All the pieces are in place. Mac OS X Panther™ is here. The applications are here. And so is the world's first
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64-bit personal computer—the new Power Mac G5. It’s everything you’ve been waiting for. And then some.
Nikon's NEW COOLSCAN film scanners breathe new life into old photos and break new ground in quality and efficiency.

It would be a wish fulfilled if, as the saying goes, we could put time in a bottle, capturing and then preserving the most precious moments of our lives. But while physicists haven’t yet figured out how to do so, Nikon has introduced three new film scanners that capture the essence of this wish—a sort of "time machine."

In fact, these film scanners from Nikon—the world leader in desktop film scanning—can actually restore the luster and sharpness of photographic memories that have been long worn down by time and age. With unique, easy-to-use software, users can strip away the ravages of time from old and worn photos, producing razor-sharp images that look like they were shot yesterday.

The new Nikon film scanner lineup gives all buyers—from first-time users to professional photographers to film labs—the most versatile film scanning solutions available. Now, users can capture the finest details in their scanned images while restoring those details they may have thought were long gone in older photos. One look at the before-and-after photos shown here is proof positive.

Included in this innovative line of film scanners is the economical, friendly, high-performance COOLSCAN V ED for amateur photographers as well as personal

---

Nikon COOLSCAN V ED

Nikon SUPER COOLSCAN 5000 ED

Nikon SUPER COOLSCAN 9000 ED
Image enhancement technology in the Nikon COOLSCAN film scanners brings out the best in photo images.

and business Web page designers; the SUPER COOLSCAN 5000 ED, targeting business users such as professional photographers and photo finishers; and the multiformat SUPER COOLSCAN 9000 ED, for high-end use, with a capability of scanning film as large as 6 x 9 cm. All three film scanners feature exclusive Nikon technology and advanced software that combine to speedily produce high-resolution scans with surprising ease of use.

IT’S ALL ABOUT HIGH-QUALITY LENSES
In any film scanner, as with any camera, the most critical element for producing the highest-quality scans is the lens. All three of Nikon’s new film scanners feature exclusive Scanner Nikkor ED (for Extra-low Dispersion) glass lenses. These lenses deliver superior edge-to-edge sharpness and clarity, high definition and contrast, and the truest color fidelity available.

With Nikon’s exclusive LED technology embedded in these film scanners, there is no lamp replacement, no warm-up time, and no risk of heat-related damage to films. Nikon’s Color Management System allows data to be manipulated in multiple RGB color spaces, which translates into highly precise color accuracy. And all three film scanners produce true optical resolution of 4000 DPI.

In addition, all three film scanners come equipped with Digital ICE™ Advanced Image Enhancement technology, which is actually four image-correction technologies in one package. These technologies allow users to easily remove dust and scratches, restore deteriorated colors, reduce graininess, and expose long-hidden details in shadowy areas of an image. Together they become a powerful combination for restoring vintage photos and images to their original brilliance and sharpness.

SPECIAL FEATURES FOR SPECIAL NEEDS
Each of the three film scanners provides features and functions specific to the needs of users. The COOLSCAN V ED is designed so that even first-time users will have no problem producing high-quality scans in only 38 seconds, including image transfer and display time. Using the COOLSCAN V ED involves nothing more complicated than setting the film to be scanned, performing a one-touch image preview, and clicking the SCAN button. Further, a high-speed USB 2.0 interface makes image transfer quick and simple.

Designed from the ground up for imaging professionals, the SUPER COOLSCAN 5000 ED is welcome news for users who deal with numerous slide mounts and uncut film rolls. In just 20 seconds, users can scan an image from 35mm film, and do so with true-color reproduction offered by the scanner’s 16-bit A/D converter and 16-bit output channel. Affordable accessories that automate the batch scanning process include a slide feeder, roll film adapter, and IX-240 film adapter, and offer scanning efficiencies that make the COOLSCAN 5000 ED the ideal archiving solution.

For high-end scanning chores, the SUPER COOLSCAN 9000 ED makes quick and super-high-quality work of image scanning from a broad array of film types, including 16 mm, 120/220, electron microscope images, and more. The SUPER COOLSCAN 9000 ED also features Digital ICE™ Professional, compatible with Kodachrome film.

Introducing the Powerful Nikon Scan 4 Software

Seeing is believing. The original image on top has been dramatically improved by the work of Nikon’s COOLSCAN film scanner featuring Nikon Scan 4 software, which automatically adjusts brightness and contrast to enhance detail in the image. Other significant improvements to Nikon Scan include:

- Administrator accounts not required for operation
- Automatic device registration
- Color Management System complies with ICC version 4 standards
- Scan Image Enhancer

For more information on this innovative and exciting lineup of film scanners from the world leader in desktop film scanning, visit www.nikoncoolscan.com.
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The cruise rates (per person) are quite reasonable:
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Speakers: Jesse Feiler, Laura Gutman, Janet Hill, Leo Laporte, Deke McClelland, David Pogue, Mark L. Rubinstein, Joe Schorr, Jason Snell, Sal Soghoian, and Steve Wozniak

Geek Cruises: Education That Takes You Places
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Nena craves the flavor of Bordeaux

Suitcase X1 | www.extensis.com/X1

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FROM THE EDITOR'S DESK BY JASON SNELL

Twenty-Twenty Vision

A LITTLE MORE THAN 20 YEARS AGO, WHEN THE MAC WAS just a glimmer in the eye of the original Macintosh production team, the computer world was a much less inviting place. To run a computer meant to enter a series of obscure commands on a keyboard and wait for text results to scroll across your screen. Then, on a fateful day in early 1984, Apple unveiled the Macintosh, and everything changed.

Many MacWorld readers undoubtedly remember buying that first Mac model. But the moment you realized you had to use the Mac (no matter what operating system the rest of the world was pushing on you) could have come at any point during the past 20 years. As much as the Mac has evolved since its debut, its role as a unique alternative to the rest of the computer world has never changed. (Our celebration of the Mac's twentieth anniversary begins on page 62.)

The Mac didn't much impress me when I first encountered it: I saw one, running some sort of arcade-style game, at the 1985 West Coast Computer Faire. The graphics looked great, but they couldn't match the color of the games on my Apple IIe. It wasn't until the fall of 1989 that I grabbed the mouse attached to a Mac SE in the offices of my college newspaper and loaded up Aldus PageMaker. Then I was lost forever to a world of menu bars, double-clicks, and control panels. So that's my Mac story. What's yours? Share it in our forums (www.macworld.com/forums).

A CD for Everyone

For several years now, a CD-ROM has accompanied newsstand editions of Macworld. For various reasons, ranging from logistics to prohibitive costs, we're unable to send that CD out to subscribers. But we're happy to offer the next-best thing. If you've got a broadband Internet connection, you can get a Web-based copy of the CD. Subscribers can view this month's CD, including video tips from Christopher Breen and excerpts from our very first issue, at cd.macworld.com/2004/02/w873962.

Best of the Best

Also celebrated in this issue are the best products of the past year—the winners of our 19th annual Editors' Choice Awards. Our editors and contributors have surveyed the entire Mac market and found 35 products deserving of the Mac's highest honors. In a departure from previous years, however, we've eliminated the practice of listing runners-up, which invariably led to two-thirds of our Eddy honorees grumbling about how it was just an honor to be nominated. This year, we've increased the overall number of award winners and simplified the process: if you see a product in the Eddy Awards story (page 74), that's because it is a winner, and there's a (surprisingly heavy) bronze statue out there with that product's name engraved on it.

Over the past few years, the Eddy winners have come to reflect the areas producing the most innovation, and the hands-down coolest products around. That's why we're not handing out awards to just the big shots. Apple, Adobe, Canon, Epson, and other heavyweights are certainly well represented, but they're sharing space with smaller developers such as Coolatoola, Ranchero Software, and Salling Software. And while our Hardware Product of the Year statue will be presented to duly designated representatives of Apple Computer, the Software Product of the Year will be in the hands of a single person: Michael Tsai, the creator of SpamSieve, an incredibly valuable e-mail-filtering tool.

Whether the Mac's 20th birthday has you feeling festive or our Eddy Award choices have you feeling feisty, I'd love to hear from you. E-mail me at jason_snell@macworld.com or visit our online forums at www.macworld.com/forums.
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Starting with the March 2003 Macworld, back issues can be downloaded in digital format, from www.zinio.com ($4.99; Mac OS X 10.1 or later required). Print-format back issues (subject to availability) cost $8 per issue for U.S. delivery, $12 for international delivery; prepayment in U.S. currency to Macworld is required. Send a check or money order to Macworld, P.O. Box 37781, Boone, IA 50037-0781; or phone 800/288-6848 (U.S. and Canada) or 515/243-3273 (all other locations).

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MACWORLD EDITORIAL

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FEEDBACK

Credit Where It's Due
The November issue of Macworld brought the debut of our new and improved Secrets section, as well as some changes to the overall look of the magazine. And our readers have been taking notice (thanks for your kind words). Readers also wrote to commend the new Adobe Creative Suite and to sing the praises of some iPod adapters we didn’t include in our Las Vegas road-trip roundup. Not all readers wrote in with accolades, though. As always, some wrote in with helpful corrections. Our Feedback editors welcome both your kudos and your criticism.

3-D Resurrection
CHUCK MEDEIROS
In response to your article about the new Adobe Creative Suite (“Adobe Changes Everything,” November 2003): Illustrator’s “new” 3D Effect feature seems to incorporate something Adobe abandoned years ago—namely, Adobe Dimensions. While Dimensions wasn’t the most in-depth 3-D program, it had all the features I needed (image mapping, vector export, and so forth). It still uses it on a regular basis to wrap images around odd shapes—such as cylinders and cones—in both Illustrator and Photoshop. I’m glad that someone at Adobe finally had the idea to resurrect this simple but powerful tool.

iPod People
MARK CUMMINGS
I like your new Mobile Mac section and the November installment on iPod adapters. But I noticed that you didn’t include a DLO Transpod. I use a Transpod for my scroll-wheel iPod, and it works great. My job has me traveling in different cars, and occasionally I’m in a car where the cigarette-lighter socket is in the way of the shifter, steering wheel, and so on. But the Transpod will fit in most cars. Here’s a tip I learned by accident: if you always keep the backlighting on, you get less hum noise between the tracks. As soon as I get a new iPod, a Transpod will be the first accessory I get. Keep up the good work!

RICK ORNELAS
The authors didn’t give the Griffin Technology iTrip enough of a chance in their Mobile Mac review. I mean, sure, they tried it in Barstow, Baker, and Fresno, and for many miles in between, but they did not realize the true potential of the iTrip. I, too, decided to try it out for the first time on my own road trip from Santa Maria, California, to San Francisco and back. The iTrip worked like a champ. We had to change the station once in each direction, but this was quite simple. The sound quality was great and there was minimal interference. The coolest thing was that it could transmit its signal to our friends’ car as well. All they had to do was pull alongside us and stay within a car’s length, and voila! It made the six-disc changer in their brand-new Ford Explorer look a little obsolete. You can’t find a cooler gadget to increase the utility of your iPod.

JANE SHAPIRO
I was surprised at your conclusions in the November 2003 article on iPod adapter options. I got an Arkon SoundFeeder SFI21 adapter for a drive from Sacramento, California, to San Diego, and I had pretty good luck with it. It uses FM frequencies between 88 and 95. The cassette adapters I tried were noisy.

Nothing More to Contribute
ROBERT MORRISSEY
I read your fine review of Contribute 2.0 (November 2003). I have attempted to use the trial offering of the program with my Apple Mac account and have found Contribute 2.0 to be worthless, because it fails me in the respect that David Sawyer McFarland notes: it won’t let me add QuickTime movies to my pages.

ROB BACIGALUPI
I can’t believe that the Contribute 2.0 David Sawyer McFarland tested is the same program I have. Contribute is a great idea—an inexpensive Web editor with which average users are comfortable. It is not, however, worthy of a 5 rating. Besides being painfully slow— it runs slower than Adobe Illustrator and Macromedia Dreamweaver—it makes Web changes a guessing game. The edit browser doesn’t show text font and color, so when you publish, you have no idea what you’re going to get. Tables are especially tricky. Text location in a table in the edit browser often has no relation to what you get when you publish. McFarland says Contribute couldn’t be easier to use, but a WYSIWYG edit browser would make it easier!

Hey, Good-Lookin’
RYAN KLOS
Bravo on the recent changes to your magazine’s Secrets section, including Help Desk. These are welcome and much-needed changes. The magazine now has a more reader-friendly approach—so goes the word around the office. I know I dig it. Keep it up and props on the clean layout. I look forward to each issue.

Safari, Not So Goodie
SANDY TATE
Safari is good, but it doesn’t go far enough for me (Reviews, November 2003). I frequently print a page or two and find it exasperating that the URL and date do not print out as well. It’s been suggested to me that I write that information on the printed page. Excuse me! Do I have a $2,000 computer so that I have to revert to pen and paper? I would gladly sacrifice a little speed for URL information on my printed Web pages.
There Is Another Way

GRANT MUKAI

In the December 2003 Working Mac section, you stated in "Mac Goodies" that Apple's iDisk Utility for Windows XP is "the only way to work with an iDisk from a computer running Windows." This is not true. I have successfully accessed an iDisk with the following process:

1. In Windows XP, open My Computer.
2. Choose Tools: Map Network Drive.
3. Click on Web Folder Or FTP Site.
4. When Windows asks for the URL, enter http://idisk.mac.com/accountname (accountname is where your .Mac member name goes).
5. When you are prompted for a user name and password, type your .Mac member name and your account password.

The disk should mount in My Computer under the category Network Drives.

You're correct; in fact, you can also connect to another member's iDisk Public folder by including his or her member name in the URL. If that person has set a Public-folder password, provide the password when prompted.—Dan Frakes

Teacher's Pet

CHARLES FINN

Your review of Orbis's Easy Grade Pro 3.6 grade-book software (November 2003), positive as it was, failed to mention some of its most useful features. Orbis makes a companion title for PDAs that lets teachers enter grades while they move around a classroom. When the teacher syncs the PDA with the computer, the assignments and grades are entered. Grade-book files are completely platform independent. Easy Grade Pro also gives you instant student rankings for a subject or assignment, as well as the freedom to create and assign specialized grading scales—with different scales for students in the same class. The software, including site licensing, is very inexpensive, with liberal allowances for use on multiple computers at home and at work. Technical support is free and fast. The company listens to its customers. Updates bring new features they've requested. I've been using Easy Grade Pro for 11 years. It's the most valuable software on my classroom computer.

CORRECTIONS

In "Easy Mac Maintenance" (Secrets, December 2003), step 2 of the "Schedule Repair Permissions" section instructed users to select Task: Run Now in CronnnX to test a newly scheduled event. A bug in CronnnX prevents this action from working for some users. However, if you correctly followed the article's steps, your new event should function as expected. To test it, you must wait until its scheduled execution time. For more information, go to www.danfrakes.com/writing/EasyMacMaintenance.html.
WHAT'S NEW WHAT'S IN THE PIPELINE WHAT'S HOT

MACWORLD LAB TESTS IMPROVED CONNECTIVITY TECHNOLOGY

The USB 2.0 Express

Connecting peripherals to your computer doesn’t have to be a complicated process. Apple proved that back in 1998, when it introduced us to Universal Serial Bus technology, with the debut of the original iMac personal computer.

Unlike SCSI, USB didn’t require that Mac users reboot when they wanted to add or remove a peripheral. USB also eliminated confusing connectors and troublesome software drivers (USB drivers are built into Mac OS). There was only one problem for Mac users: USB’s pokey data-transfer speed, particularly when compared with FireWire’s faster throughput. But now the wide availability of USB 2.0—the improved USB technology that PC users have enjoyed for some time—has given Mac users a taste of life in the fast lane.

How fast? As more and more USB 2.0-compatible peripherals become available, we put some of these products to the test, to see how much of an improvement you can expect from the new technology. But first, we should explain what kind of improvement USB 2.0 is supposed to provide.

USB: The Sequel

USB 1.1 products deliver transfer rates as high as 12 Mbps—USB 2.0 promises rates of up to 480 Mbps. As with FireWire, you won’t see USB 2.0 reach that theoretical maximum speed due to overhead and drive constraints. But you will see serious speed gains.

By the fall of 2003, Apple had made USB 2.0 ports standard on all new models (save the eMac). USB 2.0 ports now grace the newest PowerBooks, iBooks, and Power Mac G5s, as Apple strongly backs the technology. For example, FireWire 800—the faster version of the connectivity standard long championed by Apple—isn’t included on iBooks or the 12-inch PowerBook; USB 2.0 is. The growing universe of peripherals with USB 2.0 interfaces helped cement Apple’s support for USB 2.0 (see “A Growing Number of Products”).

But Mac users shouldn’t worry about a messy standards war that will force them to make an either/or choice regarding FireWire and USB 2.0 technology. “Both standards will coexist in the Apple world,” says Brian O’Rourke, senior analyst with market research firm In-Stat/MDR. “A lot of the drive makers who manufacture for Apple systems, like LaCie and Maxtor, make [FireWire]...

A GROWING NUMBER OF PRODUCTS

Mac users with USB 2.0 ports won’t have a difficult time finding products that support the faster connectivity standard. Most USB 2.0-compatible products fall under the storage category, though a growing number of peripherals and input devices also support USB 2.0. Here’s a glimpse at what’s out there, who makes it, and how much it costs.

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<td>EZQuest, Fantom Drives, Iomega, LaCie, Micronet, Other World Computing, QPS</td>
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<td>Scanners</td>
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<td>Logitech</td>
<td>$80</td>
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The speed advantage of USB 2.0 means you can add a slew of new peripherals to your system. Mac users more flexibility. Other than the data-transfer speed spike, there’s no fundamental change to the USB technology. Older USB peripherals will still plug into USB 2.0 ports—but will perform at the slower speed—meaning none of your old peripherals will go the way of the dinosaur.

If your OS X–powered Mac didn’t come with built-in USB 2.0, don’t despair. You don’t necessarily have to go out and plunk down money for a new model. If you have a desktop G3 or G4 with PCI slots, you can add a slew of USB 2.0 ports by installing one PCI card. PowerBook users can take advantage of the new USB 2.0 PC slot cards to add the high-speed connections to older laptops.

**Faster Speed, More Peripherals**

The speed advantage of USB 2.0 means tasks like burning CDs, copying files, and transferring large chunks of data are finally practical using USB. And that makes hooking up to a USB 2.0-connected CD and DVD burner or hard drive a viable option for Mac users.

In Macworld Lab testing with a dual-2GHz Power Mac G5, copying a 620MB folder to an external drive via USB 2.0 took 58 seconds, compared with a glacial 13:38 via USB 1.1 (see the Macworld Lab benchmark chart).

Duplicating a 300MB file to that drive took 34 seconds with USB 2.0, instead of a whopping 11:24. While FireWire 800 retains its edge as the speediest data-transfer technology for Mac users—note how it finished first in all of our benchmark testing—USB 2.0's advantage compared to the original USB is clear. "This allows Apple users to access many more peripherals than they could previously," O'Rourke says. And with more peripheral choices, feature improvements come more quickly. Plus, Mac users may see more price competition among peripheral makers—more vendors and more products to choose from means it's easier to shop around.

But don’t look for USB 2.0 to replace FireWire for video tasks anytime soon. "USB is built from the ground up for handling data, in packets," O’Rourke says. "FireWire is built from the ground up for video, and to stream audio and video." If you’re transferring video from a digital camcorder to your system Mac, FireWire is still hard to beat—it’s built into most DV camcorders, and is more reliable as a transfer method.

But for everything else, USB 2.0 should provide a ride any Mac user would be glad to take.—LAURIANNE MCLAUGHLIN

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**What It Means: Macworld’s USB Glossary**

**USB 1.1** The original version of Universal Serial Bus (USB) data-transfer technology, it delivers data-transfer rates of 12 Mbps. The USB peripheral-bus standard was developed by a consortium of companies including Compaq, DEC, IBM, Intel, and Microsoft.

**USB 2.0** The newer version of USB technology, it promises transfer rates as fast as 60 Mbps (480 Mbps.) In real-life applications, you will see a huge improvement with jobs such as copying folders or files to external hard drives.

**Certified USB** The USB Implementers Forum, the main industry standards group, encourages peripherals vendors to label products that use USB 1.1 technology as "USB" or "Certified USB." Nonetheless, you may see some USB 1.1 products labeled "low-speed." (For more details, see http://www.usb.org/info/usb_nomenclature) These terms all refer to the original USB. Some products, such as keyboards, joysticks, and mice will continue to use this flavor of USB, because they don’t benefit from USB 2.0’s faster data-transfer rates.

**Hi-Speed USB** "Hi-Speed USB" is the official way to refer to USB 2.0 products. Digital cameras, scanners, and CD- and DVD-burners can use this or the original USB technology. Some vendors will throw in the terms "full-speed USB 2.0" or "full-speed USB." Look for the Hi-Speed logo to ensure you’re getting the faster product.

**USB Hub** When your system’s USB ports fill up, this external device provides extra ports (between four and seven, typically) so you can keep adding USB peripherals. You can also daisy-chain multiple hubs. Some peripherals have a small built-in USB hub for convenience.

**USB.org** This Web site is maintained by the USB Implementers Forum. It features USB news and product information, as well as answers to frequently asked questions about the technology.
WEB-UPDATING TOOL TAKES ON MACROMEDIA CONTRIBUTE

GoLive Has a Co-Author

Adobe GoLive CS and Macromedia Dreamweaver MX 2004 have similar strengths and weaknesses. Both are exceptionally powerful tools for professional Web designers, but they're also too complex for novices who want to make simple content changes—an update here, an added page there—to Web sites.

Last year's release of Macromedia Contribute 2 (November 2003) gave these everyday users a simple tool for updating Web pages. Now Adobe has an offering of its own, the $89 GoLive Co-Author, that takes a very different approach.

Co-Author's Story

Co-Author is, strictly speaking, not a separate program at all—it's a forms-based interface, called Co-Author Editor, for GoLive CS sites (see our review of GoLive CS, page 31). Web designers must use GoLive CS to build Co-Author Sections into their sites. When defining Sections, designers create fields for the content that will later be filled in by the Co-Author user. Designers then place these Sections into the Web-page layout.

When Co-Author users want to edit a site, they go to Co-Author Editor, which lets them enter content in a form that corresponds to the Section. Unlike Contribute 2, Co-Author doesn't let coauthors change font face, size, or style (except bold and italic); it also won't let coauthors alter text alignment or add tables and lists.

Co-authors also can't create new pages on the site; they can only fill out existing pages—a restriction that doesn't exist in Contribute, which offers a simplified Web-page editor and lets anyone build new pages from templates.

Contributing Differences

Contribute is compatible with Web sites created in any application (though it reaches its full potential only on sites created with Dreamweaver). Co-Author, however, works only with sites created in GoLive CS. Contribute allows Web designers to have clients install Contribute and edit sites; they simply purchase a boxed copy of the $99 program and e-mail the connection file to the client. It doesn't matter if the client is down the hall or across the country. In contrast, Co-Author is available only to people who have a copy of the $399 GoLive CS disc.

Each copy of GoLive CS comes with two serial numbers. Entering the regular serial number after installation gives you a copy of GoLive. Entering the Co-Author serial number turns off most of the program and provides only Co-Author Editor. If you want to deploy more seats of Co-Author throughout your organization, you can purchase additional Co-Author serial numbers from Adobe for $89 each.

This serial-number–controlled installation means that you can't have both GoLive CS and Co-Author on the same machine (although GoLive has a copy of Co-Author Editor so designers can see how contributors will interact with the site). And while you may not mind walking down the hall to install Co-Author on other machines in your department, the chances are slim that you'll feel comfortable sending your precious GoLive CD across the country to a client.

Web designers rightly want to off-load the drudgery of minor site updates onto their clients, and those clients often want to save money by doing their own updates. Co-Author will appeal to designers who already use GoLive CS, because they can now let clients make small changes without losing any control over their sites. Co-Author's simple forms-based interface may be all a client needs to keep a site up-to-date.—TOM NEGRINO

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**CO-AUTHOR AND CONTRIBUTE COMPARED**

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>PRODUCT</th>
<th>PRICE</th>
<th>CONTACT</th>
<th>WHAT IT IS</th>
<th>WHO IT'S FOR</th>
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<tbody>
<tr>
<td>Adobe</td>
<td>Co-Author</td>
<td>$89*</td>
<td><a href="http://www.adobe.com">www.adobe.com</a></td>
<td>A forms-based interface for changing content on GoLive CS–built sites.</td>
<td>Web designers—and their clients—already using GoLive CS.</td>
</tr>
</tbody>
</table>

* Price per additional license: Co-Author is also included with GoLive CS, which sells for $399 as a stand-alone program.
MacWarehouse has the revolutionary new Power Mac G5, along with the full line of Apple products. Plus, we have Mac-compatible printers and software from leading manufacturers like Epson and Adobe. So call our Mac experts today. They'll get you set up with the computers and accessories you need, and get them shipped out fast.

