which to make printing plates.

Internet
A worldwide network that provides e-mail, Web pages, news, file storage and retrieval, and other services and information.

Landscape
Printing from the left to right across the wider side of the page. A landscape orientation treats a page as 11 inches wide and 8.5 inches long.
Laser Printer
A high quality image printing system using a laser beam to produce an image on a photosensitive drum. The image is transferred to paper by a conventional xerographic printing process.

Local Talk
A relatively low-speed standard for connecting computers, printers, and other devices to create an AppleTalk network.

Menu Bar
The strip across the top of your screen that contains the names of the menus available to you.

Modem
A device that enables your computer to communicate with another computer over ordinary telephone lines.

Multimedia
Any combination of graphics, video, animations, text, and sound is called multimedia.

PDF (Portable Document Format)
Developed by Adobe Systems, Inc. (and read by Adobe Acrobat Reader), this format has become a de facto standard for document transfer across platforms.

Pop-up Menu
A pop-up menu contains a group of choices in its own window, much like a pull-down menu on the menu bar.

Portrait
Printing from left to right across the narrow side of the page. Portrait orientation on a letter-size page uses a standard 8.5-inch width and 11-inch length.

Postscript
PostScript is a programming language developed by Adobe. It is used to describe printed text and graphics on a page. This is used on many type's of printers.

PRAM
Parameter RAM is the area of Mac's RAM set aside for settings such as date and time, monitor resolution, and more. PRAM is powered by battery so settings won't be lost on the shut-down of the machine.

Printer Driver
The device that communicates between your software program and your printer.

Public Domain
The term public domain refers to any created work, including software, that the public has every right to copy and use in any way they see fit.

QuickTime
QuickTime is a software extension that lets you play synchronized video and sounds on your Macintosh.

RAM
Random-access memory is physical memory built into the computer in the form of electronic chips or small circuit boards.

Scrapbook
A scrapbook is an accessory in which you can save frequently-used graphics, text, and sounds.

Service Provider
A firm that provides a range of services somewhere on the continuum from design to fulfillment.

Shareware
Shareware is software you can test out for a while to determine whether or not you want to buy it.

Sharing
When you are on a network, you can allow others on the network to view or copy files on your computer. You control which of your files are available, who has access to them, and what type of access they have using the File Sharing control panel and the Sharing settings in the Info windows for your shared folders or volumes.

Sherlock
Sherlock is a utility that allows you to search for files, folders, news, people, and even do your shopping online. You can organize your favorite Internet search sites into custom channels to look for anything on the Internet.

Spooling
A printer-driver operation in which the driver saves page descriptions in a file (called a spool file) for later printing.

TCP/IP
Transmission Control Protocol/Internet Protocol. TCP/IP is a set of rules for exchanging information among different computers on a network.

Trash
An icon on the desktop that you use to discard programs, documents, and folders.

TrueType
The outline font technology built into the Mac OS (and Microsoft Windows). TrueType fonts can be smoothly scaled to any size on screen or to any type of printer.

Type 1 Fonts
A PostScript font that includes instructions for grid fitting so that the font can be scaled to small sizes with good results.

Type Family
A set of typefaces created from the same basic design but in different weights, such as bold, light, italic, book, and heavy.

URL (Uniform Resource Locator)
The address or location of a Web site or other Internet service.

Web Site
A collection of HTML files and other content that visitors can access by means of a URL and view with a Web browser.

Window
A rectangular area that displays information on the desktop. You create and view documents through windows and view the contents of disks in windows.

Zoom box
A small box in the top-right corner of the title-bar of the active window. Clicking the zoom box resizes the window so that you can see all of its contents (if possible); clicking it again returns the window to its previous size.
### INDEX

**A**
- account
  - with an ISP 148
- account number 153
- accounts 168
- Acrobat 124
- Acrobat distiller 124
- Acrobat reader 125
- addition 83
- address
  - email 165
  - scsi 197
- addresses 25
- Adobe 128
- Adobe acrobat 124
- Adobe illustrator 73
- Adobe.com 126
- advanced settings 162
- aliases 72
  - creating 75
  - finding the original file 74
  - guidelines for usage 74
- America Online 149
- anchor points 127
- animations 149
- anonymous user 151
- anti-aliasing 127
- appearances 88
- Apple channel 179
- Apple developer guidelines 70, 113
- Apple developer’s guidelines 60
- Apple extras folder 75
- Apple menu 78
- Apple menu options 90
- Apple system profiler 79
- AppleScript
  - help for 20
- Appleshare icon 143
- application palette 60
- application picker 60
- application program 12
- application quits 196
- applications 24, 79
  - printing from 113
- arrow pointer 53
- audio 149
- audio cd player 105
- auto-resize 17
- autofill 153, 154