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- DVD-R/CD-RW SuperDrive™

Authorized Reseller $2495.00
AppleCare 3-year PowerMac warranty $249.00

Free 512MB RAM (CDW 561452) after S169 rebate on PowerMac G5 system. S40 installation fee required. Offer ends 2/28/04 while supplies last. Receive S20 Epson mail-in rebate when you purchase Epson Stylus C84 printer. Offer ends 2/28/03. $79 off Epson Stylus printers with purchase of any Apple Desktop or Apple Notebook from Mac Warehouse between 12/15/03 and 2/28/04. Receive S79 back by mail. Also receive S169 S169 rebate on PowerMac G5 system. Apple, the Apple logo, Mac, Mac OS, PowerBook, iMac, iMacs, and Power Mac are registered trademarks of Apple Computer, Inc. All other product and service names are trademarks of their respective companies. All prices are subject to change. CDW reserves the right to make adjustments to pricing, products and service offerings for reasons including, but not limited to, changing market conditions, product unavailability, manufacturer price changes and errors in advertisements. All orders are subject to product availability. Therefore, CDW cannot guarantee that it will be able to fulfill customers' orders. The laws and conditions of sale are limited to those combined herein and on CDW's site at CDW.com. Notice of objection to and rejection of any addition or different terms in any form delivered by customer is hereby given. © 2004 CDW Corporation

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Securing AirPort

Wired Equivalent Privacy (WEP), the optional security feature in AirPort, could be said to have more holes than Swiss cheese—but that description might be unfair to the cheese. Security experts have found numerous flaws in the WEP security standard. Tools readily available on the Internet can extract a WEP encryption key after observing a few minutes to a few days’ worth of traffic.

Apple’s release of AirPort 3.2ends WEP woes by putting us out of its misery. The software update, which requires OS X 10.3, provides the latest industry-standard security enhancement to AirPort Extreme cards and Base Stations, with support for Wi-Fi Protected Access (WPA).

WPA enjoys wide support, and it fixes many of the flaws that made WEP crackable. WPA uses Apple’s method of entering a passphrase—a set of typed-in words or letters—that’s transformed through mathematical operations into a longer encryption key. With WEP, most hardware manufacturers required that you make up and enter hexadecimal numbers or very short—and, ultimately, very weak—text keys.

Apple’s update supports small networks without central login servers (a mode Apple dubs WPA Personal) and educational and corporate networks (WPA Enterprise). On WPA Enterprise networks, users log in and a key is automatically assigned to them. On small networks, users run AirPort Admin Utility and choose WPA Personal as the key type, entering a password that’s 8 to 63 characters long or inventing a 64-digit hexadecimal key.

The AirPort 3.2 update doesn’t cover original AirPort gear; it covers only AirPort Extreme hardware. Mac users with the 802.11b Base Station have to purchase an AirPort Extreme Base Station to bump up their security.—GLENN FLEISHMAN

Quick Fixes for Panther

Mac users who have adopted Panther benefit from its new features. But in some cases, they’ve been troubled by bugs and flaws, a few of which lead to lost data or compromised system security. And that leads to a bevy of problem-solving updates, which continue to arrive from Apple, via OS X’s Software Update features.

Jaguar users aren’t free of worry, either. Several security holes exist in OS X 10.2; however, Apple has promised to patch them up for people who haven’t upgraded to Panther. For more information on these vulnerabilities, check out http://macworld.com/news/2003/10/29/security/, at MacCentral.com.

As for Panther, the updates listed below are available through Software Update; new updates will appear should other problems arise. Regular downloads of Apple’s OS X updates will help keep Panther purring.—DAN FRAKES

<table>
<thead>
<tr>
<th>Updates Keep OS X 10.3 Safe and Secure</th>
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<tr>
<td><strong>Quick Fixes for Panther</strong></td>
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<tr>
<td>Mac users who have adopted Panther benefit from its new features. But in some cases, they’ve been troubled by bugs and flaws, a few of which lead to lost data or compromised system security. And that leads to a bevy of problem-solving updates, which continue to arrive from Apple, via OS X’s Software Update features. Jaguar users aren’t free of worry, either. Several security holes exist in OS X 10.2; however, Apple has promised to patch them up for people who haven’t upgraded to Panther. For more information on these vulnerabilities, check out <a href="http://macworld.com/news/2003/10/29/security/">http://macworld.com/news/2003/10/29/security/</a>, at MacCentral.com. As for Panther, the updates listed below are available through Software Update; new updates will appear should other problems arise. Regular downloads of Apple’s OS X updates will help keep Panther purring.—DAN FRAKES</td>
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MACWORLD’S FOURTH ANNUAL LOOK AT THE YEAR AHEAD IN MACS

Future Fortunes

Who knows what tomorrow brings? Certainly not us. This is our fourth annual roundup of Mac-centric predictions, and with the exception of the occasional dead-on prognostication, our crystal ball routinely comes up foggy. So this year, in addition to surveying Mac observers of the present, we sought out a pair of forecasters whose expertise lies in the future—an astrologer and a psychic. We may not know exactly what the coming year holds, but if the following forecasts are anything to go by, we’re in for a very interesting 2004.----MATHES HONAN AND PHILIP MICKELS

2004’s Most Significant New Product

Breen: The dual-3GHz Power Mac G5. With the release of this bad boy—and a version of OS X that can take advantage of its processing power—Apple can claim one of the fastest personal computers on earth without resorting to overly selective benchmarking.

Engst: Unless a video iPod ships first, I’ll look for a quad-processor Power Mac or Xserve in the next year.

Oracle Soul-Joiner: Maybe an Apple phone that plays music and sends e-mail and text messages. I’m seeing something about using satellite or wireless technology to work not only for communicating, but also to play music.

Rose: It doesn’t take an astrologer to see that when the G5 hits its stride next year, it will open up many markets for Apple, not just their traditional ones.

2004’s Most Significant New Software

Breen: An improved version of the iTunes Music Store for Mac and Windows. Apple will offer printable cover art and liner notes, lyrics embedded in downloadable music files, and purchasable music videos.

Engst: Mac OS X 10.4, in which Apple will introduce some sweeping changes that go beyond just making the interface a bit prettier or easier to use. It could revolutionize desktop file sharing by building a peer-to-peer file-sharing engine into Mac OS to simplify LAN file sharing.

Oracle Soul-Joiner: It’s not new software on the computer. It will be on a disc that will work like an ATM machine that lets people get information.

Rose: The new software will allow Mac users to use the Mac more in their work. The new emphasis won’t be on the Web as a way to share information—it will be as a way to collaboratively create. Why can’t a musician from Nairobi jam with a musician from the Bronx—in real time? Why can’t you go to a concert with virtual musicians? Why can’t the audience join in?

2004’s Biggest Mac News

Breen: The iPod/iTunes combo platter will garner a lot of attention, particularly if Apple delivers a $99 iPod that uses high-capacity removable media for storing music and data.

Engst: Might Steve Jobs be next planning to use his connections in the movie business, along with some serious new compression routines, to bring digital movies to the Mac in a big way?

Oracle Soul-Joiner: There will be a new product by April 2004 and an announcement of a merger of some kind of machinery. People are going to be mad about it. The combined effort of both manufacturers will be used to fight terrorism. [The merger product] will use satellite technology or have something to do with space travel.

Rose: Each year, the sun comes back around to the place it was at the birth of an enterprise. In 2004, the return happens on January 23rd. The core product emphasis this year will be creativity, games, and fun, but within business structures; however, that will probably not work too well. What will work is a reformation of the Macintosh dream around Steve Jobs’s original vision, but within the work world. In the next year, Steve Jobs will revitalize his dream, and that will power the Mac change. These may be an attempt at change in financial control, but it will work out well—it will force the Mac to become more true to its basic reality.

Last Year’s Look Ahead

Those who fail to learn from history may be doomed to repeat it. Those who fail to predict the future are doomed to read about it a year later. Last year’s panelists (see “What’s in the Cards,” Mac Beat, February 2003) may have a hard time telling you which is worse.

David Blatner, Contributing Editor
Apple PDA
QuarkXPress
Apples iLife
Xerox

Henry Bortman, Contributing Editor
Apples iLife
Xerox

Christopher Breen, Contributing Editor
Apples iLife
Xerox

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Mice That Roar

Whenever Apple introduces new desktops or laptops, Mac users are abuzz with questions about whether to upgrade. But we can safely say that the same questions aren't asked when Mac mouse and trackball makers update their products. "People in general don't think about their [mice]," concedes Ashish Arora, director of product marketing for retail pointing devices at Logitech (www.logitech.com). "To some degree, that makes [product development] exciting."

And companies have proved that they are up to the challenge—they keep rolling out new products, featuring changes driven by advances in design and technology.

Parting Shots

Optical mice—input devices that rely on light and sensors instead of moving parts—have become so commonplace that mouse makers now focus on improving the technology. In the fall of 2002, Logitech introduced its MX Optical Engine in its MX series of mice. By changing image-processing power, increasing frame rates, and boosting resolution, the MX Optical Engine improves the responsiveness and accuracy of Logitech's MX mice. Likewise, Kensington (www.kensington.com) has unveiled Dia-

LANDesk Management Suite 8, from LANDesk Software (www.landesk.com): Updated network-management tool; increased OS X support with software-license monitoring and application-policy management ($89).

netOctopus Systems Manager 5.0, from Netopia (www.netoctopus.com): Multiprocessor systems-administration tool adds support for OS X 10.3 (contact Netopia for pricing).


Productivity Beat


Cumulus 6, from Canto (www.canto.com): Software for digital asset management adds OS X compatibility for client and single-user versions (single-user, $70; upgrade, $50).

CxC, from Engineered Intelligence (www.engineeredintelligence.com): Parallel-programming software for simplifying the process of writing code that can run on clusters of computers is now OS X-compatible ($199).

Office Applications 2.0, from BSDmail (wwwbsdmail.com): Open-source office suite brings new features to the OpenOffice.org project ($50).

Project Timer Pro 1.0, from Script Software (www.scripts Howe.com): Cross-platform project-tracking and invoicing tool features multiuser support ($50).—COMPiled by philip michaelS

WHAT'S HOT

A Quick Look at the World of Macs

1 Macworld Expo convenes at San Francisco's Moscone Center for the 20th consecutive year. And for the 19th consecutive year, the assembled media predict Apple's imminent doom.

2 Apple's 20-inch flat-screen iMac begins shipping. At the rate it's expanding, by 2022, the iMac's screen will blot out the sun.

3 Macworld editors honor the top products of the year with our annual Eddy awards. The awards ceremony was a tasteful, well-received affair—at least until the ill-considered, 20-minute musical tribute to Bluetooth.

4 Both houses of Congress pass antispam legislation. Lawmakers were swayed by thousands of e-mails demanding a stop to spam and thousands more asking if they wanted to refinance their mortgage.
Industrial strength protection for industrial strength Mac users

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APC Smart-UPS® and Smart-UPS® XL protect your data by supplying reliable, network-grade power in either traditional tower or rack-optimized form factors for space constrained business-critical applications. Smart-UPS® XL’s are optimized for long runtime requirements and can be configured with up to 10 additional battery packs for runtimes exceeding 24 hours. Smart-UPS® RM’s are available in 1, 2 and 3U sizes.

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Adobe Creative Suite

Photoshop CS

Speedy, Comprehensive New Tools Boost Productivity and Image Quality

BY JACKIE DOVE

At the core of Adobe's Creative Suite strategy is the unity, integration, and simultaneous release of its major design applications. Photoshop CS (version 8) is a broad and deep upgrade to the company's anchor image editor. Despite its low-key presentation—its interface is almost the same as version 7—it has amazing new tools for Photoshop's traditional users. New features, subtly sprinkled throughout the program, dramatically enhance those users' capabilities and control over their images. Photographers, artists, graphic designers, Web designers, and video specialists will see significant improvements in their images and in the imaging process, but there's no burdensome learning curve.

Powerful New Tools

In version 7, Photoshop's File Browser was an innovative central repository for images, but it was a mere palette. The new File Browser is a self-contained image-management system with swift, flexible controls and its own menus. It lets you preview, search, sort, and flag images. You can edit metadata and keywords for a single image or across images, and you can create metadata templates to apply to groups of images in a single click. You can adjust the size of thumbnails and previews, as well as drag and drop images around the window in light-box fashion.

The new Histogram palette's improvements are a revelation. It shows you tonal and color information for an image, a layer, or a selection, and it shows you channels in color with a dynamic view of how filters, levels, curves, and other adjustments will affect tonal range and bit depth. When you're making certain adjustments, the old histogram appears in gray behind the current histogram so you can see what's happening to your image. While the histogram appears to function in real time, it actually uses the image cache to produce comparative views. A click on the Cached Data Warning icon or the Uncached Refresh button will display the real update of all pixels in the image.

Much-needed new interpolation controls—Bicubic Smoother (for upsampling) and Bicubic Sharper (for downsampling)—improve the detail of resampled images.

In the Darkroom

Photoshop's support for 16-bit images will help with editing and color-correction tasks involving layers, brushes, text, effects filters, shapes, and drawing and painting tools. Video-oriented users will like this feature for its rich color-palette preservation. This version of Photoshop raises the image-size limit, from 30,000 by 30,000 pixels and 24 channels per file to 300,000 by 300,000 pixels and 56 channels per file. To accommodate such hefty, Adobe has also introduced a large-image file format, PSB. However, PSB is not backward compatible with earlier versions of Photoshop.

Buried inconspicuously in the Adjustments menu is the miraculous Shadow/Highlight command. With its multifaceted controls, you can improve contrast while preserving midtone balance; it's a cure-all for horrendous exposures. Its default settings can do more to fix over- or underexposed parts of an image than hours of tinkering with masks and curves. The Match Color command, another addition, provides an intuitive method for giving photos shot under different lighting conditions consistent color, or for achieving artistic effects by blending colors and textures between images.

Now that Photoshop has a new spectrum of modifyable photo-filter adjustments, it's hard to figure out why Adobe took so long to add them. The package includes two versions of warming and cooling filters, and you can create your own filters with the color picker, or adjust filter density.

Tucked inside the Blur submenu, under the Filters menu, is the new Lens Blur command. Used directly on an image or in an alpha channel, it simulates genuine optical blurring and offers a natural-looking way to alter depth of field.

Adobe has built Camera Raw, previously a plug-in, directly into Photoshop CS. This feature will help a wide spectrum of shooters by giving them access to their digital negatives—a camera's proprietary raw images.
Adobe's consumer imaging program. A new www.macworld.com sitional photographers who can now apply support many camera brands. You can also as is the ability to view stacked effects with- and vignetting across multiple images in color correction, chromatic aberration, custom Camera Raw settings to selected images before batch processing.

Large preview window is especially welcome, image format. The Camera Raw feature supports many camera brands. You can also manipulate and adjust settings such as color calibration, chromatic aberration, and vignetting across multiple images in the File Browser. Camera Raw is not for everyone, but it gives unparalleled control to people who need it, especially professional photographers who can now apply custom Camera Raw settings to selected images before batch processing.

Inspiring Elements
Several new Photoshop features have already debuted in Photoshop Elements, Adobe's consumer imaging program. A new Filter Gallery features a series of thumbnails that illustrate various effects. The large preview window is especially welcome, as is the ability to view stacked effects without having to fly blind inside version 7's small filter previews. This gallery is snappy, responsive, and conducive to experimentation. Too bad it doesn't include all the filters. But then, too bad there aren't more filters—period. It's time for new ones.

Other Elements-inspired additions include red-eye removal as part of a new Color Replacement tool, and Photomerge, a powerful, easy-to-use panorama tool.

Designer Workflow
Photoshop's new Layer Comp palette is a simple but sophisticated solution for presenting, within a single file, different design versions to clients. A separate palette combines the layers of each presentation and lets you view them or export them to a Web gallery or a PDF presentation. PDF Presentation is another intuitive new utility, complete with professional transitions, for designers who need a program- and platform-agnostic way to showcase their work. The Layers palette, too, has undergone a metamorphosis. You can now nest layer sets as deep as five layers.

This version also includes a straightforward text-on-a-path feature and customizable keyboard shortcuts.

For Web designers, ImageReady sports interface updates such as the improved selection and handling of multiple objects. Adobe replaced the old Rollovers palette with a slick Web Content palette that can continue having to fly blind inside version 7's small filter previews. This gallery is snappy, responsive, and conducive to experimentation. Too bad it doesn't include all the filters. But then, too bad there aren't more filters—period. It's time for new ones.

Other Elements-inspired additions include red-eye removal as part of a new Color Replacement tool, and Photomerge, a powerful, easy-to-use panorama tool.

Filter Gallery
Photoshop CS Filter Gallery has a large preview window and illustrated thumbnails, which make it easy to view and apply artistic effects, individually or in layers.

Image format. The Camera Raw feature supports many camera brands. You can also manipulate and adjust settings such as color calibration, chromatic aberration, and vignetting across multiple images in the File Browser. Camera Raw is not for everyone, but it gives unparalleled control to people who need it, especially professional photographers who can now apply custom Camera Raw settings to selected images before batch processing.

Inspiring Elements
Several new Photoshop features have already debuted in Photoshop Elements, Adobe's consumer imaging program. A new Filter Gallery features a series of thumbnails that illustrate various effects. The large preview window is especially welcome, as is the ability to view stacked effects without having to fly blind inside version 7's small filter previews. This gallery is snappy, responsive, and conducive to experimentation. Too bad it doesn't include all the filters. But then, too bad there aren't more filters—period. It's time for new ones.

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create remote rollovers via a targeted click-and-drag interface. It's now easy to output animations to Flash format, or import QuickTime movies as single images and then export them as a QuickTime movie.

Video pros will applaud Photoshop's support for nonsquare pixels. Using this feature, which is as easy as choosing from the Pixel Aspect Ratio pull-down menu, you can view accurate video previews, complete with preset standard video sizes and automatic action and title-safe guides.

One disappointment is the electronic guide. The lack of context-sensitive help means that when you have a question, you must search the general menu, which can involve time-consuming clicking. And after upgrading to OS X 10.3 from Jaguar, we could no longer open files with a double click, but reinstalling the program solved it.

**Macworld's Buying Advice**

Photoshop CS is an awesome upgrade for every type of Photoshop user. Its slick, user-friendly new features make a huge difference in both productivity and image quality. This version is too good to pass up.

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## InDesign CS

**With Major New Text-Control Features, Publishing Program Is Poised to Topple QuarkXPress**

**BY GALEN GRUMAN**

InDesign CS is a subtle yet very powerful update to Adobe's publishing flagship. The previous version, InDesign 2.0, introduced most of the key features that made the young program a publishing powerhouse: the word-processor–like table editor, the Photoshop-level transparency features, and highly sophisticated typographic control. This version brings enhancements to many of these features, and it has several sensational new ones, such as nested styles and a much more efficient console for accessing text and object attributes. Although InDesign's interface is still somewhat complex, this is a more capable and more functional InDesign; in due time, this program will easily claim the publishing crown.

### What You Gain

The best new feature is a seemingly simple one: nested styles. A great use for this feature is creating drop caps—when nested styles, you can set a drop cap's size, drop, and font, and then use another style for the rest of the paragraph. Apply this concept to bullets, lead-ins, and openers—for example, set the bullet in one format, the sentence that follows (the bullet heading) in another, and the rest of the paragraph in a third—and you'll soon discover that nested styles are a must-have.

It would be nice, however, if you could apply a style to the first line of a paragraph, so you could, for example, set that line in small caps—a common design. But with nested styles, you must specify the number of words or sentences, or insert a format-to-here character.

Two other significant additions are the Separations Preview palette, which lets you see each of the four color separations before you print, and support for rich media such as buttons, movies, and sounds in InDesign layouts exported to PDF. Prepress artists and technicians will appreciate Separations Preview; the multimedia features will be useful for interactive designers who start with existing print documents rather than create multimedia presentations in a program such as Macromedia Director. (QuarkXPress 5 introduced similar multimedia capabilities.)

Most of what's new in InDesign—and there are more than 100 additions—are enhancements to or extensions of existing features. Many are minor, but most are truly useful, and users will quickly take to them.

For example, you can now save page specifications in the New Document dialog box as presets, so you can standardize your page sizes, such as layouts for business cards and marketing materials. The ability to keep your objects' text wraps on hidden layers is effective in two key situations: when masking and when you don't want text to reflow simply because you hid a large graphic to speed screen display.

For text handling, InDesign now lets a paragraph style automatically align the first line of each paragraph to the baseline grid; this comes in handy for realigning text after a subhead. There's also a new preference for retaining or suppressing formatting for text pasted into InDesign from other programs. This is great for when you want to strip out unwanted formatting.

InDesign's table function has several similar enhancements, including the ability to create header and footer rows that repeat across each page in a multipage table, and the ability to specify the type of strokes for table and cell boundaries.

### Some Borrowed Items

Adobe has integrated several features previously available in InDesign's rival QuarkXPress. The biggest of these is the contextual

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**New Palettes**

lnDesign has a whopping nine new palettes with new features. The contextual Control palette (top) lets you access many of InDesign's controls through one palette. The Story Editor window (left) lets you edit text separately from your layout. Also included is the Glyphs palette (top, second from right), as well as minimized, sliding palettes (far right).
Control palette, modeled on XPress's Measurement palette. Another biggie is the implementation of mixed-ink colors; now you can combine spot colors or process colors—and InDesign one-ups XPress by letting you create a graduated palette of such colors, so you can choose from a range of hues that use the same inks.

InDesign CS also has PageMaker's Story Editor feature, a window in which you can edit text separately from your layout (see "New Palettes"). But Story Editor doesn’t show the layout's line breaks or text-box limits, so many people will prefer to edit text directly in their layouts.

What You Give Up
InDesign CS has some curious gaps, and a feature has been removed: the ability to save layouts in HTML format for use on the Web. InDesign does package layouts in XML format for use in GoLive, but that’s hardly a mainstream approach to Web publishing and print-document conversion.

One gap is a critical deficit: there is no way to save InDesign CS files down to version 2; this will slow the adoption of InDesign CS. Most publishing organizations will need a longer shakeout period before they entrust their workflows to a program whose files can’t be used by an earlier version. (InDesign 2 didn’t downsave either, but few people used earlier versions of the program, so it wasn’t a problem. An Adobe spokesperson says that the company hopes to solve this problem in a future version.)

The previous InDesign's clumsy workflow features, which let documents be checked in and out as they moved through a publication workflow, are also gone. Instead, if you have the Version Cue software that comes with the full Creative Suite, you can access files from a set of shared folders and control access to them (see "It Doesn't Always Add Up"). But if your workflow requires the check-in and checkout of individual stories, you must buy Adobe’s $259 InCopy CS.

InDesign's highly cluttered interface is a continued annoyance; it spreads features all over the place, voraciously consuming screen real estate. With nine additional palettes, InDesign CS all but requires a two-monitor setup or a wide-screen display. Opening and closing palettes involves too much effort. There’s a workspace manager that lets you save palette collections for easy opening and closing of related functions, but streamlining the palettes would have been better than providing a tool that hides and opens in groups. Fortunately, Adobe includes the Control palette. Users can save screen space and time by using the Control palette in place of at least a half dozen other ones, and it's even more powerful than XPress’s Measurements palette.

Like QuarkXPress 6, InDesign CS doesn’t support OS 9. That's not a big deal, with Apple now into its second major mainstream version of OS X. InDesign CS shipped just before OS X 10.3 (Panther), so it formally supports just OS X 10.2 (Jaguar), but an Adobe spokesperson says that the company has certified it for Panther. Our usage under Panther revealed no serious problems, but the shortcuts for several commonly used palettes (Character Styles, Paragraph Styles, Stroke, and Table) conflict with new Exposé shortcuts in Panther. You’ll need to redefine InDesign’s shortcuts or Exposé's.

Clearly the Leader
Like a slow but persistent B-movie monster that eventually catches its screaming victim, InDesign will soon overtake XPress. Adobe has added several QuarkXPress features to InDesign, such as the ability to mix inks and make custom rules and underlines. And it has enhanced the program’s superior table-creation and typographic features, pushing forward unique features such as transparency control. Sure, XPress has many features InDesign doesn’t, and it may still be easier to flow text in QuarkXPress, via the combination of master pages, automatic page addition, and pre-linked text boxes. But these advantages may no longer be enough to keep people using XPress.

XPress’s unique strengths have dwindled to a few little-used functions, and InDesign CS is the program that will relegate QuarkXPress to PageMaker’s status of a decade ago. PageMaker users gave up that program’s few advantages to move to QuarkXPress, and now QuarkXPress users are likely to switch to InDesign, which, by all accounts, Adobe will continue to improve.

Macworld’s Buying Advice
For existing InDesign users, moving to the CS version is an obvious choice—as long as companies with multiple designers can also upgrade users of InDesign 2.0. At $169 for an upgrade and $699 for the full version, InDesign CS is less expensive than QuarkXPress, and if it weren’t for InDesign CS’s unforgivably inability to save down to version 2, this would be a very easy purchase decision. XPress users should give InDesign CS a serious look as well; Adobe’s program does the page-layout job better in many areas.
Illustrator CS

New Version Focuses on Typography, Gets Cool 3-D Features

BY BEN LONG

If you’re a type nerd, you’re going to love the new version of Illustrator. Though Illustrator CS doesn’t pack a lot of new drawing tools, Adobe’s extensive reworking of the program’s text tools makes this upgrade a typographic dream. Because Illustrator now incorporates InDesign’s sophisticated text engine, designers no longer have to divide their time between the two programs to get superior text rendering in their illustrations. Add a smattering of new illustration tools and an improved printing interface, and you’ve got a valuable upgrade.

The new Font menu (still located under the Type menu) is the most obvious difference. It not only displays font names in their actual typeface, but also provides a PostScript, TrueType, or OpenType icon next to each font name. The distinction between these font formats becomes apparent as you dig into Illustrator CS’s new typography controls. OpenType allows for as many as 65,000 separate characters in a font, including, most importantly, character variants. For example, a font might have swash characters—fancier, more elaborate versions of letters.

The new OpenType palette’s simple interface lets you activate or deactivate entire categories of optional characters. For example, you can select an individual character and activate its swash alternative by clicking on the Swash button in the OpenType palette. Clicking on other buttons replaces elements such as ligatures, fractions, and ordinals.

Finally, Adobe has also included InDesign’s Every-Line composer option, which does an extraordinary job of adjusting word and character spacing to prevent rivers of white text, to eliminate the need for breaking words, and to generally make a more attractively composed block of text. As InDesign users already know, this feature will automatically make text layouts look much better.

Type-A Tools

In the last few updates, Adobe changed keyboard shortcuts and other interface details to make Illustrator’s interface more closely match that of Adobe’s other products. Longtime Illustrator users will be pleased to find that, overall, Illustrator CS’s interface is unchanged from version 10.

RATING: [4/5]

PROS: Excellent typographic controls; simple 3-D effects; improved printing interface; new PDF features.

CONS: Occasional interface inconsistencies with other CS products.

OS COMPATIBILITY: Mac OS X

PRICE: $499; upgrade, $169


Obviously, these features work only with OpenType fonts, but Adobe has generously included a nice, varied assortment of 100 OpenType fonts with Illustrator.

Having such an easy way of accessing alternate characters means that you can employ the types of characters that professional typographers have used for centuries but that often get ignored in digital typography. And Illustrator CS has two other new features that provide further old-style typographical improvements. Selecting the new Optical Kerning option in the Characters palette automatically adjusts the intercharacter spacing of the currently selected words, to produce more-attractive text. Optical Margin Alignment automatically adjusts the position of characters at the end of a line, to make text blocks look more even.

3-D Illustrator’s new 3-D effects let you extrude or lathe profiles into 3-D objects with bevels and lighting effects.

An Update with Depth

Though the bulk of Illustrator’s changes are to its text facilities, it does include a few new drawing goodies. Users of Adobe’s old Dimensions package will be pleased with Illustrator’s new 3-D effects. These new effects provide extrusion and revolve commands that are good enough to build simple 3-D shapes.

To use them, first draw a profile using Illustrator’s normal drawing tools, and then choose Extrude or Revolve from the Effects menu to translate that profile into a 3-D object. For example, you might draw a square and then use the Extrude command to turn it into a cube.

Changes are implemented as effects, so they remain live: you can go back at any time and adjust their parameters. You can rotate the object, add bevels or lighting effects, or change the perspective (as you’d change the focal length on a camera lens).

You can also map any symbol onto a 3-D object to create a textured surface.

Because they’re vector-based, Illustrator’s 3-D tools are no substitute for full-blown 3-D-modeling software. But for creating interface elements or simple 3-D elements—including logos—Illustrator CS’s 3-D features are well designed.
More and Less
The Print dialog box has been greatly improved. It contains many of the items that were previously spread between the main Print and Page Setup dialog boxes. You now also have much greater control of printer settings, and you can easily save custom print settings to use later.

Illustrator also provides excellent support for Adobe’s latest PDF format. You can now save Illustrator files as layered PDF files. When a file is opened in Acrobat 6, layers can be turned on and off, so you can deliver multiple versions of a document in one file.

Despite all the improvements, there are still some annoying interface problems that should have been cleared up long ago. A major flaw is that you still can’t drag an entire layer from one document to another, as you can in Photoshop. You can work around this by selecting all, copying, and pasting, but because Illustrator doesn’t necessarily paste into the same position it copied from, this is a limited solution.

GoLive CS
Print-Savvy Web-Authoring Tool Stumbles with Complex Interface, Flawed Support

BY DAVID SAWYER McFARLAND
Over the years, Adobe GoLive has matured into a feature-rich Web-site-development program that both provides advanced tools for Web gurus and caters to graphic designers who rely on palette-driven WYSIWYG tools. GoLive CS offers better integration with other Adobe products, productivity improvements, a revised interface, and refined coding tools. Its features are comparable to those of Dreamweaver MX 2004’s, but it can be confusing, and it occasionally crashed while running in Panther. (Adobe says that it is planning to release an update in the near future to deal with some Panther issues.)

User Interface
GoLive’s highly—at times, overwhelmingly—customizable interface has much in common with the other apps in the CS Suite. The Objects palette, for example, now has a default toolbar display that looks like Photoshop’s Tool palette. GoLive palettes can also dock discreetly at the side of the display and expand for action with a single click.

The program includes many small (and thoughtful) additions, such as a Zoom tool that gives you to-the-pixel accuracy when you’re placing layers and page content in a document.

But with its confusing array of buttons, palettes, and tools, the program can feel a little like the control panel of a 747. In addition to the toolbar, Objects palette, and Site window, there are 28 other floating palettes (three more than the last version of GoLive had). Navigating the toolbars and the Objects palette, with its myriad icons, can also be confusing, and some actions require too many steps. For example, to add a graphic, you drag a graphic object from the Objects palette to the page. You then have to use a separate palette to specify the graphic file you just dragged.

Integration Fascination
One of GoLive’s biggest selling points is how well it works with other Adobe applications, and GoLive CS is even better integrated with the rest of the updated suite.

If you use Photoshop, Illustrator, or InDesign extensively, you’ll find time-saving tools that aren’t available in any other Web-design program. Although Smart Objects have been around since GoLive 5, they remain an incredible (and unrivaled) tool. For example, when you add a Photoshop image as a Smart Object to a Web page, GoLive’s built-in ImageReady optimization tools let you prepare the image for use on the Web. If you later make a change to the original Photoshop file, the Web graphic is automatically regenerated from the source.

Also strange—for a release that’s supposed to be largely about cross-product integration—is the lack of a Photoshop-like context-sensitive toolbar for accessing parameters of the current tool.

Macworld’s Buying Advice
Though it doesn’t support a lot of new drawing tools, Illustrator CS’s wealth of new typography and text-formatting controls makes this upgrade a no-brainer. In this upgrade, you’ll get a few new drawing tools and improvements, and nice 3-D features. [ ]
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Suitcase X1
Font Manager Gains Speed and Better Activation Features

BY ANDREW SHALAT

Managing your fonts can be as painful as getting your teeth cleaned. You do it only when you have to, and it’s no fun. Just as you hope for a dentist who works quickly, efficiently, and gently, you want a font-management application that helps you find, group, preview, and access your fonts painlessly. Extensis’s Suitcase X1 (pronounced eleven) has an improved window-pane interface that makes font management this easy. And it’s quite fast in Classic, Jaguar, and Panther (Panther users will have to download a patch).

You can now activate Suitcase features from any of its three panes, including the Preview pane. And when you add fonts to a set, Suitcase automatically scans and repairs them.

Best of all, the new keyword engine lets you customize and assign your own sorting criteria on-the-fly. This feature is an instant font-set maker, giving you speedy activation and organization in one easy step.

Do Not Press This Button
Suitcase X1 makes it easier than ever to manage your system fonts—perhaps too easy. If you’re the type of person who can’t resist opening doors labeled Do Not Enter, then this warning is for you: Suitcase has a door you really shouldn’t open. You can cause work-stopping trouble on your system simply by deactivating seemingly innocuous fonts such as Lucida, Geneva, and Courier. These are only some of the fonts OS X relies on to make the Aqua interface readable. Creative professionals and prepress specialists might, under certain circumstances, want to replace the system’s Helvetica with another Helvetica, but they know enough to step gingerly through this minefield. We truly wish Extensis had put a large red warning over the option that gives everyone access to such a powerful tool.

Got Panther?
The introduction of Panther’s built-in Font Book application—which organizes, activates, and deactivates fonts—raises a question: Is Suitcase, or any third-party font-management application, necessary? The answer depends on your usage. Suitcase X1 is best for the creative pro who uses more than 100 fonts on a daily basis. Font Book, which has some drawbacks, might be acceptable for people who don’t use many fonts. If Font Book doesn’t meet your needs, check out FontCatalog ($30; www.prepressmi ami.com/fontcatalog)—a shareware application that’s compatible with Panther. Slower than Suitcase X1 and not as full-featured, FontCatalog offers a simple, clear preview interface with drag-and-drop activation.

Macworld’s Buying Advice
Extensis’s Suitcase is a great font-management tool for people who regularly work with more than 100 fonts, who need more than Panther’s Font Book provides, and who need greater speed than FontCatalog can muster. Suitcase X1 is faster, easier to use, and more efficient than its predecessors, thanks in part to its keyword and QuickFind features. Aside from the dangers of accidental system-font deactivation, Suitcase X1 is a pain-free way to keep your fonts in line.

RATING: 

PROS: New QuickFind feature and keyword engine spiced on-the-fly font management and sorting.
CONS: System-font management is too easy to access.
PRICE: $100; upgrade, $50
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: Extensis, 800/796-9798, www.extensis.com
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Photo Printers

Strong Contenders in Latest Batch Score High on Detail and Color

BY BRUCE FRASER

Lately, anyone who’s paying attention has seen a stampede of multipart ads in national magazines, meant to brand the term digital photography in the mind of the average consumer. Indeed, the allure of taking photos with a digital camera and printing them how and when you like is hard to resist.

It’s in this context that we view the latest round of photo printers that produce photos as large as 8 by 10 inches. Straddling the often fuzzy line between consumer- and professional-level devices, these products offer features such as direct printing from camera storage media with no computer or image-editing application required (see “Look, Ma, No Photoshop!”). But most are also capable of producing output that would please the hard-core Photoshop geek.

In this roundup, we looked at two new printers from Canon—the $250 i900D and the $200 960—Epson’s $179 Stylus Photo R300, Hewlett-Packard’s $300 Photosmart 7960, and Lexmark’s $80 Z705. We also included an outlier, the $499 Olympus P-440, which uses dye-sublimation, rather than ink-jet, technology to produce prints.

We used several criteria in judging the photo printers. The quality of the output had to be at least as good as what you’d get from a one-hour photo store, without your having to jump through hoops to get it. The printer needed to be affordable, not just to buy but also to maintain. And we wanted the winner to be reasonably speedy, otherwise, you may find that it’s faster to walk to that one-hour photo store.

What’s Inside

All of the ink-jets use six inks for photo printing: cyan, magenta, yellow, black, light cyan, and light magenta. The Epson and Canon devices use individual cartridges for each ink—a potential money-saver since you can replace just the ink that’s run out—while the Lexmark and HP printers use one tricolor cartridge for cyan, magenta, and yellow, and a second cartridge for the light photo inks. With the Lexmark, you swap out the light-photo cartridge when you need to use the black-only ink cartridge. On the HP, the black ink is the only one you swap out; your color and special photo inks are always installed, and a third cartridge slot holds either a black-only ink cartridge for a digital photo or a special photo-gray cartridge (included) for black-and-white photos.

The Olympus P-440 is a dye-sublimation printer that uses cyan, magenta, and yellow dyes with a clear coating applied over the color to prevent damage from fingerprints. Unlike ink-jets, dye-sublimation printers use the same amount of resources regardless of the size or color composition of the output. The fixed cost is a little over $2 per print.

Color Me Faithful

A photo printer isn’t much use if what you see on your monitor doesn’t resemble what you get from the printer. To test color accuracy, we printed our standard test image to see on your monitor doesn’t resemble what you get from the printer. To test color accuracy, we printed our standard test image to ColorSync color matching, and a custom ColorSync printer profile created with GretagMacbeth’s Eye-One Photo color calibrator ($1,495; www.i1color.com). The test image is a TIFF file saved in Lab color, so the printer profile is the only one that affects the color reproduction. The test image contains fine details in highlights and shadows (shiny metal and coffee beans); memory colors (colors we can identify as right or wrong because we know what color something is supposed to be—a red bell pepper, for example, in an image of fruits and vegetables); and a variety of textures from cloth to plastic to wood grain. All in all, the photo presents a considerable challenge.

Our jury (a panel of experts made up of Macworld editors) gave the Epson R300 the highest marks for color fidelity at the default settings, followed by both Canon printers and the Photosmart 7960, all three of which produced similar results (and which would benefit from better included color profiles). The Olympus P-440 didn’t fare quite so well, particularly when printing dark blues, but nonetheless produced acceptable results. The Lexmark Z705 was the only printer whose results our jury deemed unacceptable, with strongly oversaturated reds that made the cherry tomatoes in our test image look radioactive.

The Lexmark was the only printer that really needed a custom profile. At the default printer-driver settings, the Lexmark produced some truly garish colors that our jury unanimously agreed were poor. Printing with the custom profile improved matters dramatically, but it’s certainly unrealistic to expect buyers of an $80 printer to resort to a $1,500 profiling solution. Even with the custom profile, the Lexmark print still didn’t approach the color fidelity that the other printers produced without any profile.

A closer examination of the prints made with custom profiles put the Canon and Epson printers at the head of the pack, followed closely by the HP Photosmart 7960,
which didn’t do quite as good a job on dark colors. The Olympus P-440 produced decent but unspectacular results, with too much contrast and too little highlight detail.

Shades of Gray
While we suspect that the vast majority of consumers will use these printers for color photographs, we were intrigued by HP’s claim that the Photosmart 7960 can also produce “stunning black-and-white” photos (though to do so you must swap out the black cartridge for the special photo-gray cartridge, which ships with the printer). Our jury rated the black-and-white prints from the Photosmart 7960 as good, as they did with both Canon printers, but the difference—largely boiled down to a choice between the HP’s black and white with a reddish cast versus a much less appealing green (from the Lexmark) or cyan cast (from the Canon and Olympus). Although the HP was the best of the lot, we can’t recommend any of these printers for serious black-and-white use.

Much-Less-Than-One-Hour Photo
The printers varied widely in the speed with which they produced prints. At the second-highest resolution, which normal printer owners will probably use most often, the undisputed speed champ was the Canon 960D. (The Olympus P-440 has only a highest resolution.) The 960D produced an 8-by-10-inch print in a blistering 1 minute and 29 seconds. The HP Photosmart 7960 was a little slower. The Lexmark took more than twice as long as any other printer, in all sizes at all resolutions. The Olympus P-440’s leisurely performance on 8-by-10 prints surprised us—speed is usually regarded as the main advantage of dye-sublimation technology. The Olympus printer did print 4-by-6 prints quite quickly, however (see the benchmark for speed comparisons).

Macworld’s Buying Advice
The one printer that clearly stands out from the pack is the Canon 960D. The combination of speed, color fidelity, detail, and price makes it a fabulous product. The Canon 900D and the Epson Stylus Photo R300 offer excellent value and are also fine choices. The HP would work well for people who print black-and-white images. Otherwise, the Olympus P-440 is just too expensive for its limited usefulness. And despite the Lexmark Z705’s low price, it isn’t worth the hassle to get this device to produce good color.

LOOK, MA, NO PHOTOSHOP!

Computerless photo printing has gone from a curiosity to a mainstream technology that holds huge potential for the millions of consumers who wouldn’t have a clue what to do with even an entry-level image-editing application.

The Canon 900D, Epson, HP, and Olympus feature built-in memory-card slots for printing from digital-storage media, and the quality of the prints pleasantly surprised us—all were comparable to the results you’d get from a typical one-hour photo store, and the computerless prints from the Canon 900D were very good indeed, with strong but plausible saturation and natural skin tones. The Epson, the HP, and both Canons support printing directly from compatible cameras, and the 900D and the HP sport color LCD screens (Epson’s $229 R300M has a similar display). The Epson R300 further supports printing directly from a USB CD or Zip drive (though your Zip disk will have to be DOS formatted) and can print to CDs or DVDs.

Even if you would never dream of printing an unedited image straight from the camera to one of these printers, you may find it very handy to be able to produce quick thumbnails of all your camera cards’ images.
Canvas 9 Professional Edition
Multifaceted Illustration Program Has New Technical Features

BY GREG MILLER

ACD Systems' Canvas 9 Professional Edition is primarily for technical illustrators who need to design precision graphics. It can also pinch-hit as an image editor or an illustration program—plus, it can serve as a page-layout, drawing, presentation, and Web-site program. Surprisingly, Canvas does all of these tasks well, so it's an attractive technical tool for illustrators who also like to exercise their creativity.

Fingertip Control
Developers of complex programs such as Canvas 9 strive to make efficient interfaces. ACD Systems has done this by enhancing existing features and adding new ones. A terrific new feature is the Properties bar, a horizontal display that shows relevant information about and options for an active tool or object.

Helpful Interface
The Properties bar, which sits beneath the main menu and the toolbar, keeps track of selected objects and tools, and shows you appropriate options. Select a new object or tool, and the bar changes to show the appropriate options. Properties—such as scale, dimensions, object locations, level of opacity, fonts, and kerning—are constantly displayed at the top of the main window, without intruding on the drawing. Available at a click from the Properties bar is the new dynamic help, which automatically shows detailed instructions for the current tool or object and doesn't take up a lot of screen real estate.

Improved palette management gives you more control over palette and subpalette visibility as you move from one tool to the next. And you can minimize palettes and dialog boxes to unobtrusive, quickly accessible tabs on the edge of your drawing, so you can customize the interface according to your needs.

Precise Differences
A new double floating point, 64-bit coordinate system gives Canvas 9 the precision that technical illustrators need in order to make scaled and measured drawings—precision usually found only in CAD (computer-aided design) programs. For instance, you can draw illustrations to scale; this is different from drawing them proportionally, as you might do in a typical illustration program.

Canvas provides the same functionality and ease of use generally found in CAD programs. To set dimensions—the notations on your drawing that indicate an object's real-world size—just click from one point to another in your drawing, the program calculates and displays the dimensions. (You can customize the appearance of your dimensions.) You can place them one at a time or in strings that represent, say, different parts of a drawing. You can even adjust tolerances, so that the dimension values allow for and track minor variances. This is useful in engineering and product-design where drawings need to account for the accuracy of actual manufacturing processes. And Canvas now provides a virtually unlimited zoom, and document sizes as large as 2,000 miles squared (to scale).

A feature from previous Canvas versions, Sprite Effects, remains one of the program's best. With Sprite Effects, you can apply one or more filters—zoom, sharpen, color balance, and others—to part of an illustration without changing the underlying graphic. Sprite Effects work on bitmapped images, vector-based drawings, and combinations of the two. Similar applications are just catching up to this functionality.

Technically Advanced
In addition to the Professional version, Canvas 9 comes in two technical editions, each of which costs $200 more.

The GIS (Geographic Information System) Mapping Edition includes GIS capabilities and mapping, such as the ability to import and work with industry-standard Shape Files and their associated data files and integrate them into technical presentations. You can also import GeoTIFF files and overlay and align aerial photography. Very few GIS applications' technical illustration capabilities can come close to those of Canvas 9—a unique and powerful application that lets you create GIS-accurate maps that are both beautiful and precise.

The Scientific Imaging Edition supports 32-bit images. Combined with the new Image Data viewer, this provides direct access to an image's underlying numeric data, allowing graphic analysis of imagery and data from scientific sources. There's also support for industry-standard file formats and image filters, all of which makes Canvas useful for professionals in medicine and life sciences.

A Stretched Canvas
Canvas 9 does a fine job of providing capabilities usually found in four or five separate applications, but it's not the best option for any one task. People already committed to dedicated illustration or image-editing programs such as Adobe Illustrator or Photoshop will probably not want to switch, as those specialized applications typically outperform Canvas in their areas.

Macworld's Buying Advice
While Canvas is an excellent technical-illustration program, we wouldn't recommend it over a full-blown CAD program; it just doesn't have all the tools an architect or an engineer needs in order to create technical drawings. However, if you want technical- and graphic-design capabilities without extreme specialization in one package, Canvas is your best bet.

If you already use Canvas, you'll enjoy the interface upgrades. If Illustrator and Photoshop lack the precision you want, and if a CAD program stifes your creative expression, then Canvas is the tool for you.

RATING: 5

PROS: Feature-packed; can do the work of several other applications combined; good interface; great new GIS and scientific-analysis abilities.

CONS: Doesn't beat dedicated applications in specialty areas.

PRICE: $400; upgrade, $250; GIS Mapping Edition or Scientific Imaging Edition, $600

OS COMPATIBILITY: Mac OS X

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**REVIEWS**

**Revolution 2.1**

Development Tool Breathes New Life into Old Card Game

**BY ANDY IHNATKO**

HyperCard? That’s dead, isn’t it? Oh, sure, it was great back in the 1980s. So versatile it defies ready definition. HyperCard lets ordinary people create their own software without having to conform to the strict rules of a formal programming language. But the last time Apple updated it (1998), Macs were made out of vacuum tubes and corn cobs. AppleScript Studio and RealBasic, while they’re nowhere near as easy to learn and use, have stepped into HyperCard’s role: the nonthreatening way to write software. But nonprogrammers everywhere can now rejoice: Revolution 2.1, a HyperCard-compatible development environment, has come along with enough power to wake the dead.

On the surface, Revolution works much like the HyperCard we knew and loved. Your program is a set of blank cards. Just draw buttons, text fields, and other interface doodads; then assign simple actions to some of those elements with Revolution’s Transcript language. You’ll wind up with a “card” stack that’s a working, running piece of software.

Revolution can even import your old HyperCard and SuperCard stacks, and the program goes far beyond those applications. When you think of a HyperCard stack, you certainly don’t think of a traditional-looking OS X application featuring menus, multiple windows, drawers, and sheets. You certainly don’t imagine a stack that accesses SQL databases; speaks XML, HTML, and RTF fluently; supports HTTP, FTP, and TCP sockets; and takes full advantage of the system shell.

All that sounds more like AppleScript Studio and RealBasic territory, but it’s all within the purview of Revolution Express, the basic edition of the program. Take one step up to Revolution Studio, and you get the king of write-once, run-everywhere. With just a few mouse-clicks, you can make the same stack run on OS X, OS 9 and earlier, Windows, Linux, and several flavors of Unix. Even RealBasic, which supports Windows, can’t create solutions for every desktop in a large and diverse office. And with a final leap to Revolution Enterprise, you get all of the above, direct support for Oracle databases, and enhanced developer support from the program’s publisher, Runtime Revolution.

All in all, no other software-development environment packs this much power and flexibility into such a simple package. You’ll have to learn the Transcript language to make the most of Revolution, but the system is heroically well documented.

Naturally, there are drawbacks. The stand-alone apps you build in Revolution run more slowly than comparable RealBasic or AppleScript Studio projects, and they take up a lot more space. Also, Transcript is a proprietary language, so, unlike BASIC or AppleScript, you can’t use it to program in another environment.

And while Revolution is considerably more powerful than HyperCard, it lacks the flexibility of a conventional software-development environment.

**Macworld’s Buying Advice**

Revolution 2.1 is a real accomplishment: once again, we have a development environment for both newbie programmers and experienced consultants who need to get working apps quickly into the hands of clients. Just don’t imagine that you’ll be able to build the ambitious programs you can turn out with RealBasic and Xcode. *Viva la Revolution!*

**RATING: ****

**PROS:** Broad support for networking, database access, and XML; can build apps for many different operating systems.

**CONS:** Apps are larger and run more slowly than those created in more-traditional programming environments; simplicity comes at the price of flexibility.

**PRICE:** Revolution Express, $149; Revolution Studio, $299; Revolution Enterprise, $999

**OS COMPATIBILITY:** Mac OS 9, Mac OS X

**COMPANY:** Runtime Revolution, info@runrev.com, www.runrev.com
Canon Digital Rebel
The Digital SLR for the Rest of Us

BY JEFF KELLER
Canon has lowered the bar for digital SLR (D-SLR) cameras—the price bar, that is. The least-expensive digital SLRs cost $1,499 until last August, when Canon introduced the Digital Rebel, at $899 for only the body or $999 for the body plus an 18mm–55mm lens. D-SLRs offer top-notch performance, photo quality, and expandability, and the Digital Rebel is a welcome change from expensive, and often slow, fixed-lens cameras.

How did Canon knock $600 off the price of its previous low-end D-SLR, the EOS 10D? First, it used an all-plastic body, which doesn’t feel nearly as nice as other D-SLRs but doesn’t feel cheap, either. Second, the company made internal changes to the camera, allowing for a new, low-cost EF-S lens mount. The 18mm–55mm lens in the $999 kit is an EF-S lens that works only on the Digital Rebel. It’s very impressive, especially since you get it for only $100 more. Other EF lenses would work fine on the Digital Rebel, too. (Note that with the 1.6x focal-length conversion ratio, the 18mm–55mm lens is really 28.8mm–88mm.) Third, Canon reduced the firmware’s capabilities, in both features (for example, narrowing the ISO range) and performance (giving it a slower, lower-capacity burst mode). If you want more shooting control, look closely at the differences in this area (check out the comparison chart at www.dcresource.com), though the firmware issues probably won’t bother the average person upgrading from a traditional digital camera.