**B**
- background color 6
- backgrounds 88
- baud 137
- bitmap fonts 127

<table>
<thead>
<tr>
<th>bits per second 135</th>
<th>controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>branding 95</td>
<td></td>
</tr>
<tr>
<td>browser 150</td>
<td></td>
</tr>
<tr>
<td>browser controls 158</td>
<td></td>
</tr>
<tr>
<td>browser software 150</td>
<td></td>
</tr>
<tr>
<td>bullet (•) character 102</td>
<td></td>
</tr>
<tr>
<td>buttons 9</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>cable modems 137</td>
<td></td>
</tr>
<tr>
<td>cache 103</td>
<td></td>
</tr>
<tr>
<td>calculator 83</td>
<td></td>
</tr>
<tr>
<td>can't open a file 196</td>
<td></td>
</tr>
<tr>
<td>cascading 32</td>
<td></td>
</tr>
<tr>
<td>category folders</td>
<td></td>
</tr>
<tr>
<td>in launcher 101</td>
<td></td>
</tr>
<tr>
<td>cd player 105</td>
<td></td>
</tr>
<tr>
<td>central processing unit 23</td>
<td></td>
</tr>
<tr>
<td>certificates 162</td>
<td></td>
</tr>
<tr>
<td>changing</td>
<td></td>
</tr>
<tr>
<td>the name of a file 63</td>
<td></td>
</tr>
<tr>
<td>the name of a folder 32</td>
<td></td>
</tr>
<tr>
<td>views 39</td>
<td></td>
</tr>
<tr>
<td>channels 108, 109, 178</td>
<td></td>
</tr>
<tr>
<td>chat rooms 152</td>
<td></td>
</tr>
<tr>
<td>chime 6, 196</td>
<td></td>
</tr>
<tr>
<td>chooser 115</td>
<td></td>
</tr>
<tr>
<td>clear 83</td>
<td></td>
</tr>
<tr>
<td>client</td>
<td></td>
</tr>
<tr>
<td>software for ftp access 151</td>
<td></td>
</tr>
<tr>
<td>clipboard 72</td>
<td></td>
</tr>
<tr>
<td>clipping 80</td>
<td></td>
</tr>
<tr>
<td>clock</td>
<td></td>
</tr>
<tr>
<td>setting the system 92</td>
<td></td>
</tr>
<tr>
<td>cnet.com 179</td>
<td></td>
</tr>
<tr>
<td>CNN interactive 179</td>
<td></td>
</tr>
<tr>
<td>color monitors 112</td>
<td></td>
</tr>
<tr>
<td>color menu 85</td>
<td></td>
</tr>
<tr>
<td>color picker 49</td>
<td></td>
</tr>
<tr>
<td>command key 8</td>
<td></td>
</tr>
<tr>
<td>commands menu 82</td>
<td></td>
</tr>
<tr>
<td>Compaq 23</td>
<td></td>
</tr>
<tr>
<td>components</td>
<td></td>
</tr>
<tr>
<td>cpu 23</td>
<td></td>
</tr>
<tr>
<td>Compuserve 149</td>
<td></td>
</tr>
<tr>
<td>configuration manager 153</td>
<td></td>
</tr>
<tr>
<td>connection tab 143</td>
<td></td>
</tr>
<tr>
<td>connections</td>
<td></td>
</tr>
<tr>
<td>to the internet 148</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td></td>
</tr>
<tr>
<td>controlling web 159</td>
<td></td>
</tr>
<tr>
<td>control panels 78, 87</td>
<td></td>
</tr>
<tr>
<td>control strip 91</td>
<td></td>
</tr>
<tr>
<td>controlling your system</td>
<td></td>
</tr>
<tr>
<td>the menu bar 7</td>
<td></td>
</tr>
</tbody>
</table>

- data files 58
- date and time 92
- dead Mac 196
- default pattern 88
- default sound 104
- delete key 31
- deleting files 52
- from the trash can 54
- desktop 6, 58
  - using pictures as backgrounds 88
- desktop button 63
- desktop printer icons 120
- devices and volumes 80
- dictionary 179
- die sub 113
- digital camera 95
- direct connection 109
- directory services 169
- disk cache 103
- disk drive channel 178
- disk firstaid 201
- display
  - browser 158
  - displaying the content of folders 14
  - displaying your work 112
- distiller 124
- division 83
- doc 97
- dot matrix 112
- double-clicking 11
- download manager 157
- download options 156
- downloading files 156