The Digital Rebel supports CompactFlash Type I and II cards, including the Microdrive. And it supports the FAT32 disk format, so it can read memory cards larger than 2GB. Its rechargeable lithium-ion battery, the same one several other Canon cameras use (delivers about 600 shots per charge without the flash and 400 with it. You can add nearly any accessory imaginable, from lenses to flashes to remote controls. Unlike other Canon D-SLRs, the Rebel doesn’t support a flash attached via a PC sync port—it does have a hot-shoe, though.

The Digital Rebel performs superbly; it focuses quickly and accurately (accuracy was sometimes a problem for the EOS 10D), and it allows you to shoot as fast as you can compose your next shot. The camera uses the flash as an AF illuminator, which allows for great low-light focusing. The downside is that you’re then required to take a flash picture.

The Rebel offers automatic and manual shooting modes. Manual shutter-speed selection ranges from 30 seconds to 1/4000 of a second, and a bulb mode lets you keep the shutter open for as long as 2.5 hours. Unlike the EOS 10D, the Digital Rebel doesn’t let you select metering and focus modes. Canon also stripped out the custom functions found on the 10D, skewing the Rebel toward the amateur audience.

But the company didn’t skimp on photo quality. Compared with the average digital camera, the Digital Rebel takes excellent photos with good color and exposure, very low noise, and incredible detail. To better please its target audience, Canon has boosted the sharpness, contrast, and saturation at the default settings. It also made the menus much easier to navigate—the Digital Rebel feels more like a consumer camera than a pro SLR.

Macworld’s Buying Advice
If you’re tired of sluggish performance from digital cameras, or if you have a collection of Canon lenses you want to keep using, then the Digital Rebel is a real bargain. It lacks some features of Canon’s previous low-end digital SLR, the EOS 10D, but the average shooter probably won’t miss them. The Digital Rebel is an excellent camera if you’re ready to dive deeper into digital photography.

RATING: 💫💫💫💫💫
PROS: Excellent image quality; excellent performance; easier to use than other digital SLRs; great value; expandable.
CONS: Many manual features missing, compared with the EOS 10D; plastic body; AF illuminator works only for flash shots.
PRICE: body only, $899; with 18mm–55mm lens, $999
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: Canon, 800/652-2666, www.canon.com

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PhotoEdit 1.3
Low-Priced Image Editor Is Underpowered

BY GALEN FOTT

If you use iPhoto (April 2003) to organize your digital snapshots, you've probably reached the limits of that program's simple image-enhancing controls. The $30 PhotoEdit 1.3, from macXware, offers to extend your capabilities, but the program has some deficiencies that prevent us from recommending it as even an adjunct to iPhoto, let alone a stand-alone image editor.

Beyond (and Behind) iPhoto
PhotoEdit runs in OS X and OS 9, and it saves images in most standard formats (except GIF). The program has the traditional toolbox- and palette-based interface of other image editors, but its menus are poorly organized. This is particularly unfortunate because many of the program's most-powerful commands are buried in the easy-to-miss Image Filters dialog box, which offers alternative sharpening tools that are better than the more conspicuous Sharpen and Heavy Sharpen menu options.

You'll still want to use iPhoto to rotate and crop images and to fix red-eye; PhotoEdit doesn't offer easy ways to do these crucial things. However, the program does offer some interesting features: the unique Fracture effect breaks your image into fragments. The 3D Anaglyph feature produces 3-D images (glasses not included). The well-designed Brush Editor offers an intuitive approach to designing custom brush shapes (though the program directly needs an easy way to adjust brush size as you paint). And though it's unlikely to appeal to PhotoEdit's target audience, the Script Editor lets you use the BASIC programming language to create your own plug-ins.

When working with photos in the 3-megapixel range, PhotoEdit chugs along very slowly. And before you try to print your images, you'll have to visit the company's Web site to download a software patch.

Macworld's Buying Advice
As an image editor—even as an adjunct to iPhoto—PhotoEdit 1.3 comes up short in several important ways. While iPhoto can pick up most of the slack in these departments (such as red-eye removal and cropping), there are better low-cost image-editing applications than PhotoEdit. ArcSoft's $30 PhotoImpression 4 is one good candidate; it also offers layers and multiple undos, two features that PhotoEdit sorely lacks.

Can't See a Thing
Select red-eye-afflicted pupils in your image, and the Adjust Colors window offers a nonzooming preview that's far too small to work with.

PROS: Good range of image formats; some effective image-enhancing features; interesting special-effects filters; powerful brush and script editors; variety of effects.
CONS: Awkward cropping, rotating, and red-eye tools; poorly organized menus; no incremental brush-size adjustment; slow performance with larger images; printing bug; inaccurate manual.
PRICE: $30
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: macXware, 800-842-7787, www.macxware.com

DiskWarrior is Now OS X Native

It's the indispensable utility that repairs problems such as disks that won't mount, files you can't trash, and folders that have disappeared. MacUser magazine said, "It's the fastest and safest data recovery utility you can buy."

Macworld magazine said, "DiskWarrior is by far the best disk utility available for the Mac; it can repair virtually any disk problem you may encounter...and it is likely to become the only tool you'll want to keep with you at all times."

David Coursey, ZDNet AnchorDesk, agrees in an article comparing disk utilities. He used it to fix a disk that no other utility could. "DiskWarrior is a great product, not just because it fixed a pretty serious screw-up, but because it showed me what it planned to do in minute detail before doing it."

But disk damage isn't the only threat to your data. As hard drives get older, the drive mechanisms
Stylish Scanner Marred by Mediocre Software

BY CHRISTOPHER BREEN

If you consider Hewlett-Packard a dependable but somewhat stodgy hardware company, you should think again. The company’s HP Scanjet 4670—a sleek, see-through USB scanner—is anything but boring. Regrettably, though the device is a vision of high-tech loveliness, the accompanying software is a loose amalgam of inconsistent utilities.

This eye-catching 2,400-dpi, 48-bit color scanner has a translucent top and bottom. Using the included holder, you can scan items with the scanner either standing vertically on its edge or lying flat. To scan vertically, you pull the scanner lid toward you, slip a document between the scanner and the stand, push the scanner lid back into place, and initiate the scan (through the HP Director software or a TWAIN-compatible application such as Adobe Photoshop, or by pressing one of the scan buttons on the device’s side). You can even remove the scanner from the holder and place it atop items you want to scan—a book on your desk or a picture on a wall.

Surprisingly, the clear top and bottom don’t cause increased light bleed-through, even for documents printed on thin paper—the HP scanner produced less bleed-through than my flatbed Epson scanner. However, navigating through the various bundled software components to get the results you want can be trying. The online documentation provides little information about using the scanner with the bundled Readiris Pro 7 OCR application, from IRIS. And some of the software isn’t very good. The HP Gallery application resembles iPhoto but lacks that program’s elegant integration and good looks, and the Memories Disc application (for burning CDs of your pictures) is both unintuitive and unattractive.

Macworld’s Buying Advice
If you’re looking for a scanner that’s as beautiful as your Mac, the HP Scanjet 4670 is the one for you. Just be sure to bring your own software.

RATING: ****
PROS: Good-looking; vertical-scanning option.
CONS: Uninspired and unintuitive software.
PRICE: $200
OS COMPATIBILITY: Mac OS 9, Mac OS X

begin to malfunction. Eventually, the malfunctions become so severe that the drive simply stops working. DiskWarrior can automatically test for hardware malfunctions, giving you the chance to back up your data before it’s too late.

Be prepared. Don’t wait until after you have a disk disaster to buy your copy of DiskWarrior. Bob LeVitus, aka Dr. Mac, said, “I feel naked without DiskWarrior.” You can believe MacHome magazine when they said, “DiskWarrior is a quick, one-click solution to faster, more stable hard drives.”

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iPod Fever!

Yes, You CAN Take It With You—And Do It In Style

iPods—they're sleek and cool, and they're the hottest personal entertainment gadget around. And no wonder: Although it's small enough to slip into a shirt pocket, an iPod holds up to 10,000 tunes on its internal hard drive. That's enough music tunes, says Apple, to keep you continuously wearing earbuds for a month.

What drives this palm-sized tune-toter's burgeoning popularity? Its great looks and mammoth storage capabilities? Sure. But there's more to it than that. iPods, along with cell phones, PDAs, and laptops, help fulfill the human desire for independence. The iPod not only delivers high-quality MP3 audio, it also delivers the freedom to roam while staying connected to music. Margaret Streicher, an industrial psychologist who specializes in marketing analysis for advertisers, believes that iPod customers are buying more than a music player—they're buying a lifestyle. "When you think about the ads you see for products like laptops, computers, and cell phones, the vendor's implied promise is that its product will allow you to cut the cord and set yourself free." With total sales of the iPod about to top 1.5 million since its introduction in 2001, the strategy is right on target.

iPod Innovations

The iPod has captured the imagination of techies around the world. Take Dr. Bott, a leading distributor of cleverly innovative Macintosh and other technology specialty products. When the iPod was first introduced, it quickly caught on in a big way among the staff at Dr. Bott. It wasn't long before they began to imagine all sorts of places to use the iPod: connecting it to an entertainment system, a car stereo, and more—you name it.

PocketDock

Use standard FireWire cables with your 3G iPod!

The tiny PocketDock lets you connect the new iPod's docking port to a standard 6-pin FireWire cable, alleviating the need to pack the Apple docking cable with you when you travel.

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PocketDock is an elegant, simple solution with a beautiful design that perfectly matches your iPod.

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Dr. Bott's Universal Connection Kit is fully compatible with both original and 3G iPods.

Thus was born the idea for the iPod Connection Kit, an ingenious collection of just about every option needed for connecting the iPod to all of these devices—all in one neat box.

Included in Dr. Bott's iPod Universal Connection Kit (FM version) are:

- Auto Charger for iPod
- FM Stereo Transmitter
- PocketDock (see "Just a Dock Away" below)
- 2 AAA batteries (for FM transmitter)
- Mini Stereo Extension Cable (male/female)
- Mini Stereo to RCA Cable
- Mini Stereo Connection Cable (male/male)
- iPod Carry Pouch

What's more, the iPod Universal Connection Kit is fully compatible with both original and 3G iPods.

The work done in bringing the iPod Universal Connection Kit to market is emblematic of the unique value proposition that Dr. Bott brings to the world of technology distributors. In the words of Eric Prentice, Dr. Bott's president: "We not only distribute great technology products—we also have a direct hand in the development, design, and packaging of many of these products. We were the first to market with accessories for the iPod, and we are dedicated to finding the next cool thing and doing everything we can to bring it to market effectively."

For more information on the iPod Universal Connection Kit and on Dr. Bott, click on www.drbott.com.

**Just a Dock Away**

There are bound to be times when an iPod user on the road, listening to his libraries of great music, finds he wants to hook up with another Macintosh or PC. Maybe he wants to swap some files or just recharge the iPod's batteries. Only he didn't bring his special iPod docking cable, which is safe and sound at home, connected to his computer.

Sound familiar? If so, then the low-cost PocketDock from
SendStation (www.sendstation.com) is just what you need to get connected anywhere. This tiny device lets iPod users connect the docking port to a standard 6-pin FireWire cable, thereby delivering more fully on the iPod's promise of freedom and independence. And because the PocketDock is both light and tastefully designed, it is a perfect complement to the equally stylish iPod.

You can order the PocketDock from Dr. Bott by clicking on www.drbott.com now. Dr. Bott's Web site also lists resellers around the country and around the world where a very wide variety of highly innovative technology and entertainment products can be purchased at competitive prices.

**When You Need Your Space**

There are times when even the most ardent of iPod aficionados seek a degree or two of separation from the device. With the innovative naviPod from TEN Technology (www.tentechnology.com), iPod users can do just that—cut loose from their machines with a remote control that lets them control the iPod's audio functions from across a room. This allows users to crank up (or down) the volume, skip over tunes, pause the playing for some phone time, or just relax in the comfort of an easy chair.

The naviPod for 3G is for the third and current generation of iPod models. It includes an audio port, the volume of which can be controlled by the naviPod remote, and a chrome stand for use when the iPod is not docked. The naviPod also features a 5-button infrared remote control and a receiver unit that plugs right into the top of the iPod.

The naviPod is available through Dr. Bott at www.drbott.com.

**Where Computer Geeks Meet Music Freaks**

It's a fact: most digital products made for music aficionados are designed and built by engineers. But NexTune's music management software breaks the mold. It's crafted—from the ground up—by

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**Cut Loose with the new naviPod.**

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music professionals who also happen to be great programmers. The result is software for the Mac OS X that integrates easily with iTunes and dramatically enhances your iPod enjoyment.

**NexTune**

NexTune gives iPod users what they've been sorely missing: namely, easy control over their fast-growing digital music libraries. With NexTune, users can easily personalize all their music using the NexTune Profiler, which prompts users with simple questions to organize songs by tempo, pace, style, and a host of other attributes.

What's more, the NexTune Profiler automatically calculates the beats per minute in any song—an industry first—while the NexTune Playlist Composer automatically arranges songs on the playlist in an order that maximizes listening pleasure.

Other NexTune features include printing capabilities for CD disk and jewel-case labels; a reporting capability that generates paper reports on your music library; and duplicate checking that automatically identifies songs with the same title.

For more on NexTune, "where computer geeks meet music freaks," click on www.nextune.com. And take note: NexTune is giving away some cool stuff right now, to celebrate their February product launch.

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**iPods That Play Rough**

The iPod is built to last, but even the best-built technology needs some extra TLC. The problem with most iPod cases is that they are either too soft to protect the iPod or they are too hard, particularly where they make contact with the iPod. But with the innovative iPod Armor from Matias, you get the best of both worlds. That's because iPod Armor sports a rugged aluminum exterior and a unique friction-foam interior to safely hold the iPod in place and protect it from shocks.

With the same ingenious design as the original iPod Armor, Matias recently announced a new version with docking-port access. It completely encases the iPod, leaving only the top ports accessible while protecting the docking connector behind a removable rubber panel. All that protection will keep your iPod looking as new as the day you bought it, making it ideal for the image-conscious owner. It's smart insurance for anyone looking to keep his or her iPod safe from life's daily hazards. Visit www.ipodarmor.com for more information.

**Think Different: An iPod Supermarket**

With some distributors of quality iPod products and technology products, there's always a trade-off among value, selection, and...
service. But at the
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promise. There you will
find just about any case
made for the iPod, as well
as a wide variety of iPod
accessories at highly com-
petitive prices from compa-
nies like Griffin Technology,
Marware, Contour Design,
Belkin, iSkin, and RadTech.

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What separates the ThinkDifferentStore from its competi-
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Run With It
Yes, you can take it with
you. And thanks to
Marware’s SportSuit
Convertible case with
patented clip system, you
can take your iPod just
about anywhere, with con-
fidence that it will be safe
and sound.

The SportSuit
Convertible case offers
rugged protection for the
iPod on the go, while the
patented belt clip system offers interchangeable clip options.
An armband and belt feature makes it ideal for jogging or
working out. And that’s not all; with the SportSuit Convertible,
you also get:

- Ability to sync the iPod while in the case
- 2mm neoprene outer construction
- Fully lined interior
- Plastic inserts at sides and back for impact protection
- Plastic screen protector
- Removable protective lid
- Headphone and remote storage pocket on lid

For more information on this and other iPod cases, as well
as laptop cases, please visit www.marware.com.

No Static At All
“i’m out of the office and in the car three days a week, calling
on customers,” says Brian Hickey, “i got real tired of listening to
music that some DJ at a radio station decided i should hear.”
Brian bought his iPod for $300, and he’s spent another $500 for
the 1,000 songs on his iPod, many downloaded from Apple’s
iTunes Music Store. “Spending the money doesn’t bother me.
My Pod is like a relaxation machine—I spin the thumbwheel, and whatever’s on my mind gets moved to the back burner.” Brian also bought a $30 speaker stand: “The stand’s volume control lets me play tracks at my desk without subjecting my office mates to my choices in music.”

Ross Weale, an Internet product manager, uses his iPod to help him control his environment in trying circumstances. During a recent car trip, he says, his iPod basically saved his sanity. “I hired a local car service to drive me to the airport—a two-hour trip,” says Ross. “The driver was listening to a boring talk radio station; after 30 minutes, I had a headache. I asked the driver to change the station to one I could broadcast to. And, using my iPod’s add-on FM transmitter, I played back-seat DJ by broadcasting to the car’s radio for the rest of the trip to the airport. The driver never realized I was the one selecting the songs.”

As memorialized in the old Steely Dan song, with FM radio there’s just “no static at all.” And to help you enjoy all the great music available across the FM dial and do it in style, Digisette (www.digisette.com) has enhanced its popular, compact FMXtra stereo lanyard earphones with auto-scan FM radio. With its handy and easy-to-use connecting pin, FMXtra quickly connects to any music player, including the iPod, for hours of listening pleasure.

Included in this latest version of FMXtra is an LCD to show the stations to which it is tuned, as well as complete volume control. Weighing in at a mere three ounces, FMXtra is the ideal way to add stereo FM reception to your iPod, and at a very reasonable price. FMXtra cable components are colored
white to harmonize with the iPod. To order FMXtra, click now on www.drbott.com, the distributor of choice for iPod enthusiasts.

Make the Best-Dressed List
Like most iPod enthusiasts, the designers at iSkin believe the sleek and tasteful iPod should be seen as well as heard. That's why iSkin developed the eXo2 iPod case with contoured accents, ergonomic design, and skin-like fit.

The eXo2 is made from high-grade flexible and yet durable silicone, making the eXo2 moisture-proof as well as pliable. Its anti-static finish reduces dust and lint adhering to the surface. And the eXo2's REVOClip is iSkin's unique solution for attaching the iPod to your belt or waist at any 90-degree angle. The clip is made of brushed stainless steel and attaches seamlessly to the eXo2 for a firm and secure connection between you and the iPod. To protect the iPod's docking and charging port from dust, dirt, and other impurities, the eXo2 features an integrated FireWire port cover. The eXo2 also includes an ultra-clear screen protector and safety hand strap.

For more information on this exciting innovation for the iPod, click on www.iskin.com now.

Giving Power to the People
It's already a perfect blend of features and form: What more could Apple add to the iPod? While they're not saying, other experts offer their opinions—and the answer is: video. "As far as end users are concerned, having potentially thousands of tunes at your fingertips is definitely empowering," says IDC analyst Roger Kay. "In addition, it would give Apple a toehold in Hollywood the rest of the industry would die for." So stay tuned—the iPod is just getting started.

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YOU WILL UNLEARN ALL THAT YOU HAVE LEARNED.

DEDICATE YOUR LIFE TO A HIGHER PURPOSE.

USE THE KNOWLEDGE YOU ATTAIN HERE WISELY.

THE FORCE IS A POWERFUL ALLY. AND A TERRIBLE FOE.

DO NOT BE SEDUCED BY THE DARK SIDE.

FOR YOU ARE THE FUTURE GUARDIANS OF THE GALAXY.
THE GAME ROOM  BY PETER COHEN

Halo Arrives

FEW GAMES IN MAC HISTORY HAVE ENGENDERED AS MUCH fervent devotion and as many feelings of betrayal as Halo. Four years ago, at Macworld Expo New York, Mac users got a first glimpse of the next version of this monumental first-person shooter. Since then, Halo has made the rounds—first as an Xbox exclusive and then, in September, as a Windows-only release. Now, thanks to the efforts of MacSoft and Westlake Interactive, who worked practically around the clock for almost three months, Halo is where it belongs—on the Mac.

Does Halo: Combat Evolved live up to the hype? After so long a wait, some gamers will inevitably be disappointed. But I'm certainly not one of them.

Halo: Combat Evolved offers something that most recent first-person shooters lack—a good storyline. Halo includes a single-player mode that you care about. You assume the role of the Master Chief, a cybernetically enhanced soldier with tremendous strength, healing capabilities, and weaponry skills. You must square off against a vicious alien civilization called The Covenant, whose sole goal is the utter annihilation of the human race. Fate has brought you to Halo, a huge and mysterious ring-shaped world. Underneath the surface of this alien world lie secrets that could lead to mankind's salvation—or destruction.

Killing Covenant baddies is bound to cause some bumps and bruises, and it will wear down your ammo supply. Luckily, there's almost always another health pack or ammo clip nearby. But here's a cool twist:

HALO: COMBAT EVOLVED
RATING: ★★★★★

PROS: Gorgeous graphics; a story you actually care about; fun multiplayer modes.
CONS: None significant.
PRICE: $50
OS COMPATIBILITY: Mac OS X
COMPANY: MacSoft, www.macsoftgames.com

although some games allow you to holster an armory of five or ten weapons at once, Halo forces you to be a little more selective—you get only two carry-on items at a time.

Of course, no matter how great the single-player game is, you'd get bored quickly if that's all there were. Fortunately, there's a ton of multiplayer action here, too. Halo provides a game-finding service that lets you face off against Mac and PC users. There are individual and team-based modes, such as Death Match, Capture the Flag, and King of the Hill. You'll also find plenty of other multiplayer goodies: new weapons, such as the flamethrower and the Fuel Rod Gun; new ships, such as the Banshee (a Covenant flying ship) and the rocket-equipped Warthog; six new multiplayer maps; and more.

If you've already played Halo on an Xbox, you'll find some important differences in the Mac version. For one thing, the graphics are phenomenal. The Mac version of Halo supports the latest in high-end graphics technology. You can play Halo at resolutions as high as 1,600 by 1,200—assuming your video system can handle them. If you're using the latest ATI (Radeon 9800) or Nvidia (GeForce FX) hardware, you can take advantage of even more graphics power by turning on vertex and pixel shading to get much richer lighting, shadowing, and special effects. And with the upcoming release of an OpenGL driver update, the game will also support full scene antialiasing, which smoothes the edges of jagged polygonal objects to make the game appear more realistic. Put together, the results are truly awe-inspiring.

Xbox users will also notice how responsive Halo is on the Mac. Despite its console pedigree, this game absolutely comes alive with a keyboard and a mouse. continues
The keyboard layout is sensible and easy to remember, and the game supports multibutton mouse configurations and scroll wheels.

Level design in Halo can be vast, but you’ll rarely get lost. Twisty passages often have visual cues that let you know where you need to go. Halo also makes great use of inverse kinematics—a form of 3-D modeling—to add more realistic motion to objects. Watch the limbs of your Covenant foes fly as you launch a grenade into their midst, or see fellow soldiers shudder and shake as your ship hits rocky terrain.

A glance at Halo’s system requirements may startle some gamers, but in fact, MacSoft has been fair: at the bare minimum, you’ll need an 800MHz G4 or faster with a 32MB video card. That’s consistent with the top-model, two-year-old, flat-panel iMac. It’s also fairly consistent with the PC version’s system requirements. Of course, to really see what this game can do, you’ll want at least a 1GHz machine. I played on a 1GHz G4 with 512MB of RAM and a GeForce4 Titanium card, and I saw playable frame rates throughout. In fact, Westlake has done a fantastic job of eking out every last ounce of performance it can from the game.

I also had a generally good experience with online play—as long as I kept ping times (the amount of time it takes for a packet of data to travel from your Mac to the host server) under 150 milliseconds. Higher ping times sometimes result in periods of latency, which will make you feel stuck in a game like this. But while you shouldn’t have a problem finding a server with sufficiently low ping times, you’ll get the best results when playing on a LAN. In fact, I can’t think of a better game for a LAN party.

The Bottom Line By any measure, Halo: Combat Evolved is an absolutely fantastic game. Westlake and MacSoft truly pulled out all the stops to make this one of the best first-person shooters the Mac has ever seen.

Medieval Melee
Sometimes, fighting just two or three bloodthirsty enemies at a time isn’t enough. If you long for the thrill and challenge of waging large-scale combat, take a look at Warrior Kings, a new strategy game from Feral Interactive. Despite some flaws, Warrior Kings brings unique charm and challenge to an old genre.

Warrior Kings puts you in the role of Artos, a young king in the midst of an epic struggle to regain control of his kingdom. Loosely based on medieval Europe, the game draws from European history and folklore. As a result, you’ll find that Warrior Kings is more based in reality than some other games in this genre—for example, all the combatants are human. (However, in some cases, you can call upon mystical forces to augment your abilities.)

Warrior Kings offers all the usual elements of a real-time strategy game (RTS): you’ll gather resources, develop military units, and send them into battle. But it also adds some unique touches that help separate it from the pack. For example, there’s a branching story line that lets you choose to follow Pagan, Imperial, or Renaissance paths. Each path provides you with access to different era-specific technology and different offensive and defensive strengths.

Another unique element is the game’s emphasis on managing and maintaining supply lines. This is a gritty realistic aspect of war strategy that many games forget—it’s one thing to harvest resources; it’s another to put them to use.

Warrior Kings is at its best when you’re commanding hundreds of soldiers on a 3-D battlefield and manage to make them respond to your commands effectively. Few other games could manage this scale without slowing to a crawl. However, this expansive scope can be a detriment, too—maneuvering your camera around the battlefield can leave you lost or confused about your position or your perspective.

The game also suffers from fairly obtuse artificial intelligence. Enemy troops and your own men exhibit a painful lack of situational awareness. What’s more, learning how to maneuver troops and win battles will take time. Despite a tutorial mode that offers an overview of how things work, I had to play some levels repeatedly until I figured out what I was doing wrong.

Multiplayer gaming in Warrior Kings is another weak link. The game doesn’t let you take on Windows players. And, at press time, only a small pool of Mac players was available online via GameRanger.

The Bottom Line Warts and all, Warrior Kings is a lot of fun to play. It will particularly appeal to RTS fans looking for new challenges. However, at $50 it’s a little expensive—especially given its shortcomings.

Oozing Organisms
Mathematician John Conway’s computer simulation, Life—in which nebulous creatures grow and die off in never-ending, shifting patterns—is possibly one of the most replicated games in existence. This continues
The New Unreal® Tournament.

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Dazzle directors rock the recording studio, or light up the fashion runway.

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Different blob abilities, and ten different power-ups. What the game lacks in depth, it makes up for in production value. It offers original music and sound effects, great animation and graphics, and an interesting twist on an old idea.

The Bottom Line If you're looking for a complicated game you can really immerse yourself in, Dr. Blob's Organism isn't for you. But if brainless arcade fun is more your style, give this game a try.

Gauntlet Revisited
Hollow Ground is the gruesome, but worthwhile, first release by Swedish game developers Aescapia AB. While it has some amateurish angles, it will definitely appeal to old-school gamers who want to capture a piece of their past.

The story line is fairly standard: Earth is in shambles after destructive wars; the environment is ruined; and there's a big, ugly monster generator hidden in an underground bunker hundreds of feet below the surface—and only you can destroy it. But to do that, you'll have to make your way through 40 levels of chaos and destruction.

You can choose from one of four characters, each of which has different strengths and weaknesses. You'll find power-ups along the way that can juice up your weapons and defenses, or you can buy them between levels using credits you collect.

Hollow Ground's developers may get mad at me for saying so, but this game reminds of me of nothing so much as the classic arcade game Gauntlet. One reason is the game's perspective: like Gauntlet,

First Look: ToySight

By the time you read this, Freeverse Software should be ready to release what may just be one of the coolest uses for Apple's iSight. ToySight is software that turns any compatible FireWire camcorder into a game controller www.toySight.com

Inspired at least in concept by a Sony PlayStation 2 peripheral called the EyeToy, ToySight puts you in the game by letting you control sliders and target reticles using physical gestures. There's also a toy mode that's great for parties: activate it, and you can turn on special effects that make you look like a ghost or show sparks flying from your fingers.

I've played with a development version of ToySight and can say it's a terrific amount of fun. The included games are varied. They'll test your skills, and they look great. The games also feature a soundtrack that's sure to keep your toes tapping. I hope Apple catches on to how cool this is and offers Freeverse and ToySight's developers Strange Flavour, a bundle deal—everything you need to play with ToySight at least once.

Classic arcade game Gauntlet. One reason is the game's perspective: like Gauntlet,

DR. BLOB'S ORGANISM
RATING: 4
PROS: Unique twist on an old favorite.
CONS: Shallow game play.
PRICE: $10
OS COMPATIBILITY: Mac OS X
COMPANY: Digital Eel, www.digital-eel.com

 Weird Science Keep the giant protozoan from oozing off the petri dish in Dr. Blob's Organism.
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Be a Player

EVEN THOUGH MAC OS X IS A MULTIMEDIA POWERHOUSE, we've all encountered movies that just won't play correctly—or at all. The next time QuickTime balks at playing a movie, don't fret. Instead, try the free MPlayer OS X 2.0b6 (http://mplayerosx.sourceforge.net), the OS X distribution of The Movie Player for Linux.

Using MPlayer OS X, you can play almost any video or audio file—the list of supported formats includes various MPEG audio and video, DivX, AVI, ASF, Ogg Vorbis, RealMedia, QuickTime, AC3, WMA, WMV, and 3ivx. And unlike QuickTime Player, MPlayer lets you use the keyboard’s left- and right-arrow keys to scan backward and forward, respectively.

MPlayer OS X’s playlist feature allows you to play movies one after another or in loop mode. It also lets you change the order of video clips by simply dragging them up or down in the list.

Although most people will likely prefer the polished interface of OS X’s QuickTime Player, MPlayer OS X is a good tool for the files QuickTime just can’t seem to figure out.

A Scroll in the Park

Many third-party mice have scroll wheels that facilitate scrolling through documents, but I’ve long wished that my keyboard had scroll-up and scroll-down keys right next to the page-up and page-down keys. If you’ve ever had the same wish, Marc Moini’s $15 Smart Scroll X 1.1b1 (www.marc moini.com/ss_en.html) may be just what you’re looking for. With it, you use various combinations of the shift, control, option, and space keys to easily scroll up, down, left, and right without ever moving your hands off the keyboard.

Smart Scroll X’s preference pane lets you choose the key combination for each direction, as well as for a Next feature that lets you change which pane you’re scrolling—for example, if you want to switch between the mail list and message text in Mail. If you forget the key combinations you’ve chosen, Smart Scroll X can show you an on-screen guide to your keys.

The only downside to Smart Scroll X is that some applications—such as Microsoft Word—have built-in keyboard commands that overlap possible scrolling commands. To use Smart Scroll X with one of these applications, you’ll need to choose different settings or change the application’s own commands. But if you can get over that minor hurdle, Smart Scroll X is often faster (and easier on your hands) than using the scroll bar.

The Quickie

We’ve already covered the free and useful QuickImageCM contextual-menu plug-in (http://www.macworld.com; October 2003), which allows you to view and edit image files quickly in the Finder. QuickImage’s developer, Picture Studio, has released a similar free plug-in for movie files, QuickPlayCM 1.0 (www.picture.com). It lets you view any QuickTime-supported movie file in the Finder by control- or right-clicking on the file and selecting QuickPlay from the contextual menu. You don’t get any editing features like those QuickImageCM offers, but you do get the quick-view ability.

The feature set is fairly basic, but the simplicity means that iRecordNow is easy to use and convenient for recording short video clips.
**Pop Goes the Finder**

I'm a sucker for contextual menus, especially those that make it easier to access files, folders, and programs. So I've become a big fan of Balance Software's $15 Ittec 2.1 (http://www.balance-software.com/ittec/), inspired by the popular utility FinderPop OS 9.

With Ittec installed, control-clicking (or right-clicking if you have a multibutton mouse) on a folder in the Finder brings up a contextual menu listing that folder's contents (including other folders, which appear as hierarchical menus). Ittec can even show the contents of Stuffit archives and OS X packages. If you control-click on a window—including the desktop—the contents of that window appear in the menu.

You can configure the Ittec contextual menus in many different ways. You can add mounted volumes, open windows, the Classic desktop, your Home folder, and any items in the Ittec Items folder (in your personal Library folder). You can also include hidden and invisible files—items you can't normally see in the Finder—in Ittec listings. You can even include running applications, making contextual menus useful as a quick way to switch to an application. Ittec even lets you configure particular keys to perform actions on selected files—show, open, print, copy, or delete—directly from the menu.

**AvantGo Returns**

One thing I love about my Palm is its ability to download Web content from AvantGo. Unfortunately, AvantGo still doesn't have an OS X conduit, so Mac users are out of luck (AvantGo blames Apple and Palm, but every other major conduit maker has had OS X for Classic, they both deserve praise.—JOHNATHAN SEFF).

For people who don't like having to control- or right-click to see contextual menus, Ittec provides the ability to access contextual menus by holding down the mouse button (great for people who use single-button mice and trackpads). Ittec also lets you choose a different font and font size for contextual menus— I much prefer smaller type so longer contextual menus don't scroll off the screen.

**Burn, OS X, Burn**

DiscBlaze gives you some of Toast's high-level features, without its big price.

Unfortunately, I don't have enough space to cover all of Ittec's myriad features here. But if Ittec's functionality is up your alley, you'll be hooked in no time.

**Burn Better**

OS X can burn CDs and DVDs without additional software, but it does so in a fairly limited manner. If you don't need all the features of the $100 Toast 6 Titanium (http://www.toast.com/products/titanium/; December 2003), check out Radical Breeze's $19 DiscBlaze 2.1.1 (http://www.radicalbreeze.com/blaze/index.html). It expands on OS X's abilities and provides all the functionality many users will ever need.

Just insert a blank disc (choose Ignore if OS X asks you what to do with it), and then drag files or folders into the DiscBlaze window to add them to the disc. DiscBlaze lets you select from four disc formats—Mac, PC, Mac And PC Hybrid, and ISO 9660—from a pop-up menu. If you select the Hybrid format and then select an item in the window and click on the Info button, you can choose whether to make the item visible on a Mac, a PC, or both. In other words, you can create CDs that show up one way on one platform, and another way on the other.

When it comes to burning, you can allow multiple sessions on the same disc and choose whether to verify the disc afterward. DiscBlaze can also erase rewritable (RW) discs, and even burn Toast disc images.

If you don't need Toast's bells and whistles—and if OS X supports your drive—give DiscBlaze a try.

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**Contributing Editor DAN FRAKES** (www.danfrakes.com) is the author of Mac OS X Power Tools, Panther Edition (Sybex, 2004) and an editor at MacFixIt.com. Send your thoughts on this column, or on things you'd like to see in future columns, to macgems@macworld.com.
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20 YEARS OF THE MAC
TWENTY YEARS AGO, in the wake of a remarkable (and somewhat perplexing) Super Bowl commercial, Apple Computer introduced the Macintosh. Just as the company’s Apple II had ignited a personal-computing revolution several years before, the Macintosh—a combination of new concepts such as Xerox PARC’s graphical user interface and Douglas Engelbart’s mouse—completely changed how people interacted with their computers. This product that was designed, famously, “for the rest of us” became the most influential computer in the industry’s history.

Twenty years later, Apple and its leader, Steve Jobs, continue to influence the way we use technology. Most recently, the iPod and iTunes radically changed the way we listen to and purchase music.

And now, 20 years after the first issue of Macworld appeared alongside that iconic Apple computer, we take a look at the past, with a timeline of the events that have affected us all. We also examine how Apple is changing the world around us, in essays by several well-known writers who have appeared in our pages over the years. And Macworld’s staff share their Mac experiences and reflect on Apple’s history. But if Apple has taught us anything in the past two decades, it’s that if you peer back in time, you’ll miss the true excitement—which is in the future, where the next “insanely great” innovation awaits us all.—JASON SNELL, EDITOR IN CHIEF
Do you have any general thoughts about the 20th anniversary of the first Macintosh? All I can say is, I think the Mac reinvented the personal-computer industry in the eighties, and Microsoft copied it in the nineties—and that's been a big success for them, too. We finally got out ahead again with Mac OS X, and I think you'll see Microsoft copying that in the future.

Can you draw any parallels between what Apple was doing in creating the Mac back in 1984 and what you're doing today with the iPod and iTunes? I feel Apple's in a really wonderful, innovative stage right now, where we're innovating in a lot of areas. I mean, I think Mac OS X is huge. I think that you're seeing us, with the Power Mac G5, being the most powerful personal computer out there. And we've got a lot more where that came from. We've got the best portable out there. And we have the iPod and the iTunes Music Store. And we have our iLife applications. We declared that we thought the next big thing for the personal computer was the digital hub three years ago, right?

Right. And now you see Microsoft, HP, and the rest—Oh, everybody's copying it now. And we're quite a ways ahead of everybody. So I think Apple has had a good hand in setting the direction for the whole industry now, again. And that's where we like to be.

Apple's coverage in the mass media tends to focus on iTunes and the iPod, of course they run on Windows as well. But the bulk of Apple's business is the Mac. And the Mac is still a major part of where Apple is going in the future. Of course.

Do you have any other thoughts about where your competitors are taking their strategies? For example, Windows Media PCs are computers attached to TV sets. Well, we've always been very clear on that. We don't think that televisions and personal computers are going to merge. We think basically you watch television to turn your brain off, and you work on your computer when you want to turn your brain on.

Are there some complementary aspects to it? Well, they want to link sometimes. Like, when you make a movie, you burn a DVD and you take it to your DVD player. Someday that could happen over AirPort, so you don't have to burn a DVD—you can just watch it right off your computer on your television set. But most of these products that have said, "Let's combine the television and the computer!" have failed. All of them have failed.

I don't understand why you'd want to mouse around on your TV set. The problem is, when you're using your computer you're a foot away from it, you know? When you're using your television you want to be ten feet away from it. So they're really different animals.

Over the years, the media and analysts have always focused on market share. But although Mac market share is relatively small, Apple is profitable and is making products that affect the entire industry. Apple's market share is bigger than BMW's or Mercedes's or Porsche's in the automotive market. What's wrong with being BMW or Mercedes?

So you're very comfortable with Apple as it is today. I think we're having fun. I think our customers really like our products. And we're always trying to do better. But I think we're leading the industry and we're having a good time.
This essay by Steve Jobs originally appeared on page 135 of the premier issue of Macworld, in 1984. The Apple cofounder was one of numerous Apple employees to contribute to the first issue.

THE PEOPLE WHO ARE DOING THE WORK are the moving force behind the Macintosh. My job is to create a space for them, to clear out the rest of the organization and keep it at bay. I can’t spend enough time here, unfortunately, because I have other responsibilities. But every spare moment I have, I dash back because this is the most fun place in the world.

This is the neatest group of people I’ve ever worked with. They’re all exceptionally bright, but more importantly they share a quality about the way they look at life, which is that the journey is the reward. They really want to see this product out in the world. It’s more important than their personal lives right now.

The Macintosh is the second thing in my life that’s ever felt that way. Opportunities like this don’t come along very often. You know somehow that it’s the start of something great. So everyone wants it to be perfect and works really hard on it. Everyone feels a personal responsibility for the product.

The Macintosh is the future of Apple Computer. And it’s being done by a bunch of people who are incredibly talented but who in most organizations would be working three levels below the impact of the decisions they’re making in the organization. It’s one of those things that you know won’t last forever. The group might stay together maybe for one more iteration of the product, and then they’ll go their separate ways. For a very special moment, all of us have come together to make this new product. We feel this may be the best thing we’ll ever do with our lives.
20TH ANNIVERSARY OF THE MAC

THE MAC IS NOT A COMPUTER
By Adam C. Engst

DESPITE APPLE'S MARKETING of the G4 "supercomputer on a chip" and Virginia Tech's supercomputer built from 1,100 Power Mac G5s, the Mac will always be remembered for its influence on communication, not on number crunching.

From the moment Steve Jobs pulled the first Macintosh from a bag in 1984, it was communicating—literally. And Apple bundled MacWrite and MacPaint with those first Macs, starting a desktop-publishing revolution.

By the mid-1990s, the next communications revolution was underway: the Internet. From the vantage point of writing four editions of Internet Starter Kit for Macintosh, I saw the Macintosh make Internet communication accessible to ordinary people. That's been a lasting legacy—many people use their Macs primarily for e-mail, Web access, and instant messaging.

With Mac OS X, Apple has further integrated Internet communications into the Mac. Mail, Safari, and iChat have become instant standards, and the iSight can't be beat for video chats showing off Junior to Mac-savvy grandparents.

Apple's Internet-based services are also all about communication. Apple revolutionized the online-music world by seamlessly integrating the iTunes Music Store into iTunes, and .Mac enhances OS X and the i-apps with features such as file sharing via iDisk and Web photo publishing via iPhoto's HomePage button. The trend should continue, with Apple helping us manage Internet communication through easy-to-use Mac applications in place of generic Web browsers.

I'm also watching Apple's core communications technologies, such as AirPort, Bluetooth, Rendezvous, iSync, Address Book, and iCal. They make many other things possible—an AirPort Extreme-equipped Mac with iChat and an iSight is a Jetsons-style communications panel. Bluetooth-based cell phones provide Internet connections on a PowerBook anywhere your cell phone has service, and Rendezvous helps network devices such as the TiVo Series2 connect with iTunes and iPhoto. The integration of iSync, Address Book, and iCal hints that—someday—we may be able to share information easily between applications, devices, and people. Then perhaps activities like arranging a dinner at a conference won't require trading contact information via e-mail and cell calls asking, "Where are you?"

What's next? Identity. Apple is one of the few companies that could promote and integrate an Internet-based open standard approach to solving the identity problem, eliminating the cacophony of e-mail addresses, phone numbers, and screen names we're saddled with today. That would be another lasting legacy for the Mac.
ON JANUARY 24, at the annual stockholders' meeting, every one of the 2,571 seats at the Flint Center at De Anza College (a mere microchip's throw away from the Apple campus) were filled, and latecomers had to settle for cyberspace seating, via a specially arranged telecast. The first four rows had long been reserved for the Macintosh team, garbed in the latest of the seemingly limitless variations of the Macintosh T-shirt. At ten o'clock, in strolled Steve Jobs, wearing a double-breasted jacket and a red bow tie. He recited a verse from Bob Dylan's "The Times They Are A-Changin'." Then, since this was the official stockholders' meeting and only unofficially a high-tech revival meeting, he brought on some Apple directors to conduct some corporate business. The trivialities of a business enjoying its first billion-dollar year disposed of, Jobs reentered and introduced himself. The mounting hysteria in the room as he spoke was reminiscent of Ed Sullivan's crescendoed introduction of the Beatles almost exactly twenty years before.

The lights dimmed and the "1984" commercial came on. After that sixty-second apocalyptic, Jobs slowed his cadence. He spoke about the amazing attributes of the product he was about to announce. Then the crowd began to come alive again, as the speakers boomed the neo-Wagnerian strains of Vangelis's score from Chariots of Fire.

And out of a canvas bag, Steven Paul Jobs pulled out the computer that meant the future of his company, and portrayed something for all our futures. "I'd like to let the Macintosh speak for itself," he said. The synthesized sound capabilities of the machine were up to the challenge. "Hello," it said, "I am Macintosh."

"It sure is great to get out of that bag."

STICKIES: "I have a terrible memory. With Stickies, I jot down reminders whenever they occur to me, and they're always right there, on my desktop, impossible to ignore."—Terry Stone, senior editor

GRAPHIC CONVERTER: "I would challenge anyone to find an application, commercial or shareware, that offers a better upgrade-cost-feature-addition ratio than Graphic Converter."—Peter Cohen, senior editor, maccentral.com

MACPAINT: "Nothing, ever, will beat MacPaint for me. I could draw with my mouse! I could make mirror patterns that looked like mirrors all aimed at each other! Then I could print it out on my dot-matrix imageWriter until the ribbon ran out!"—Rene Berger, senior editor

MICROSOFT EXCEL: "The code name for version 1.0 was Mr. Spreadsheet, and it was an apt name—it was the best application of its class on any platform from the moment it came out. It was the second Mac application (PageMaker was the first) that made me realize that the Mac would be a computer I could use for the long haul."—Rick Lepage, president

ADOBE PHOTOSHOP: "I always liked the idea of a totally digital photographic workflow. Combined with a digital camera and a photo printer, I never had to wait for a poorly exposed picture to come back from the lab."

IMovie: "It's easy enough to make awesome movies without having any talent whatsoever."—Kelly Lunsford, senior associate editor

This article is excerpted from Steven Levy's Insanely Great (Viking, 1994). Reprinted by arrangement with Penguin Group (USA), Inc.

STEVEN LEVY is a senior editor at Newsweek, the author of four books, and a former columnist for Macworld.

Adobe Illustrator 88
20TH ANNIVERSARY OF THE MAC

PETER COHEN’S EIGHT FAVORITE GAMES

MARATHON: Bungie is still worshipped and adored for this all-time classic.

MAELSTROM: I offered this game to PC-using friends as an example of why shareware didn’t have to suck.

DARK CASTLE: I can’t think of any game that exemplifies “old school” Mac gaming more than this one. At a time when PC gaming was still beeps and blips on a four-color screen, this game had 512-by-384-pixel resolution, digitized sounds, andkiller game play.

WARCRAFT III: REIGN OF CHAOS: It was released simultaneously for Mac and PC, with editing software (for once). Also, it’s just a ridiculously ass-kicking strategy game.

MYST: The game sports achingly beautiful graphics and puzzles that took hours, sometimes weeks, to solve.

QUAKE III ARENA: This game represented a seminal shift in the Mac gaming market, because its existence—or rather, the existence of its core game engine—has allowed so many other Mac games to flourish.

UNREAL, UNREAL TOURNAMENT: The list provided new-product announcements from developers, tips and tricks for evangelizing, success stories, and profiles. The list quickly grew to 44,000 subscribers. In some darker moments, the list brought torrents of e-mail down upon journalists when I pointed members to news stories that unjustly criticized other folks who went forth and convinced software developers to write Macintosh versions of their products.

THE EVANGELIST

By Guy Kawasaki

THE LIST OF MACINTOSH firsts is long, interesting, and debatable, but not even the high priests of Xerox PARC can debate one thing—the Macintosh established evangelism as a secular business technique.

The word evangelism is Greek (as opposed to Geek) in origin—it means “bringing the good news.” Prior to the year 1 B.M. (that is, 1983), evangelism was considered a way to spread the good news of the holy gospel and to save people from evil.

On a smaller scale, the Macintosh Division of Apple believed that it, too, was bringing good news and saving people from evil. So it applied the term evangelist to me and other folks who went forth and convinced software developers to write Macintosh versions of their products.

The evangelism concept spread to other Macintosh constituencies, namely user groups. These hardy souls banded together to sell, service, and support the Macintosh when Apple was unable or unwilling to.

Your Mac represents not only innovations in hardware and software, but also innovations in sales and marketing.

One example of the power of evangelism occurred in 1995—yet another year when “bleeguered” Apple was supposedly about to die. Apple created an e-mail list called Evangelist to counter the seemingly endless supply of bad news about Apple and the Macintosh in the computer and business press.

The list provided new-product announcements from developers, tips and tricks for evangelizing, success stories, and profiles. The list quickly grew to 44,000 subscribers. In some darker moments, the list brought torrents of e-mail down upon journalists when I pointed members to news stories that unjustly criticized other folks who went forth and convinced software developers to write Macintosh versions of their products.

Former Apple Fellow
GUY KAWASAKI is the CEO of Garage Technology Ventures.

1989–1994

FEBRUARY The Beatles’ Apple Corps recording company sues Apple Computer for marketing products with music synthesizing capabilities, claiming a violation of a 1981 trademark-consent pact. It won’t be the last legal dispute between the two Apples.

JUNE Microsoft releases Office 95.

MARCH Low-cost laser printers, including the StyleWriter and the Personal LaserWriter LS, debut.

MAY Apple announces QuickTime, a new system-software architecture for the integration of dynamic media.

NOVEMBER Michael Spindler becomes Apple’s president.

1989

MACINTOSH THE most expensive
Mac ever was "iMac,"
$2499 (base model).
HIGH-END PERFORMER:
$3599

MACINTOSH PORTABLE
The first (almost) laptop Mac:
BINARY (68000 Processor,
400 MHz hard drive (optional),
128MB RAM, 100 MB, $5,500.

FEBRUARY Adobe introduces Photoshop.

1990

November
Michael Spindler
becomes Apple’s president.

1991

POWERSHAKE III
The first (modest)
laptop Mac:
RM/G4, 400 MHz processor,
128 MB RAM, 40 MB hard drive,
$1,500

MARCH Powerbook 100
The first (modest)
laptop Mac:
RM/G4, 100 MHz processor,
384 MB RAM, 40 MB hard drive,
$1,500

Adobe Photoshop®
JONATHAN SEYBOLD, founder of the influential Seybold Seminars, says that when Steve Jobs showed him the Macintosh, he was convinced it was the future of not only computing but also publishing. “It was very clear to me that the distinction between computing and information science and graphic arts would just go away,” he says.

In the summer of 1984, Jobs called Seybold. “Steve wanted to see me urgently,” he recalls. “He said they had a deal with Adobe, they were signing a deal with Linotype, they had real fonts. I went to Cupertino and walked into this tiny room, and there stood Jobs and [Adobe co-founder John] Warnock with a Mac and a LaserWriter. He showed me what they were up to. I turned to Steve and said, ‘You’ve just turned publishing on its head. This is the watershed event.’ When I turned to John, he had this look on his face. He was just so happy. I could tell he was thinking, ‘This made the company. This is my validation.’ It was a magic moment.”

It was the end of 1984, and the stage was set for the introduction of the Apple LaserWriter. The LaserWriter debuted to great fanfare at Apple’s annual stockholder meeting on January 23, 1985, where Steve Jobs’s legendary showmanship was on display. On stage, the Pointer Sisters belted out “I’m So Excited.” In the audience were all 27 Adobe employees who had made the trip to Cupertino’s Flint Center after toasting the culmination of their two-year effort at Adobe’s office the evening before. The jubilant engineers who had toiled in obscurity were seeing their product in a forum where they could gauge the public’s reaction to it.

“You couldn’t walk out of there not feeling you were doing something great,” says Dan Puttman, Adobe employee number 2 and former senior vice president of the North American systems division. The LaserWriter cost $6,995—steep by today’s standards, yet astoundingly cheap compared with the IBM and Xerox laser printers of the day, which cost three to ten times that. Plus, the LaserWriter had Adobe’s special ingredient: Postscript. Almost immediately, analysts commented on the LaserWriter’s output, praising its “near-typeset quality.”

With the release of the LaserWriter, Adobe Systems was on the corporate map. The two soft-spoken scientists [cofounders Warnock and Geschke] were thrust into the media spotlight, fielding interview requests to explain why the world’s second-largest computer company had bet its future on an unknown startup.