**INDEX**
index
Microsoft's Internet Explorer 150
minimize 17
minimize your clicking 35
minus 83
modems 137, 142, 149
modifier keys 8
monitor 6, 112
mouse 8, 103
pads 9
movies
quicktime 87
multiple volumes 80
multiplier keys 8
multipliers 83
my channel 180
my settings 96
N
navigate 63
navigating through folders 37
nested folders 72
Netscape 158
network browser 145
network hard drives 91
network identity 139
network settings 155
network users 140
network volumes 143
networks
types of 134
new hardware 197
new message window 165
news channel 179
newsgroups 152, 168
Norton Utilities 201
numeric keyboard 32
numeric keypad 83
O
offending application 200
open 31
open transport 136
operating system 25
option-8 102
organizing folders 32
orientation 123
original 72
outline type technology 128
Outlook Express 164, 179
output 112
output device 114
P
packets 148
palette
application 60
password 139, 140, 149
  storing in keychain 162
pattern
  background 6
PC Exchange 98
PDF 124
PDFWriter 124
peer-to-peer network 134
people channel 179
Photoshop 12
picker 60
pipes 148
pixels 128
platesetters 114
platter 24
player
  audio cd 105
  quicktime 108
pointer files
  aliases 72
pop-up 40, 42
portable document format 124
portal site 159
portrait 122
PostScript fonts 128
PostScript page description 127
power-on switch 6
powerpc 6
ppd 127
pram 201
preferences 46
  finder 46
print 31
printer 112
printer driver 113
printers 94
printing 112
  resolution 114
  the printer 114
printing from an application 121
printmonitor 120
private network 141
probability
  of search results 20
profile form 154
profiler 79
programs
  utility 25
progress bar 65
projects folder 32, 34, 41, 52, 58
proportional fonts 160
protocol
  file transfer 150
  protocol helper settings 155
proxy servers 155
put away 31
Q
queue 120
QuickTime 106
  help for 20
R
radio buttons 90
ram 23, 197
ram disk 103
random access memory 23
ratings 161
read and write 139
read only 140
Reader
  Acrobat 124
  realplayer and realjukebox 106
recovering
  lost data 25
  trashed files 53
reference channel 179
reinstalling an application 201
remote access 143
removable media 26
renaming folders 32
report function 81
resolution 114
response rate 99
restart 96
retrieving mail 153
Road Runner 149
router 149
S
sad mac 196
Sanford University 161
saving files 62
scrapbook 86
screen-capture programs 94
scsi 197
search 159
search button 159
search engine 159
Seattle mac users group 152
sectors 25
security certificates 162
security of information 24
select all
  command-a 35
sending an email 165
sending mail 153
servers 91
service providers 148
set desktop 88
shared items 139
INDEX 3
shareware.com 157
sharing 141
sharing files 138
Sherlock 178
shift key 35
shopping channel 179
show fonts 119
sharing files 138
Sherlock 178
shift key 35
shopping channel 179
show fonts 119
shutdown command 23
shutting down 12
signatures 166
simple beep 104
simpletext 59, 75
small computer systems interface 197
smtp 153
software overview 80
sound 104
speakers 104
special 7
special characters
accessing from key caps 101
spooler 119
spooling 119
standard flow chart 37
standard view options 48
startup disk 104
startup items 96
startup problems 197
stickies 84, 96
storage 24
external 25
fixed disks 25
random access memory 23
removable media 26
streaming video 149
subscriptions 160
Sun Microsystems 160
switching centers 148
symantec.com 201
system administrator 155
system extensions 114
system folder 39, 78
system profiler 79
T
t1 and t3 lines 137
tab 42
tcp/ip 138
technical support 79
text 105
text style
for stickie notes 85
themes 88
thesaurus 179
throwing things away 52
Time-Warner's Road Runner 149
title and track fields 106
title bar 43
tracks 25, 106
trademark symbol
creating a 101
translation 97
transparency materials 114
trash can 12, 31, 52
trash warning 54
TrueType character sets 130
turning on your system 6
type technology 128
type1 fonts 128, 130
typefaces 66, 127
types of networks 134
typing 7
U
username 153
users & groups 140
using
folders 30
using the help system 17
utilities 201
utility 25
V
vcr 108
version
of the macs 80
video
streaming 149
view 7
view certificate 164
view menu 42
view options 48
as list 100
views
changing a folder's 40
virtual memory 103
visual environment 7
volumes 80, 143
W
wallpaper 88
web channel 179
web content 159
web page 150
windows
cascading 32
working environment 6
working with files 58
working with folders 36
working with text 67
write only 140
Y
yahoo.com 179
Text Highlights
- Accompanying CD includes all graphic files needed for practice exercises
- Learning objectives provided at the beginning of each chapter
- Icons in sidebars help identify key portions of the materials

AGAINST THE CLOCK titles include the latest version available
MACINTOSH: Basic Operations
WINDOWS: Basic Operations
QUARKXPress: INTRODUCTION and ADVANCED
ADOBE PAGEMAKER: INTRODUCTION and ADVANCED
ADOBE INDESIGN: INTRODUCTION and ADVANCED
ADOBE ILLUSTRATOR: INTRODUCTION and ADVANCED
FREEHAND: INTRODUCTION and ADVANCED
ADOBE PHOTOSHOP: INTRODUCTION and ADVANCED
FILE PREPARATION: The Responsible Electronic Page
PREFLIGHT: An Introduction to File Analysis and Repair
TRAPWISE: Digital Trapping
PRESSWISE: Digital Imposition
MICROSOFT PUBLISHER: Creating Electronic Mechanicals
MICROSOFT POWERPOINT: Presentation Graphics with Impact
MICROSOFT FRONTPAGE: Designing for the Web
METACREATIONS PAINTER: A Digital Approach to Natural Art Media
ADOBE PREMIERE: Digital Video Editing
MACROMEDIA DIRECTOR: Creating Powerful Multimedia