When three upstart companies—Adobe Systems, Aldus Corporation, and Apple Computer—joined forces to create desktop publishing in 1985, shock waves rumbled through the publishing world. Thanks to the combination of the Apple Macintosh, Aldus PageMaker, and the Adobe PostScript-equipped LaserWriter, publishing was liberated from the confines of proprietary typesetting and printing systems.

PAMELA PFIFFNER is the editor in chief of creativepro.com, and was formerly the editor in chief of MacUser and Publish.
SEVEN REALLY BAD IDEAS

APPLE LASERWRITER SELECT 310: “Also known as the Apple LaserWriter Select 300’s evil twin, this printer was slow, noisy, and costly.” — JASON STINKER.

POWER MAC G4 CUBE: “Beautiful, elegantly designed, and aimed at the wrong audience.” — RICK LEPAGE, PRESIDENT AND CEO OF APPOINTMENT.

PIPPIN: “A Mac-based game machine. Talk about a stinker.” — JASON STINKER, EDITOR IN CHIEF.

GIL AMELIO’S LAST MACWORLD EXPO KEYNOTE: “The most excruciating three hours I’ve spent in the Mac market.” — RICK LEPAGE, SENIOR EDITOR.

POWERBOOK 5300: “A Powerbook that burst into flames seemed like a poorly executed idea.” — PHILIP MICHAELS, SENIOR EDITOR.

BILL GATES AT MACWORLD EXPO: “The 1997 Macworld Expo Boston keynote address where Bill Gates appeared on screen was an image straight from the ‘84 commercial. It fell as if all the air got sucked out of the room. I understand why Jobs did it and what its significance was, but I just wish that Bill hadn’t been on that screen.” — PETER COHEN, SENIOR EDITOR.

DESIGNER IMACS: “Tangerine is hard enough to accessorize. But the ‘Flower Power’ and ‘Blue Dalmatian’ Imacs didn’t go with anything. In what decorator’s nightmare were these Imacs supposed to find homes? These garish products are a notable exception in Apple’s history of elegant design.” — CHARLES PURDY, MANAGING EDITOR.

If Apple produced a safe, dull-looking machine, the company would, I think, be shocked by its success.

JOHN C. Dvorak is a contributing editor of PC Magazine and a former MacUser columnist.

YES, THERE IS A CONTINUING BATTLE between the PC and the Mac. But as someone who has followed this battle for nearly two decades, I have to conclude that it’s all about aesthetics—nothing more.

It must have been 20 years ago that someone first derided the IBM PC as being designed in the image of its users—bookkeepers. This implied a dull, colorless individual without much interest in the look of things. I know that not all bookkeepers are dull—but the world of the PC generally is. It’s more than a little galling to many PC users that the simple good taste of the Mac seems to mock them from nearby desktops.

But consider the users of the respective machines. The Mac has corralled all the creative types—artists, writers, designers—and ease of use is supposed to be part of the reason. However, I know many artists who have souped-up Macs that would make a hacker proud. They worked hard to put together these screamers, using accelerated chips, chains of weird drives, and tons of extra memory. The only people on the PC side who go through this much trouble are the gaming minority who have elaborate case-mod machines with blinking lights. Plunk down one of those PC hot rods in most offices, and you’d have the PC police at your desk in five minutes, demanding that you take the thing off the network and off the premises. All the while, nobody says anything to the folks in the art department about their “off-spec” Macs.

Of course, I’ve seen little evidence that any office PC user would have the veneer to do a case modification—let alone bring it to the office.

Choosing a Mac over a Mac is choosing beige over metal—or beige over anything. The PC has the big market share because it’s the safe choice. If Apple produced a safe, dull-looking machine, the company would, I think, be shocked by its success. Thank goodness it doesn’t.

1995-2000

FEBRUARY: The Supreme Court declines to review Apple’s copyright-infringement case against Microsoft, ending the seven-year legal dispute.

OCTOBER: The first multi-processor Mac ships—but not from Apple. DayStar Digital’s DayStar Genesis MP/828 features four 122MHz PowerPC 604 processors (price: $10,000).

NOVEMBER: Following the release of Toy Story, Pixar goes public. The 50 million shares Steve Jobs owns are worth an estimated $1.17 billion.

FEBRUARY: Gil Amelio becomes the chairman and CEO of Apple, replacing Michael Spindler.

MAY: Internet Explorer 2.0—the first Mac version of Microsoft’s Web browser—ships.

JULY: Jeff Goldblum uses a PowerBook 5300 to save the Earth from invading aliens in Independence Day.

AUGUST: Apple gets into the multi-processor game with the dual-100MHz Power Mac 9500. Apple won’t release another dual-processor machine for four years.

1996

1997

JANUARY: Apple unveils plans for a new OS that incorporates NextStep; it’s code-named Rhapsody.

JULY: Gil Amelio resigns from Apple.

AUGUST: The satellite-beamed image of Bill Gates shares the Macworld Expo stage with Jobs, as Microsoft and Apple announce a five-year technology alliance.

SEPTEMBER: Jobs becomes the interim CEO.

In a move to kill off the Mac clone market, Apple buys Power Computing for $100 million.
WHEN APPLE FLOPS, IT FLOPS BY THINKING TOO FAR AHEAD.

In 1996, Apple attempted to get into the video-game/thin-computer market with the Pippin. The Pippin was a disaster—a complete and utter failure from both a business and a creative standpoint. It looked a lot like a $60 VCR, but it would have cost about 13 times more. (And it would have run about as many games as a VCR.) The only truly smart move Apple made throughout the entire development of this product was to shut it down before actually shipping: if the Pippin had shipped, federal troops would have had to intervene—to protect the nation from Apple, and to protect Apple from itself.

I also seem to recall that at one stage in Apple’s history, you could buy a sailboard with the Apple logo on it. But apart from the Pippin and the sailboard, Apple hasn’t produced a single failed product in 20 years.

“What about the Newton?” you ask. What about it? As of September 2003, more than 30 million Palm OS devices have been sold. The Newton wasn’t the first computer to use a pen, but only Apple could have invented the PDA. The company quickly understood how to make it work: make it the size of a person’s palm; create a whole OS around pen gestures; and focus on intimate, personal software.

Well, then—how about the Mac Portable? Obviously, there are one or two downsides to a portable computer the size and weight of a concert accordion. But think about why it was so big and heavy: Apple looked at where the portable market was going and gambled that users were no longer interested in having a portable accessory to their desktop computer. They wanted a real Macintosh that could be used at home, in the office, in a hotel room, and along every vector in between. So the Portable had to have a real keyboard, a comfortable screen, a credible processor, ample storage, and enough battery life to make it worth the trouble. And that’s exactly where notebooks are today.

You see where I’m going here? Apple has an idea ahead of its time, and someone else takes the hint and runs with it. And here we’ve just been talking about Apple’s commercial failures. Apple redefined the standard for computing with the Apple II, and then did it again with the Mac. Apple created the iMac; then, all of a sudden, kitchens all over the country had food browning in brightly colored George Foreman grills.

Other technology companies can be likened to the Beatles or Elvis Presley. They might sell more records, but Apple’s the modest Delta bluesman who created rock and roll in the first place. Nothin’ happens until Apple strums the chords and shows everyone else music is headed.

Contributing Editor ANDY IHNATKO is the technology columnist for the Chicago Sun-Times and a former columnist for MacUser and Macworld.
MACS TURN UP IN THE MOVIES ALL THE TIME—not so much because of product placement, but because so many movie people use them and like them. A historian of the future, counting all the on-screen computers between 1983 and today, would likely conclude that Macs represented 90 percent of the computer market.

Alas, this is not so. But since any reasonable person would choose a Mac over a PC, Apple’s market share does provide us with an accurate reading of the percentage of reasonable people in our society.

Yet the Mac’s role in the actual making of movies is far larger than the PC’s. Macs are in editing suites, sound studios, and musicians’ mixing rooms. Writers use them, agencies create ads and trailers on them, Web pages are designed on them—and movies are literally made with the Mac.

Using desktop Macs and homegrown software, a group of filmmakers in Austin, Texas, revolutionized the world of animation—taking an art form that was once painstaking and expensive, and putting it within the reach of anyone with, say, a digital-video camera, a Mac, and a lot of imagination.

As anyone can see, a movie shot on a consumer digital camera looks like, well, exactly that. The color and detail are murky, the depth is lacking, and the movie is clearly not ready for prime time. Richard Linklater’s Waking Life (2001) is one of the most influential of all modern films—because, first, he showed how to make, in postproduction, a consumer-camera digital film look like a commercial, theatrical-quality film, and second, he demonstrated that inexpensive feature-length animation was within the reach of ordinary filmmakers.

The movie follows its hero through Austin after a traumatic event sends him on an odyssey. He seeks truth and insight through conversations with a variety of talkative thinkers. Linklater filmed these conversations and then farmed out each encounter to a different Mac animator. Using rotoscoping—inspired software devised by Bob Sabiston, Linklater’s animation director—the animators applied their personal artistic styles to their segments, so the film is like a group show.

Animation no longer requires thousands of hours of hand-drawn cells, or rooms filled with microstations. There will always be a role for those approaches, and they will remain the animation mainstream. But the Mac makes high-quality animation possible for anyone with an artistic vision to express.

ROGER EBERT is a Pulitzer Prize–winning film critic for the Chicago Sun-Times and a cohost of the TV show Ebert & Roeper.

2001-2003

- January: iLife—a suite that includes iPhoto, iDVD, iMovie, and iTunes—debuts, along with Safari, an Apple-built Web browser.
- May: With the release of the Xserve, Apple makes its first push into the server market since its Network Server product line. The Xserve is the first Apple machine to include Double Data Rate (DDR) RAM (price: $2,999–$3,999).
- September: The newest operating system gets a needed update with OS X 10.1.
- October: Apple enters the portable-music business, unveiling the first iPod music player.
- April: Apple makes a splash in the music world, with the iTunes Music Store, an online music service where users can legally download more than 200,000 songs for as little as 99 cents each.
- October: The latest update to OS X—code-named Panther—brings 150 new features and enhancements to the operating system.
Think of them as a Mute button for the world around you. Whether it's the engine roar on airplanes, noise of the city, bustle in the office or the blare of neighborhood yard work, these headphones let you hush them all. And they do it with the flick of a switch. You savor delicate musical nuances in places you couldn't before. And when you're not listening to music, you can use them to quietly enjoy a little peace. Clearly, Bose QuietComfort® 2 headphones are no ordinary headphones. It's no exaggeration to say they're one of those things you have to experience to believe.

Reduce noise with Bose technology. David Carnoy reports on CNET that our original noise-reducing headphones "set the gold standard." And according to respected columnist Rich Warren, our newest headphones “improve on perfection.” They electronically identify and reduce noise while faithfully preserving the music, speech or silence that you desire. As Jonathan Takiff reports in the Philadelphia Daily News, “Even in the noisiest environment, wearing these phones creates a calming, quiet zone for easy listening or just snoozing.”

Enjoy your music with our best headphone sound quality ever. After trying QuietComfort® 2 headphones, audio critic Wayne Thompson reports that "Bose engineers have made major improvements." The sound is so clear, you may find yourself discovering new subtleties in your music. CNET says “All sorts of music – classical, rock, and jazz – sounded refined and natural.”

“QuietComfort 2 lives up to its name, enveloping you in blissful sound in the utmost comfort. It’s easy to forget they’re on your head.” That’s what columnist Rich Warren says. And as Ivan Berger reports in The New York Times, the "QuietComfort 2 offers more conveniences than the original model." You can wear them without the audio cord to reduce noise. Or, attach the cord and connect them to a portable CD/DVD/MP3 player, home stereo, computer or in-flight entertainment system. When you’re done, their convenient fold-flat design allows for easy storage in the slim carrying case.

Try the QuietComfort® 2 headphones for yourself risk free. We don’t expect you to take our word for how dramatically these headphones reduce noise, how great they sound and how comfortable they feel. You really must experience them to believe it. Call toll free to try them for 30 days in your home, at the office or on your next trip – satisfaction guaranteed. If you aren’t delighted, simply return them for a full refund.

Use them as a concert hall – or a sanctuary.

Presenting The Bose® QuietComfort® 2 Acoustic Noise Cancelling® Headphones.

Call 1-800-399-2673, ext. Q2706 today. These headphones are available direct from Bose. Order now and you’ll receive a free portable Bose CD Player with skip protection – a $50 value. Be sure to ask about our financing options when you call. And discover a very different kind of headphone – Bose QuietComfort® 2 Acoustic Noise Cancelling headphones.
THE 19TH ANNUAL
EDITORS' CHOICE AWARDS
APPLE SET THE TONE FOR 2003 IN EARLY JANUARY, when it announced the Year of the Notebook. And the company certainly delivered, with releases of PowerBooks in multiple sizes to appeal to a wide array of Mac users. But 2003 also saw the launch of an Apple-backed online music service that made would-be rivals dance to Apple's tune. Meanwhile, Apple was busy readying a new generation of high-end desktops that would finally muscle aside the PC competition. And to say 2003 was just about laptops ignores the great programs—from software giants, as well as from lone developers cranking out applications from their homes—that continue to support the Mac. So with all the terrific hardware and software that became available in the last 12 months, maybe 2003 should be called the Year of the Mac User. After you examine the innovative and excellent products that earned our Editors' Choice Awards this year, we're sure you'll agree.
OTHER TOP HARDWARE PRODUCTS

BEST ALL-AROUND PHOTO PRINTER
If you want a printer that can give you attractive, detailed photos without leaving you twiddling your thumbs, look no farther than Canon’s 1960 PHOTO PRINTER ($200; www.usa.canon.com). This six-color printer offers an unbeatable combination of quality and speed.

BEST CONSUMER DIGITAL CAMERA
Canon’s POWERSHOT A80 ($499; www.usa.canon.com) is a crowd-pleasing 4-megapixel camera. The swiveling LCD viewfinder makes it easy to shoot from your hip—literally—and from most other angles, indoors and out. Point-and-shoot users will like the automatic features, but there’s also plenty of manual control for more-advanced users.

BEST DISPLAY
Few monitors do a better job at retaining consistent color from any angle than NEC’s MULTISYNC LCD2080UX ($1,700; www.necmitsubishi.com). The highly flexible 20-inch LCD monitor truly embodies the phrase “Editors’ Choice”; 15 MultiSync displays adorn desks at the Macworld offices.

BEST SERVER
Anyone involved in data-intensive work such as capturing and editing high-definition video should turn to Apple’s 2.52-terabyte XSERVE RAID ($10,999; www.apple.com). The impressive 2GB Fibre Channel server has awesome data-transfer rates and redundancy in most elements, so the Xserve keeps rolling if any component fails. It also offers multiplatform support at an unheard-of price.

HARDWARE

BEST DIGITAL SLR CAMERA
Digital SLR cameras offer top-notch performance, photo quality, and expandability. But they can also be very expensive. Until recently, the least-expensive digital SLR camera cost $1,499—out of reach for anyone but professional photographers. Canon’s release of the CANON EOS DIGITAL REBEL (www.usa.canon.com) changed that. At $999 ($899 without the optional 18mm–55mm lens), this impressive 6-megapixel digital SLR camera cracks the $1,000 barrier. The lightweight Digital Rebel accepts EF lenses and other accessories. It also offers full manual and automatic shooting modes, fast and accurate focusing, easy-to-navigate menus, and excellent picture quality.

BEST MAC NOTEBOOK
For a long time, Apple’s PowerBook philosophy was simple: The company sold one size. But in 2003, it split the PowerBook line into three models, with amazing results. Although each of Apple’s new aluminum-clad PowerBooks has its own strengths, our favorite is the 1GHz 12-INCH POWERBOOK G4 ($1,799; www.apple.com), which is as light as an iBook but has pro features such as digital video out and a SuperDrive. For people who loved the iBook’s size but desperately wanted the PowerBook’s kick, the 12-inch PowerBook seriously delivered.

INNOVATION OF THE YEAR
It stands to reason that if you want to revolutionize online music, you turn to the company that pulled off the same feat with personal computers. And make no mistake—Apple’s ITUNES MUSIC STORE (www.apple.com) represents a revolution in how people find, buy, and share online music. Before the iTunes store launched last spring, you had two options for downloading online music—get it legally from a source that severely crippled your right to listen to music you had bought and paid for, or use an illegal music-swapping service (if you could even find a Mac-compatible way to do either). Since the iTunes Music Store’s debut, competing services have aped Apple’s attractive pricing (just 99 cents a song) and its less restrictive approach to rights management. The imitators merely emphasize the obvious—Apple has set the gold standard for the online music experience.
CREATIVE

>> BEST VIDEO EDITOR

Video pros have embraced Apple's Final Cut Pro, with FINAL CUT PRO 4 ($999; www.apple.com) providing further reason to rejoice. The new RT Extreme feature gives you access to more real-time effects. Users can now fully customize keyboard shortcuts. Final Cut can finally capture across time-code breaks, and Apple has rebuilt the app's audio features. Version 4 includes four additional applications: Cinema Tools 2 (previously a $999 add-on), Compressor, LiveType, and Soundtrack. Coupled with the program's improvements, these side applications make Final Cut Pro 4 an impressive update.

>> SUITE OF THE YEAR

The new versions of Acrobat and Photoshop are particularly noteworthy, but the sum of Adobe's CREATIVE SUITE PREMIUM EDITION ($1,229; www.adobe.com) is greater than its parts. Integration between the seven programs in the suite lets you edit Illustrator and Photoshop files placed inside InDesign and GoLive projects without resaving and reimporting the image files. The new Version Cue has some rough edges, but even its critics would concede that it's an ambitious step toward managing file iterations that could benefit creative pros working in group settings.

>> BEST MOTION-GRAPHICS APPLICATION

It was easy to embrace AFTER EFFECTS PROFESSIONAL 6 ($999; www.adobe.com), thanks to a $500 price cut. But there's more to this updated animation and compositing tool than a lower price. Adobe added vector-based painting and a new text system with titling and text-animation capabilities rivaling those of Photoshop and Illustrator. The company also implemented OpenGL standards to speed up the display of 3-D effects. The Keylight keying tools were another excellent addition; before version 6, the Keylight tools were available only for $5,000 from The Foundry.

SOFTWARE OF THE YEAR

When 125 of the 126 e-mail messages in your in-box are unwanted ads for products claiming to increase or reduce the size of various body parts, you may want to run screaming from your Mac. The best way to keep these obnoxious messages at bay is the heroic Michael Tsai's SPAMSI/EVE 2.0 ($25; www.c-command.com). It uses the Bayesian filtering system to learn how to tell the difference between noxious spam and e-mails from your loved ones. And SpamsI/eve learns very quickly, so you see results right away. Unlike other programs, which force you to check a separate program for mismatched mail, you use SpamsI/eve right inside your everyday e-mail program. Forget spam about reducing body parts, and use SpamsI/eve to reduce something else: your spam count.

OTHER TOP CREATIVE PRODUCTS

BEST 3-D DRAWING SOFTWARE
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SKETCHUP 3.0 ($475; www.sketchup.com) puts intuitive and easy-to-master sketching tools into the hands of anyone who wants to create and visualize a 3-D structure, whether it's an 80-story high-rise or a tree house. Version 3.0's ability to export a QuickTime movie tour of any of your creations is a particularly impressive touch.

BEST DIGITAL-AUDIO AND MIDI APPLICATION

DIGITAL PERFORMER 4.1, from Mark of the Unicorn ($795; www.motu.com), offers an attractive interface for creating music in an OS X world. Its new Freeze feature lets you mix multiple audio tracks down to two tracks to reduce processor load and to work with more tracks.

BEST LITTLE MULTIMEDIA TOOL

Granted Software's REVISION 1.1 ($30; www.grantedsw.com) is an easy-to-use tool for synchronizing music from Propellerhead Software's Reason or Ableton's Live with QuickTime movies—an otherwise expensive and complicated task. It offers full transport control and a window that floats on top of your music session so you can visually match up your edits.

BEST PHOTOSHOP PLUG-IN

This simple but powerful PHOTOSHOP CAMERA RAW plug-in, from Adobe (www.adobe.com), won raves from professional and hobbyist digital photographers for giving them a simple but powerful way to tweak the raw image data captured by some high-
end cameras. The former plug-in is now built into Adobe Photoshop CS.

**BEST NATURAL-MEDIA PROGRAM**
Corel's **PAINTER 8** ($299; www.corel.com) only gets better with age. The interface in this latest version is more intuitive, with palettes moved and replaced so it's easier to find tools.

**BEST WEB-DESIGN TOOL**
Macromedia's **CONTRIBUTE 2.0** ($99; www.macromedia.com) arrived for OS X this year, and Mac users with minimal Web-design skills couldn't be happier. The Web-page editor lets nondesigners easily maintain a Web site, no matter what program the designer used in the first place. Even for Web-site administrators who need to keep a tight rein, Contribute is a dream—different users can receive different sets of permissions, and it supports the encrypted Secure FTP method.

**OTHER TOP CONSUMER PRODUCTS**

**BEST GAME**
MacSoft's **DUNGEON SIEGE** ($30; www.macsoftgames.com) offers a fresh take on an old genre by mixing the character-driven elements of role-playing games with heavy doses of action that requires squad-based strategy. The game's innovative graphics engine lets you keep the action going without having to wait for levels to load.

**BEST HANDHELD**
At a time when most new handhelds offer only minor updates, Palm's **TUNGSTEN T3** ($399; www.palm.com) combines great new features such as an expandable, rotating display and excellent usability changes to Palm OS.

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**CONSUMER**

**>> BEST INTERNET CLIENT**
As 2002 ended, the Web-browser situation on the Mac remained static. Internet Explorer was functional, but it wasn't that far removed from its OS 9 days. What a difference a year makes. As 2003 ends, **SAFARI 1.1** (free; www.apple.com) provides Mac users with a fast, stylish, and remarkably Web-compatible browsing experience. (Some quirks with certain financial and restricted-access sites remain, but given Apple's rapid development of Safari, we expect to see these problems fixed shortly.) From its integrated Google search bar to its productivity-boosting tabbed browsing, Safari has become our default Web browser. And let's not forget WebKit, the technology underlying Safari that lets other Mac applications display Web content with the same facility as Safari itself.

**PRODUCTIVITY**

**>> BEST MESSAGING CLIENT**
Apple's **ICCHAT AV** (free with OS X 10.3; www.apple.com) may look like a simple chat client, but combine it with a FireWire-enabled Web cam such as the $149 Apple iSight, and you get a top-notch videoconferencing tool. The sound and images you receive from iChat aren't the usual jittery blurs you may expect from online sessions—iChat supports full-duplex audio, so the sound won't drop, while its H.263 codec provides full-motion video at up to 30 frames per second in true 24-bit color.

**>> BEST E-MAIL CLIENT**
Sometimes what separates a great program from a good one is how well it plays with others. **MAILSMITH 2.0**, from Bare Bones Software ($99; www.barebones.com), offers plenty of features that appeal to power users—such as AppleScript-enabled customization and an improved database engine for easy message retrieval. But the e-mail client also offers tight integration with Apple's iChat and Address Book, so users can alert recipients to urgent e-mails and easily maintain one central address repository. Mailsmith also addresses concerns about privacy and junk mail: PGP and SpamSieve function seamlessly within the program.

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**HARDWARE OF THE YEAR**

Even the most fervent Mac partisan was having a hard time arguing that the Power Mac had kept pace with increasingly faster PCs—until Apple unveiled the **DUAL-2GHZ POWER MAC G5** ($2,999; www.apple.com). The dual-processor G5 not only fares well against Intel rivals, but also blows away the previous speed records of the Power Mac G4. Credit Apple and IBM for teaming up to develop the PowerPC 970, which increases the Power Mac's clock speed and brings the power of 64-bit processing to the Mac. The Power Mac G5 sports a winning design, from the innovative cooling system that keeps the machine from overheating to the easily accessible USB and FireWire ports on the front panel. But most important—with even faster G5s on the horizon that promise to keep pace with the Intel world—the Power Mac G5 makes it exciting to be a Mac user.
OTHER MAC BESTS

BEST SIMULATION OF TELEKINESIS
If you've got a Bluetooth-enabled cellular phone or Palm handheld, you've got all the hardware necessary to control your Mac remotely. Instead of adding a pricey remote-control gadget, just add Sailing Software's SAILING CLICKER 2.0 ($10 to $15; www.sailing.com). With Clicker, you can run a slide presentation, control iTunes, or do just about anything else you can think of—from afar.

BEST LABELING TOOL
Whether you're creating music compilations for the car or burning home movies to DVD, presentation counts. This year, Epson introduced an innovative line of photo printers that let you print labels directly on CDs or DVDs. Our favorite label-producing printer is the EPSON STYLUS PHOTO R300 ($179; www.epson.com). This six-color printer also produces attractive photos, offers individual ink cartridges, and includes media slots that let you print without involving a computer.

BEST METHOD FOR LIVENING UP THOSE LABELS
SmileOnMyMac's DISLABEL 1.2 ($30; www.smileonmymac.com) provides a familiar, feature-rich interface (think Apple's iTunes or iPhoto) for creating CD and DVD labels. You can create your own original designs, or download templates shared by other users and modify them for your own use. Even better, disclabel can import track lists directly from iTunes, iDVD, and iPhoto. Add in disclabel's impressive text-manipulation abilities, as well as its support for AppleScript and a wide variety of labels, paper, and CD printers, and you get a winning package.

BEST NEWS SOURCE FOR THE DESKBOUND
Your days of aimlessly drifting among Web sites to gather up news are over, thanks to Ranchero Software's NETNEWSWIRE 1.0 ($40; www.ranchero.com/netnewswire). The headline-fetching software lets you select from an extensive—and still growing—list of Web sites with RSS feeds to collect the latest headlines. More important, NetNewsWire's preview pane lets you decide whether you really want to click on a headline. And the ability to avoid jumping to an article you don't want to read is the best news we've heard in a while.

BEST TOOL FOR GRADING ON A CURVE
If you're a teacher, Orbis Software's EASY GRADE PRO 3.6 (single user, $49; site license, $249; www.orbissoft.com) offers numerous time-saving features to help get you excited about heading back to school. This easy-to-use grade-book software lets you track multiple classes in one file—a rarity for this kind of program. Easy Grade also creates custom reports of all a student's classes, and it makes trading assignments and grading options between classes a cinch.

BEST UPDATE
DVD Studio Pro debuted in 2001 with minimal ease of use and a lackluster interface. Apple improved things considerably with DVD STUDIO PRO 2 ($499; www.apple.com). Borrowing freely from iDVD, Apple added button and menu templates, button styles, and easy access to iTunes and iPhoto libraries. The program can now encode video, so you don't have to do that step before importing it. DVD Studio Pro also comes with a new MPEG-2 encoder that does multipass variable-bit-rate encoding, getting better results at lower bit rates. And it costs half the price of its predecessor—you can't find a better app for the job.

BEST FAX SOFTWARE
Weber Ventures' PAGE SENDER 3.0 ($30; www.smileonmymac.com) put an end to years of fakery software.

BEST ORGANIZATIONAL SOFTWARE
OMNIGRAFFLE 3.0 PROFESSIONAL, from The Omni Group ($120; www.omnigroup.com), provides nearly every tool you need in order to create a chart or diagram, including some that rival those found in illustration programs. An improved Help menu and the ability to link multiple canvases together into a slide show make this application an organizational must-have.

BEST SYNCHRONIZATION UTILITY
For synchronizing files or doing a simple backup, Weber Ventures' EXECUTIVE SYNC 1.3 (single user, $20; www.jasonweber.com) edges out the competition with its ease of use, clear interface, and Time And Space synchronization method, for an accurate backup or sync.

OTHER TOP PRODUCTIVITY PROGRAMS

BEST DEVELOPMENT SOFTWARE
HyperCard, with its stacks metaphor, has a new heir in Runtime Revolution's REVOLUTION STUDIO 2.1 ($299; www.runrev.com). It's the simplest write-once, deploy-everywhere solution, and it has enhanced support for OS X interface elements. Wonderful documentation and ambitious support for Internet infrastructure top off the package.

BEST NEWS
What would you rather keep on a one-hour videocassette—a couple of Friends reruns or 10GB of your Mac's data? DVD BACKUP 1.1, from Coolatoola ($30; www.coolatoola.com) lets you use your FireWire-equipped video camera as a tape-backup system. It works with many DV and Digital8 camcorders and provides a simple interface for backing up and restoring data.

BEST WAY TO PUT CHARACTERS IN MOTION
Making its Mac debut, Kaydara's MOTIONBUILDER 5 ($595; www.kaydara.com) redefines the process of animating 3-D characters. Its unique story editor provides a clean, intuitive method for mixing action, audio, and other elements into a smooth composite animation. Because the software works hard-in-hand with most other 3-D apps, it fits neatly into almost any production pipeline.

Mac products released between November 1, 2002, and November 1, 2003, were eligible for this year's Editors' Choice Awards, which are based on a survey of Macworld editorial preferences, primarily focusing on new features of products released during this year's eligibility period.
Corral Your Contacts

If you manage a bandolier of gear—a Macintosh, a mobile phone, a Palm device, and an iPod—you know how difficult it can be to bring order to the information you’ve stored on them. The following tips will help you synthesize and synchronize the contacts on your computer and your peripheral contraptions.

Make a Commitment

If your contacts are scattered across multiple programs and devices, it’s time to choose an application and stick with it. Doing so ensures that all your contacts are within easy reach. After all, once you’ve searched two or three places for your Aunt Vilma’s number, you might as well have dialed 411.

So which program will it be? Would you like your contacts to be as fully integrated with Mac OS as possible, so you can easily access them from within Apple’s Mail, iChat, and iCal? Do you have a mobile phone compatible with Apple’s synchronization utility, iSync (www.apple.com/isync)? Then OS X’s Address Book is for you. (For details, see “Apple’s Information Hub,” December 2002.)

Will Microsoft Entourage be your e-mail client until death do you part? You’ll find it easiest to use Entourage X ($99; 800/426-9400, www.microsoft.com/mac) to also manage your contacts and synchronize with your Palm (see Reviews, February 2002).

Coalesce Your Contacts

To commit to one application, you’ll need to move contacts from the various places you’ve stashed them. Need to share your address book and calendar with colleagues? Now Software’s Now Up-to-Date & Contact ($119; 800/344-9160, www.nowsoftware.com) includes group-sharing capabilities as well as Palm synchronization (see Reviews, August 2002). Creating an online contact list is another possibility, however, if you love Address Book or Entourage and want to share with coworkers (see “Online Office 411”).

Every businessperson knows that a PowerPoint presentation just isn’t the same without some snazzy art. The same goes for quick flyers and Web pages you’re putting together yourself. Hemera’s BizArt (819/772-8200, www.hemera.com) can help. This stock-art collection includes 56,000 royalty-free images organized into business-friendly themes such as customer service, finance, government, health care, human resources, and technology (a few samples are shown here). The DVD contains photos, clip art, and photo-objects (images with their backgrounds removed).—SCHOLL SAWYER MCFARLAND
Leaving Address Book If you'd like to export contacts from Address Book into another e-mail client or personal information manager (PIM), you'll find it easy to do as long as the intended recipient supports the vCard standard. (Entourage and Palm Desktop do, but Now Contact doesn't.) This cross-platform file format allows you to share contacts among vCard-compatible applications by copying vCards from one application to another.

To get started, just select the contacts you want to export, and choose Export vCards from Address Book's File menu. To add the vCards to Palm Desktop or Entourage, simply drag them into the program's address book window.

You also have options for moving Address Book contacts into a program that doesn't support vCards. The Address Book Sync utility takes care of issues with Now Contact. For moving into Netscape, Yahoo Mail, and Outlook Express, use David Martin's free Address Book Exporter (www.gwenhiver.net/applications/addressbookexporter/index.php).

Cross Platforms without Losing Friends

Got some contacts on a Windows PC? You've probably been using Microsoft's e-mail and PIM client, Outlook. Microsoft doesn't make it easy to move Outlook contacts to the Mac (or to other Windows applications). Fortunately, a few intrepid Windows developers have created tools that help.

For converting Outlook contacts to vCard files, my favorite is Oliver Stör's free (donations accepted) program Outpod (www.wo.stor.de/ipod/ipod_en.htm). It's as inexpensive as you want it to be, and it can export all your Outlook contacts in a single vCard file, which can be dragged and dropped into Address Book and Palm Desktop but not into Entourage. Outpod can also export individual contacts, which are acceptable to Entourage.

Another option, if you're moving Outlook contacts into Entourage, is Paul Berkowitz's S20 collection of AppleScripts, Export-Import Entourage X 1.2.10 (http://homepage.mac.com/berkowitz28/). These can convert comma-delimited (Outlook calls it Comma Separated) Outlook files and transfer them to Entourage 2001 and Entourage X.

Moving Outlook contacts over to Now Contact requires some finesse since Contact doesn't currently support the vCard standard. Export your Outlook contacts with Outpod, import them into Palm Desktop, export them from Palm Desktop as a text file, and import that text file into Now Contact.

Avoid Mobile Madness

You really need your contacts when you're out and about with your cell phone. Apple's iSync allows you to synchronize your Address Book contacts with a variety of mobile phones. That's great—unless your phone isn't supported by iSync, you're running OS 9 (and therefore can't use iSync), or you want to synchronize your phone with Entourage. What then?

Alexander Traud's $10 GSM Remote (www.traud.de/gsm/remote) may be the answer if you have a GSM phone that doesn't work with iSync, or if you're running OS 9. The program—available in versions for OS 9 and OS X—lets you transfer contacts (in the form of a single vCard) to and from a compatible GSM phone.

To synchronize your contact and calendar information between your Sony Ericsson phone and Entourage, pick up Salling Software's $25 MobileSync (http://homepage.mac.com/jonasallingshareware/MobileSync). The program bears a striking resemblance to iSync and is just as easy to use.

All Together Now

Organizing your contacts takes some time and effort, but it's worth the trouble. You need never misplace an important name, address, or phone number again.

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Animate Your World

SHOOTING DRAMATIC AND ENTERTAINING MOVIES DOES not always require actors. With some inexpensive software and a FireWire camcorder or Web cam, you can use the world around you to create beautiful and unique movies. Imagine capturing time-lapse footage of a brewing storm, or bringing household objects to life via stop-motion photography.

These projects are easy to do, but they require some patience. When animating with stop-motion photography, you shoot just one frame at a time, slightly moving your subject between each frame. Time-lapse movies are simpler to capture: point your camera at an interesting scene, and then go to the mall while your software snaps frames at a set interval. When you’re finished, toys will spring to life, flowers will bloom, and you’ll have a one-of-a-kind movie.

I recently looked at six top-notch, low-cost programs that help you easily create stop-motion and time-lapse movies (see “Software Options”). The software you choose should depend on how much you want to spend and the type of project you’re doing. I’ll tell you how to set up your equipment, how to avoid some common pitfalls, and what to do with your movies once you’ve captured them. To see sample movies I created, go to www.macworld.com/digitalhub.

The Setup

To create a time-lapse or stop-motion movie, you’ll need a video camera, a sturdy tripod, and some basic software. (All the programs I looked at cost less than $50—a couple of them are even free.)

You’ll get the best video quality from a MiniDV camcorder. If you don’t have a camcorder, an inexpensive USB or FireWire Web cam will do. To set up your equipment, mount the camera on a tripod and plug the camera’s power adapter into a wall outlet—batteries won’t last for extended animation sessions. A tripod or other stable mount is a must for this type of film project. If the camera moves in between any of the frames you’re capturing, the scene’s action will have a jarring jump. Finally, connect a FireWire cable from the camcorder to your Mac’s FireWire port.

Many DV camcorders shut themselves off after a few minutes if you aren’t recording to tape. You can usually bypass this feature by taking the tape out of the camera. If your camera still insists on slumbering, try leaving its tape door open.

Stop-Motion Strategies

Some stop-motion animators create entire sets and characters out of clay. If you aren’t particularly talented with Play-Doh—or if you don’t have hours to spend creating characters from scratch—use objects you find around the house. For example, put some toys in motion to create a Matchbox Car 500 race or the Battle of the Beanie Babies. You can even point the camera at the backyard and have the kids take a small step between each frame. In the final movie, they’ll appear to move without walking. (The Monkees, those madcap musicians from the sixties, regularly used and abused this effect in their TV show.)

Set up your animation stage somewhere that will have consistent lighting over several hours. If you’re relying on light from nearby windows, try to shoot on a cloudy day. Dramatic variations from one frame to the next will ruin the illusion of seamless motion.

Move objects just a fraction of an inch between each frame. Some stop-motion programs, such as Boinx Software’s iStopMotion DV, provide an onion-skinning feature that faintly superimposes the last few frames you captured. Onion skinning provides an at-a-glance look at how things have changed in recent frames, and it guides you in making the next adjustment.

As a bonus, iStopMotion DV (as well as its free counterpart, iStopMotion Lite) offers a useful speech-recognition feature that lets you tell your Mac to capture a new frame from across the room, so you don’t have to get up from the animation stage, walk over to your Mac, and manually click on the Capture button for each frame.

Time-Lapse Videos

Anything that moves or changes shape slowly in the real world is a candidate for time-lapse photogra-
WORKING AS A TEAM IN IMOVIE 3

If you want to collaborate with others on a video project, you can parcel out different segments of an iMovie 3 project for individual editing. But what do you do when it’s time to merge the completed segments back into a single project for transfer to DVD?

You could export each movie segment as a QuickTime file and then import them into the master project. But you’ll lose the flexibility that lets you edit the individual clips—to fine-tune transitions, for example. There is a better—though somewhat unconventional—alternative: merge the video projects using a text editor. Since an iMovie project file is simply a text file with commands for manipulating video clips, it’s ripe for textual tweakery.

To divide your editing work, first import all your footage into a single iMovie project. Split the footage into clips for each editing group. Create a new iMovie project for each group; then use the Finder to move the clips belonging to each group into the appropriate project’s media folder.

Once all the editors have finished editing their portions of the footage, create a new master project in iMovie that will serve as the container for the reassembled segments. You’ll need to perform a quick editing operation—such as importing a photo or adding a sound effect to the timeline—to create a project file that will work for the following steps. When you’ve done this, quit iMovie. Then bring the media files for each movie segment into your master project. In the Finder, open the first segment’s project folder and select all the files in its Media folder—including any additional files that iMovie generated for effects, transitions, audio, and so on. Drag these files into the Media folder for your master project. Repeat this process for each movie segment.

Next, launch a text editor, such as Apple’s TextEdit, and open the project file for the first segment of your movie. (Do not open the .mov file.) Locate the line AudioTrackMute: 0 0 0. Everything that follows describes the clips and edits in the timeline and on the shelf. Select and copy all the text below this line. Then open the project file for your master project and paste the copied text below the same line of text.

Repeat this process for each segment of your movie, appending each new section of text to the bottom of the master project file. Save the file when you’re done.

When you open the master project in iMovie, all of the edited segments should appear in the timeline. You can now make any final edits to the master movie, such as adding transitions between the segments.—JEFF CARLSON

Run It Backward To put a different spin on a time-lapse clip, reverse it: see a blooming rose close itself or a glass of water turn into a glass of ice. After adding the clip to iMovie’s timeline, select it and choose Reverse Clip Direction from the Advanced menu.

Add Dialogue and Sound Effects If you’ve created a stop-motion movie of some toy cars, why not add some traffic sounds? You’ll find a huge array of free sound effects at www.findsounds.com. You can use a microphone and iMovie’s Audio pane to add dialogue. However, if your movie is dialogue-intensive, consider recording the dialogue first and then timing the animation to it. Stop-Motion Studio by Loud offers audio-syncing features that can simplify this process.

Software Options

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>PRODUCT</th>
<th>PRICE</th>
<th>CONTACT</th>
<th>COMMENTS</th>
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</thead>
<tbody>
<tr>
<td>Boinx</td>
<td>StopMotion DV</td>
<td>$40</td>
<td><a href="http://www.boinx.com">www.boinx.com</a></td>
<td>Polished interface fits into the iLife programs; includes onion skinning; supports speech recognition; creates full-screen movies.</td>
</tr>
<tr>
<td>Boinx</td>
<td>StopMotion Lite</td>
<td>free</td>
<td><a href="http://www.boinx.com">www.boinx.com</a></td>
<td>Includes all the features of iStopMotion DV, but limits movie dimensions to 320 by 240 pixels.</td>
</tr>
<tr>
<td>FrameThief</td>
<td>FrameThief</td>
<td>$40</td>
<td>www framathief.com</td>
<td>Includes on-screen positioning guides and support for audio tracks; unique frame-averaging feature reduces noise and improves video quality.</td>
</tr>
<tr>
<td>Gary Fieke</td>
<td>DVTimeLapse</td>
<td>free</td>
<td><a href="http://users.chariot">http://users.chariot</a> .net.au/~gazdou/</td>
<td>Excellent time-lapse program; doesn’t support Webcams; no stop-motion features.</td>
</tr>
<tr>
<td>Loud</td>
<td>Stop-Motion Junior</td>
<td>$35</td>
<td><a href="http://www.loudinc.com">www.loudinc.com</a></td>
<td>Simple interface; lacks onion-skinning features; no time-lapse features.</td>
</tr>
<tr>
<td>Loud</td>
<td>Stop-Motion Studio</td>
<td>$45</td>
<td><a href="http://www.loudinc.com">www.loudinc.com</a></td>
<td>Full-featured program; supports onion skinning; lets you import audio tracks to sync action with dialogue.</td>
</tr>
</tbody>
</table>


Digital Hub is a monthly collection of tips and strategies for anyone who creates movies, music, or photographs for personal use. We want to hear from you! If you’ve got secrets to share or suggestions for column topics—or if you just want to tell us what you think of Digital Hub—e-mail us at digitalhub@macworld.com.
Playing Live

ABLETON'S LOOP-BASED SEQUENCER, THE $399 LIVE 3.0 (www.ableton.com), is a remarkably flexible tool that musicians, DJs, and video editors use to easily create dynamic musical scores. But as can happen with any tool, you may have become accustomed to working with Live in a particular way. The following tips can help you see it in a different light.

Ambient in an Instant
Although Live is an excellent tool for creating driving dance grooves, you can also use it to produce music that's anything but beat driven. With repeating loops of different lengths, you can create the kind of ethereal soundscapes on Brian Eno's Ambient 1: Music for Airports and Discreet Music.

Eno and other musicians created such works by recording tape loops of varying lengths, playing those loops simultaneously, and capturing the results in a master recording. Because the loops were of different lengths, each time a loop played, its relationship to the simultaneously playing loops changed. You can do the same thing with Live.

1. Record Ambient Sounds into Live
Record several tracks of ambient material, varying the length of each track, and loop them. Each track should be long enough that a repeating pattern won't be immediately discernible. But keep loops under a couple of minutes—playing a lot of very long loops can give Live trouble on slower computers. Because the tracks will overlap in different places as the piece plays, record tracks that will mesh harmonically. For example, improvising around a single chord or a pentatonic scale will ensure that the music sounds right, regardless of how the loops line up.

2. Adjust the Start and End Points
The transition from one end of the loop to the other should be seamless. Adding passages of silence will help, as will adding fades to the beginning and end of a track.

3. Program Panning
To add another element of randomness to your piece, consider programming the panning envelope of some of your tracks so the mix constantly changes. Select a clip and click on the Waveform button at the bottom of the Live window. Click on the Envelopes editor to make it active, and choose Mixer from the Device Chooser pop-up menu. From the Modulate Control Chooser pop-up menu just below that, select Track Pan. Double-click on the Breakpoint Envelope line to create adjustment points, and drag those points up to pan the clip to the left, and down to pan it to the right.

4. Mix Your Composition (or Don’t)
You can mix the resulting piece as much or as little as you like. If you want to participate fully in the process, start recording, trigger one loop, trigger another and gradually fade it in, mute and activate tracks, and play with panning and volume. For a more hands-off approach, trigger all your tracks—then sit back and space out as the loops weave a musical mix.

All Night Long
Many Live users think of the program as a tool for stringing together short bits of audio to create a composition. But a Live clip needn’t be just a drumbeat, bass line, or pad. A clip can be an entire song—allowing a DJ to create sets for an entire evening of music.

To create sets of music, just drag AIFF or WAV song files into Live's clip slots (Live doesn’t support the MP3 and AAC formats). To move smoothly from one song to the next, alternate tracks for each song and use Live's cross-fader to fade between one track and another.

For example, put the first song in the first clip slot of Track 1. The second song goes in the first clip slot of Track 2. Song three fits in the second clip slot.
Smother Sets Create sets of music in Live.

of Track 1, and the fourth tune goes into clip slot two of Track 2. Select Crossfader from the View menu and choose the A Crossfade Assignment for Track 1 and the B Crossfade Assignment for Track 2. Before the first song begins playing, pan the cross-fade control to the left so you can hear Track 1 when it begins playing. As the song in Track 1 ends, trigger the song in Track 2 and move the cross-fade control all the way to the right to fade out of the first song and into the second. Follow the same procedure for each succeeding song.

Lighten the Load
Piling on effects and EQ and demanding that Live operate in high-quality mode can overtax your Mac's CPU. When that happens, glitches occur. If Live's CPU Load Meter routinely hovers around 75 percent or above, try these techniques:

1. Place Common Effects in Auxiliary Sends Effects in individual tracks tax the Mac's processor. Instead of inserting the same reverb effect in each track, place that reverb in a Send track and turn up each track's Send control to access the effect.

2. Turn Off EQ Bands If you're using EQ effects, switch off bands you're not using—Band 2 in the EQ Four effect, for example, if you've made no adjustment to Band 2. To do so, simply click on the corresponding numbered box in the effect (say, box 2 for Band 2) to disable it.

3. Disable High-Quality Sound Select Preferences from the Live menu, click on the Defaults tab, and disable the Hi Quality option. With Hi Quality off, a less processor-intensive algorithm transposes samples more quickly. The resulting samples may be a bit distorted. If you must have the high-quality algorithm for certain clips, you can enable the Hi Quality option in the Clip View window only for those clips.

When he's not engaged in journalistic pursuits, Contributing Editor CHRISTOPHER BREEN is a professional musician in the San Francisco Bay Area.

Robert Henke, the musical director of the German electronic-music project Monolake (www.monolake.de), has been instrumental in the development of Live. He has generously passed along this technique for creating a percussion track out of white noise in Live 3.0.

1. Clip and Loop Create a clip of white noise and loop about a second of it. Most synthesizers can generate such noise.

2. Add EQ Three You create the sound of the bass drum, snare, and hi-hat by manipulating the gain of the clip's low, mid, and high frequencies with Live 3's EQ Three effect. Click on the Live Effects button and then double-click on the EQ Three effect to add it to the Audio Effect window.

3. Manipulate Gain Switch back to clip view and, from the Envelope Editor, select EQ Three from the first pop-up menu and FreqLo from the pop-up menu below it. Add break points to increase gain at beats 1 and 3 (see "What a Kick!"). This gives you your bass drum sound.

Select GainHi from the second pop-up menu and create break points to increase gain on beats 1, 2, 3, and 4. This creates a hi-hat timbre that sounds on each beat.

To add a snare track, select GainMid from the second pop-up menu and, once again, create break points to increase gain where you'd like the snare part to fall.

4. Color the Sound Your clip is now percussive but could use some tonal color. Begin by adjusting the GainLo, GainMid, and GainHi frequency settings. Dropping the GainHi frequency to around -4.5 dB, for example, puts the hi-hat in a range typical of a 1970s drum machine. To make the clip crisper, click on the 48-dB switch.

5. Add More Effects You could stop here, but to make the track even more interesting, why not add other effects? For example, Henke placed EQ Four (a parametric EQ) before EQ Three and emphasized the middle and high frequencies to bring out the snare and hi-hat sounds. He then added a Chorus effect after EQ Three and engaged the *20 switch to add a didgeridoo quality to the clip.

What a Kick! By carving out sections of white noise and then manipulating their frequency, you can generate a drum kit.
The Two-Mac E-mail Shuffle

YOU'RE IN A HOTEL ROOM IN THE MIDDLE OF NOWHERE, using a PowerBook to catch up on your work e-mail. You see a message from your manager asking about something you discussed in last week's project meeting. The nitty-gritty details you need are in an e-mail exchange you had with your company's consultant yesterday while you were using your desktop machine at work. Will you go through a long, confusing hunt for the e-mail messages, or will you be able to access them immediately? The answer depends on your level of e-mail savvy.

We'll show you some techniques for keeping track of all your e-mail when you're gone from your usual Mac for more than a few days, and then show you how to bring it all home. (If you use IMAP-based e-mail, you won't have these issues. But most people still rely on POP-based e-mail accounts. We'll give directions for organizing POP-based e-mail in Apple's Mail and Microsoft Entourage in OS X, but the settings are easily translatable to other programs; see "Mail Strategies" for guidance.) If you need to switch Macs more frequently, we have some tips for that situation, too.

Set Up E-mail on Both Macs
First things first: to prevent confusion, designate one computer as your primary Mac (the one you use most of the time, probably your desktop machine or the one you use at your workplace) and the other (the one you use on the road or at home) as your secondary Mac.

Now make sure you can send and receive mail on both Macs using the accounts you'll want to read on both computers. You'll need to know your settings for each account: you can find them in your e-mail program (under Accounts in Entourage's Tools menu or in Mail's Accounts preference pane). Enter the settings in your primary Mac if they're not already there. Next, set up e-mail access on your secondary Mac, using the same settings. You'll probably need to enter a different SMTP, or outgoing mail, server for the secondary Mac—that of your ISP at home, for example.

On the secondary Mac, select the option that removes messages from the server when you check your e-mail (this may mean deselecting an option named Leave Messages On Server or something similar). Now, mail you receive on the secondary Mac won't be downloaded to the primary Mac upon your return. When you return, be sure the primary Mac is set to remove copies from the server, too. (In Mail, the option appears under the Advanced tab in the Accounts section; in Entourage, it appears under the Options tab in the Edit Accounts dialog box, which is accessible through the Accounts command.) There is an exception to this practice. It's always possible that mail will be lost or damaged. If that possibility concerns you, leave messages on the server until you back them up.

Put It All in One Place
If you're traveling and will be away from your primary Mac for a couple of days or longer, you can ensure that you'll be able to access all your e-mail messages and addresses by copying them to your secondary Mac via removable media, such as CDs, or your network.

It's much easier to move your mail between the two machines if you use the same e-mail program for each, because you can be sure the file formats don't conflict. To move your e-mail and address book wholesale in Mail, copy and move Users/username/Library/Mail/ and Users/username/Library/Preferences/com.apple.AddressBook.plist to their corresponding places on your secondary Mac.

MICE FOR THE ROAD
Let's face it: sometimes your iBook's or PowerBook's conveniently located trackpad isn't so comfortable, but a full-size mouse will eat up a lot of space in your laptop bag. If you're looking for an alternative, one of a new crop of tiny mice may suit you perfectly.

The Kensington PocketMouse SE ($40; www.kensington.com) is a stylish and small USB mouse with two buttons and a scroll wheel.

Macally and Logitech also make cable-clutter-free (read: wireless) mice with a transmitter that plugs into a USB port. The Macally rfMouseJr ($49; www.macally.com) has an ingenious docking station you use with an AC adapter; you can leave the docking station at home and instead use the included rechargeable batteries, which last for two to three weeks on a charge. The Logitech Cordless Optical Mouse for Notebooks ($40; www.logitech.com) uses regular AA batteries. The Kensington and Logitech mice come with their own tiny carrying cases. (Cordless mice for laptops are also available from Kensington.) —JENNIFER BERGER
If you save the relevant e-mail boxes to another part of your hard drive, and then incorporate them into your mail program after you've overwritten the mail folder.

Moving your mail around in this piecemeal way is a little more difficult in Entourage because addresses and e-mail are stored in one large file called the Entourage database. So you'll want to drag and drop individual mail folders to your desktop or another place, then drag them to the secondary Mac's Entourage mail folder list. Then, export your contacts as text and import them into Entourage on the secondary Mac.

If, for whatever reason, you use two different e-mail programs, you'll need to import your mail into your secondary Mac's e-mail client, rather than simply copying mail from one place to another. The best mail-import features belong to Mail and Entourage, both of which can bring in messages from Eudora, Netscape, Microsoft Outlook Express, and Claris Emailer, among others. If you use another client, visit www.emailman.com/conversion/ to find utilities for importing e-mail from various programs. Just keep in mind that importing e-mail is a pain—not something easy to do at the end of every trip.

Moving mailboxes works best when you plan to be away from your primary Mac for some time. Your PowerBook or home Mac can function as your main e-mail machine until you return to the primary Mac and reverse the process.

Which Protocol?

All this is fine if you'll be away from your primary Mac for a while, but it's probably too much trouble if you just work at home a couple of days per week. In that case, you may want to change e-mail methods. POP, a commonly used protocol, copies or moves messages from a server to your computer. It isn't the best choice all the time for e-mailers on the go because, as we've shown, it takes some time and effort to move mailboxes between two Macs.

If you need quick access to your e-mail all the time, you might want to use IMAP, which stores your messages on a server that you connect to when you want to access your mailboxes. Since messages don't reside on your computer as they do with POP, you can view them from any Mac or e-mail client, download them to your Mac if you want, or leave them on the server for later access. The downsides are that many IMAP servers let you store only 5MB to 15MB of e-mail, so you have to keep an eye on how much space you're using; IMAP isn't available from all companies and ISPs; and if you store your mail on the IMAP server, you must be connected to the Internet to read it.

If you have to suddenly leave town or are unexpectedly home sick (but not too sick to check e-mail), another method, Web mail, can be a truly convenient fix. Many ISPs let you access your account via the Web, but the drawbacks are that you can't use any of the filters, rules, or spam catchers you use with your mail application; the interfaces are often poorly designed; you can't import either your existing mail or your address book; and you must be connected to the Internet to see your e-mail.

Mail Strategies

Base your multi-Mac e-mail strategy on three criteria: How long you'll be away from your Mac, how much of your e-mail you need to work with while away, and which e-mail client you'll use.

<table>
<thead>
<tr>
<th>YOUR E-MAIL CLIENT</th>
<th>IF YOU WANT TO...</th>
<th>...access all your e-mail on both machines a couple of days a week or with little notice:</th>
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<tr>
<td>Entourage</td>
<td>Use POP, deselect Leave A Copy Of Each Message On Server in Accounts, and import messages.</td>
<td>Use IMAP or Web mail.</td>
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<tr>
<td>Mail</td>
<td>Use POP; select Remove Copy From Server After Retrieving A Message in the Accounts section of the Preferences pane, and copy and move Users/username/Library/Mail and Users/username/Library/Preferences/com.apple.AddressBook.plist.</td>
<td>Use IMAP or Web mail.</td>
</tr>
<tr>
<td>Eudora</td>
<td>Use POP; deselect Leave On Server in the Checking Mail or Personality Extras section of Settings, and copy and move contents of Users/username/Documents/Eudora folders/.</td>
<td>Use IMAP or Web mail.</td>
</tr>
<tr>
<td>Mailsmith</td>
<td>Use POP; deselect Leave On Server in the Checking tab of the E-mail Accounts pane, copy Users/username/Mail/Mailsmith User Data, or use the Export Mail command.</td>
<td>Use Web mail (Mailsmith does not support IMAP).</td>
</tr>
</tbody>
</table>

SHELEY BRISBIN is the author of Build Your Own Wi-Fi Network (Osborne/McGraw-Hill, 2002). She juggles four e-mail accounts on three Macs in Austin, Texas.

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Terminal’s New Twist

PANTHER BRINGS PLENTY OF CHANGES TO KEEP USERS ON their toes. And command-line users found a major one: Apple switched the default shell used with Mac OS X from tcsh to bash. This change affects new accounts created in Panther. (If you upgrade from Jaguar and you were using tcsh as your shell, you won’t see any difference.)

The shell switch won’t affect you if you use Terminal to navigate your file system or issue the occasional command. But if you use the command line regularly, and especially if you’ve customized tcsh with shell variable settings and shell aliases, you’ll need to change these settings—bash stores them in different files, and the way you modify the items is different as well.

Sound like a pain? You can easily continue using tcsh (see “Swap Your Shell”), but there are advantages to bash. For example, it offers editing modes that use commands similar to the main Unix text editors (emacs and vi), as well as the ability to edit commands in your command history. Also, if you plan to do shell scripting, bash is a much better choice than tcsh: it’s a more common standard, and you’ll find plenty of shell scripts for bash on the Web. First, you need to get up-to-speed with bash basics.

Which Files bash Reads

Every shell reads a certain set of files for setup and configuration information. (This is somewhat akin to regular applications reading preference files.) The bash shell reads the following files in this order:

1. /etc/profile: This file contains systemwide environment and startup commands and variables, including the default PATH variable. In OS X 10.3 (Panther), this file contains the following:
   ```bash
   # System-wide .profile for sh(1)
   PATH="/bin/sbin:/usr/bin:/usr/sbin"
   export PATH
   [ -r /etc/bashrc ] && source /etc/bashrc
   ```
   This tells the bash shell what default search path to use when looking for commands, and then tells it to source, or read, the /etc/bashrc file.

2. /etc/bashrc: This file contains systemwide functions and aliases, including the shell prompt. Under Panther, this file contains the following:
   ```bash
   # System-wide .bashrc file for interactive bash(1) shells.
   PS1="\h:\w \u\$ \
   # Make bash check its window size after a process completes
   shopt -s checkwinsize
   ```
   This sets the prompt and tells bash to check its window size after processes complete.

The bash shell then reads one of the three following files: ~/.bash_profile, ~/.bash_login, or ~/.profile. The bash shell reads only one of these files, and it looks for them in that order. Once it has found one of these files, it reads the contents and then skips the remaining files in the list. You can use any of these files to define environment and configuration settings, but make sure you use only one of them. For this reason, ~/.bash_profile is safest to use, since it’s the first file bash looks for. This is where you should put your aliases and variables. It’s the equivalent of the ~/.tcshrc file under the tcsh shell.

   Bash reads ~/.bashrc if you launch it as a non-login shell (if you type bash at a Terminal prompt, for example, and launch a bash session in that manner). If you plan to use it as a non-login shell, consider duplicating any aliases or variable settings here.

The Handy PATH Variable

Apple includes a PATH variable setting in the /etc/profile file: PATH="/bin/sbin:/usr/bin:/usr/sbin". It tells the shell where to look for commands you type in Terminal.

You can add as many directories (separated by colons) as you want to this variable by adding the following line to your .bash_profile file:

   ```bash
   PATH=$PATH":"directory1:directory2:directory3"
   ```

Why would you want to? This is a handy shortcut if you have command-line tools in other locations or if you have your own shell scripts in your Home
directory. For example, I have a bin directory in my Home directory, so I add it to the PATH variable by including the following: `PATH=$PATH":-bin"`.

You can check your PATH variable when you start up a new bash session by typing the following: `echo $PATH`. This returns a line showing all the directories in the PATH variable.

**Shell and Environment Variables**

Shell and environment variables let you set certain options, such as protecting files against overwriting, or turning on the spelling checker when you type directory names.

The bash shell uses the `set` and `shopt` commands to turn variables on and off, and to set their values. If you run the set command alone, bash returns a list of all variables that have been set for you. Some of these come from bash and its configuration files; others come from different parts of OS X (such as your user name, home directory, user ID, and so forth). To see which options you can change with the set command, run the following: `set -o`. To set one of these options, use the following: `set +o option name`. To unset one of these options, run this: `set +o option name`.

The options available with the set command allow you to customize the shell environment. One useful option is the noclobber variable. It tells the shell not to overwrite existing files when redirecting output to a file. You can turn this on by running the following: `set -o noclobber`.

The bash shell offers another group of options that you can set and unset using the shopt command. To see a list of these options and their status, run `shopt -p`. Options with `-s` before their names are turned on, and options with `-u` before their names are turned off.

To set one of these options, run this command: `shopt -s option name`. And to unset an option, run `shopt -u option name`.

One useful option you can turn on in this way is the cdspell option. If you turn this on, the shell tries to correct spelling errors when you run the `cd` (change directory) command followed by the name of a directory. Set this option as follows: `shopt -s cdspell`.

Finally, bash offers a group of environment variables, which you can set using the export command. You’ve already seen one example, in the `/etc/profile` file, when I set the PATH variable. You can either use the form in that example, or you can set environment variables such as this one: `export variable=value`.

**The Ultimate Shortcut: Shell Aliases**

Shell aliases are shortcuts for commands you run in Terminal. You can set aliases for any commands, whether they’re short and simple or long and complex. Aliases are like keyboard shortcuts. At any time, you can see which ones you’ve set by running the `alias` command with no arguments.

With bash, you set aliases as follows:

- `alias ls='ls -IF'
- `alias ls='ls -lF'

These two examples set aliases for the `ls` command, which lists files in a directory. In the first example, no quotes are necessary since the command you’re aliasing has no options or arguments. But if you want to alias a longer command, such as the second example (which creates a detailed list of files that includes file types), you need to use single quotation marks around it.

If you’re ready to switch from tcsh to bash, now you’ve got the basics. Transfer all your settings and aliases to the appropriate files, and get a grip on bash in just a few minutes.

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**MORE INFO ABOUT BASH**

- `Type man bash` in Terminal to see the program’s man (manual) page.
- `Check out the bash shell’s home page` (www.gnu.org/software/bash/bash.html).
- `Learning the bash Shell, by Cameron Newham and Bill Rosenblatt` (O’Reilly, 1996), is the only book that focuses entirely on bash.

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**GEEK FAVORITES**

If you love gadgets, get your daily fix at Gizmodo (www.gizmodo.com). This Weblog gathers news, commentary, and analysis about all things gadget-related and organizes it neatly into categories. —SCHOLLE SAWYER MCARLAND

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**KIRK McELHEARN** is a freelance writer and journalist who lives in the French Alps. He is also a coauthor of Mastering Mac OS X (Sybex, 2003).

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Geek Factor is a monthly guide to pushing your Mac to its limits—for fun, for increased productivity, or for both. We want to hear from you! If you’ve got secrets to share or suggestions for column topics—or if you just want to tell us what you think of Geek Factor—e-mail us at geekfactor@macworld.com.
Mac OS X Hints

THIS MONTH, FIND OUT HOW TO CHANGE THE LENGTH OF time that Apple’s Mail keeps your sent messages, tweak Safari with the debug menu, discover hidden keyboard shortcuts, banish the Dock, and more.

Learn Keyboard Shortcuts
Do you ever feel that there must be a ton of keyboard shortcuts you’re not aware of? Fortunately, Apple has finally put together a relatively complete listing of all known keyboard shortcuts. You can find it at http://docs.info.apple.com/article.html?artnum=75459.

Of course, OS X 10.3 lets you assign your own keyboard shortcuts, via the Keyboard & Mouse preference pane, so you can take care of missing favorites yourself.

Pick How Long to Store Sent Mail Messages
In the Accounts section of Mail’s preferences, you can narrowly specify when the program erases your sent messages—never; after one day, one week, or one month; or when you quit Mail. But here’s how you can keep your sent messages for as long as you want.

In 10.2, launch Terminal and type cd -/Library/Mail. Press enter to change to the proper directory, and then type du -hc "find . -name ‘content_index’ -print".

If you quit Mail and rerun the commands to list the size of your index files, you’ll see that Apple renamed the index files in 10.3, so there are two small changes for Panther users. To find and list all your index files, change to the Mail folder (cd -/Library/Mail), and then type % du -hc "find . -name ‘content_index’ -print".

Now that you’ve found the index files (see “Overstuffed Mailboxes,” which shows the number of kilobytes for each mailbox), it’s time to get rid of them. As with any potentially destructive task, you should back up your Mail folder before performing the next step—which should be completely harmless, but it’s always better to be safe than sorry. Just copy your Mail folder to another spot on your system in case you have to restore it. Now type the following in Terminal:

```bash
% find . -name 'content_index' -delete
```

(For 10.2 users)

```bash
% find . -name 'mbox.SKindex' -delete
```

(For 10.3 users)

```bash
% find . -name 'content_index' -delete
```

Launch Mail, and as you access each mailbox, the app will rebuild its index file. You can expedite the process by selecting all your mailboxes at once in the Mailboxes pane.

If you quit Mail and rerun the commands to list the size of your index files, you’ll be pleasantly surprised at how much space you’ve saved—if you’re an active e-mail user, you could recover 100MB of drive space.

Recover a Deleted Stickies Note
In most Mac applications, closing a window without saving changes means that the changes are gone for good. In Stickies, closing a note is equivalent to deleting it, so the program asks whether you’re sure you want to. If you accidentally delete a note—and you’re still running OS X 10.2—just press ⌘-Z to undo the change.
**KILLING THE DOCK**

If you’ve installed a third-party utility such as PathFinder or DragThing, you may no longer need to use the Dock, and you may want to banish it for good. You’ve tried force-quitting the Dock, only to find that it automatically restarts. There are a couple of different ways around this problem.

The easiest solution is to reposition the Dock to a location where you’re unlikely to activate it—at the top of the screen. While Apple lets you place the Dock on either side or the bottom of your screen, there’s no obvious way to move it to the top. You can use TinkerTool, or type the following command in Terminal: defaults write com.apple.dock orientation top.

If you’re running 10.3, just type killall Dock to restart the Dock and have your changes take effect. In 10.2, you can use Process Viewer (in Applications: Utilities) to accomplish the same thing. After the Dock restarts, type -force -option-D to hide it, and you’ll find it’s now nearly impossible to activate the Dock—you have to very precisely hold your mouse just below the menu bar in order to activate it.

Although the above solution works, the Dock is still running, taking up some of your valuable RAM and CPU cycles. If you’d like to kill it for good, you’ll have to do a bit more work. Keep in mind that the following solution also affects the Dock for all users on your machine.

To quit the Dock for good, you need to make the system unable to restart it after you quit it. If you simply rename or move the Dock application, OS X will have no idea where to find it. Since the Dock is owned by the System, the easiest way to move it is with root privileges in Terminal. Open Terminal and type cd /System/Library/CoreServices, press enter, and then type sudo mv Dock.app /Applications/Dock.app.

This will move the actual Dock application into the global Applications folder, so the next time you quit the Dock, it will be unable to restart.

There’s more to do, though: the Dock has one other critical function—it “activates” the desktop the first time it’s launched. If you never launch the Dock, you won’t have a functional desktop. So the final step is to trick the system into launching the Dock once and then quitting it. To do this, you’ll need a very simple AppleScript. Launch Script Editor (in Applications: AppleScript) and enter the following text:

```
tell application "Dock"
  quit
end tell
```

Now go to System Preferences, open Login Items (in 10.2) or open Accounts and click on the Startup Items tab (in 10.3), and add two new items. As the first item to load at login, add the Dock you moved. As the last item to load at login, add the Kill Dock script you created (see “Start Me Up”).

Now log out and log back in. If you’ve done everything right, you’ll see the Dock appear and then vanish. If you wish to get the Dock back, remove the startup items, and then move Dock.app back to its original location.

**Enable Safari’s Debug Menu**

During the development cycle, programmers use debug menus, which provide an easy way to test compatibility and other issues. Most of the time, these debug menus are removed before the product’s final release. But in some cases, they’re left in the final release but hidden from normal view. This is the case with Safari, and it takes just one simple Terminal command to enable its Debug menu. Quit Safari, launch Terminal, and type defaults write com.apple.Safari IncludeDebugMenu 1. You can also use the free TinkerTool, (www.bresink.com/osx/TinkerTool.html) to enable this menu.

When you relaunch Safari, you’ll see the new Debug menu after Safari’s Help menu. The Debug menu has many uses, but two are particularly useful. You can use the User Agent menu item to make Web sites believe that you’re coming from the latest version of Microsoft Internet Explorer (IE) on Windows. Though this won’t help you with sites that have coded Windows-specific features, it may very well help you with sites that simply check to see whether you’re using IE on Windows before they let you in. You may find that sites you previously couldn’t view work perfectly fine in Safari with the User Agent set to Windows MSIE 6.0.

The second useful trick is the Keyboard And Mouse Shortcuts menu item. Choose this, and you’ll see a Web page listing a ton of shortcuts that will help you work more efficiently in Safari.

You probably won’t be interested in the other Debug menu items, but give them a look if you’d like to see some of what goes into developing and testing a new Web browser.
Mac 911

SURE, APPLE'S MARKETING AND GRAPHICS DEPARTMENTS break out in spots when they're faced with the prospect of a "Mac OS Eleven." ("Roman numerals? Arabic numbers? Time to switch from felines to a member of the family Mustelidae?") But Panther—the code name for Mac OS X 10.3—has earned its .3 appendage, not as a corporate convenience but for its evolutionary nature. Skeptical? Join me as we contrast Apple's Mail, pre- and post-Panther.

The Attachments Methods
I receive many e-mails with large attachments, and after saving the attachments elsewhere, I remove them to save space. But unlike every other e-mail application I've used, Jaguar's Mail doesn't provide an option for removing attachments.

Larry Klein, Cullman, Alabama

I'll start by stating this column's main theme: What can't be done easily (or done at all) in Jaguar may be a cinch in Panther. Nowhere is this more apparent than in Mail—an application that was more than a little limited in Jaguar. Here's proof:

To remove an attachment in the Panther version of Mail, select the message that contains the attachment you want to toss, and choose Remove Attachments from the Message menu. Easy, yes?

Now let's look at the Jaguar method.
Quit Mail. Navigate to your Library: Mail folder and then to the mailbox folder from which you want to strip the attachments (POP-nobody@mail.nobody.org, for example). Control-click on the mailbox file within that folder (INBOX.mbox, for instance), and select View Package Contents from the resulting contextual menu. Double-click on the .mbox file in the window that appears; this opens the file in TextEdit. Scroll through the text file until you see page after page of gibberish that's preceded by a line of text that reads something like—B_3120297041_53885. This is an attachment. From the message that precedes the gibberish, you should get a hint as to the contents of the attachment.

Highlight and delete the attachments you don't want (beginning with that —B_3120297041_53885 entry and ending with a similar entry), and save the file. When you next open Mail, you'll find the attachment you removed in TextEdit is likewise excised from Mail.

Font Follies
I use a Power Mac G4 running OS X 10.2.8, with the HP LaserJet 4050 and Epson Stylus Photo 1280. Most Mail message text prints in 7- or 8-point size. Can I control the printer font size?
Warren E. Aut, Laguna Beach, California

In Jaguar's Mail, you must make changes in the Fonts & Colors preference pane. Although the default message font is 12-point Helvetica, the font doesn't print at that size. To make the printed text larger, select a higher point size for the Message font: 14- or 16-point, for example. Regrettably, doing so also increases the text size of the messages on your monitor.

This isn't a problem in Panther's Mail. Although the newest Mail uses the same default settings in the Fonts & Colors preference pane, messages viewed in 12-point type actually print at that point size.

A Sign of the Times
In e-mail clients such as Microsoft Outlook Express and Entourage, my signature is at the end of my replies. In
Apple’s Mail, my signature is at the end of all content, regardless of how many messages and replies there are. Can I place a signature at the end of a reply without having to scroll to the bottom of the message window and cut and paste my signature?
Tim Smith, Cincinnati, Ohio

In Jaguar’s Mail, no. In Panther’s Mail, kind of.

In Jaguar’s Mail, your signature is jammed at the bottom of the message. I suggest that you use the free version of Michael Kamprath’s macro application, Keyboard Maestro (www.keyboardmaestro.com), to create boilerplate text of your signature, assign that text to a keyboard combination, and use that combination to easily insert the text where you want it to go.

The Signature preference pane in Panther’s Mail is more flexible, allowing you to place your signature at the end of the message or above any quoted text. If, like me, you sometimes like to insert your signature at the location of the cursor, keep Keyboard Maestro in mind.

Blind Leading the Blind

There’s no Bcc (blind carbon copy) header in the version of Mail that ships with Jaguar. Does Bcc appear in Panther’s Mail?
David Markowtiz, Mountain View, California

Both Jaguar’s Mail and Panther’s Mail offer Bcc headers, but neither displays that header by default. To add it in Jaguar’s Mail, create a new message and select Add Bcc Header (~-shift-B) from the Edit menu. In Panther, choose Bcc Header (~-option-B) from the View menu.

All Junked Up

How do you empty Mail’s Junk folder?
Larry Grossberg, Hillsborough, North Carolina

In Panther, control-click on the Junk folder and select Erase Junk Mail from the contextual menu (or select Erase Junk Mail from the Mailbox menu).

There is no such command in Jaguar’s Mail, so you must employ either the manual or the automatic method. The manual method entails opening the Junk folder, selecting all the messages in it, and pressing the delete key. To automatically delete mail in the Junk folder, open the Accounts preference pane, select your account, click on the Edit button, and click on the Special Mailboxes tab. In the Junk portion of the window, choose an option for automatically deleting the contents of your Junk folder: when messages are one day, one week, or one month old, or when you quit Mail.

Dating Rules

I want to archive my business-related e-mail. Unfortunately, I can’t find a way to enter date-based rules in Mail’s Rules preferences. I’d hate to return to Microsoft Entourage just because it handled dates better.

George Cancel, Taunton, Massachusetts

In Jaguar’s Mail you can create a meager date rule by following these steps:

Create a new rule in Mail’s Rules preference pane. In the If section of the window, select Edit Header List from the first pop-up menu. In the Panel window that subsequently appears, enter Date in the Header field, click on Add Header, and then click on OK.

In the Rules section, configure the top row of pop-up menus to read: Date Contains Month (where Month is the abbreviation for the month of messages you want to monkey with—Feb, for instance). In the Actions portion of the rule, select Transfer Message from the first pop-up menu and then choose a folder for storing your messages. Apply this rule to your messages, and those that meet the date criterion will be moved.

In Panther, Mail includes an expanded set of rules—including Date Sent and Date Received with the Is Less Than and Is Greater Than conditions (see “The Dating Game”).

TIP OF THE MONTH

On some Web sites, you can’t distinguish links from regular text. To better differentiate the links in the Safari Web browser, you can take advantage of Safari’s Advanced preference pane to use another style sheet for Safari.

Using Text Edit, create a document that reads:

```html
:focus { outline: 1px dotted invert; }
a:link { color: #CC0000; text-decoration: none; }
a:link:active { color: #CC0099; outline: 1px dotted; }
a:visited { color: #000099; text-decoration: none; }
a:visited:active { color: #006699; outline: 1px dotted; }
```

Save the document in plain-text format as Colors.css, and then choose this style sheet in the Advanced tab of Safari’s preferences.

Now links are no longer underlined, unvisited links are red, and they turn violet as you click on them. The visited links are blue and, when you click on them, change to teal.

Judith Epstein, Highland Park, Illinois

Contributing Editor CHRISTOPHER BREEN is the author of Secrets of the iPod, fourth edition (Peachpit Press, 2004), and a regular on TechTV’s Call for Help.

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- Three 133MHz open full-length PCI-X slots


**Apple iMac G4 Series**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Display Size</th>
<th>RAM</th>
<th>Hard Drive</th>
<th>Price</th>
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<tr>
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</tr>
</tbody>
</table>

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Apple iBook G4 Series

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Display Size</th>
<th>RAM</th>
<th>Hard Drive</th>
<th>Price</th>
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<td>#301677</td>
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<td>32MB</td>
<td>60GB</td>
<td>$1,094</td>
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</tbody>
</table>

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<tr>
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<th>Capacity</th>
<th>Speed</th>
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<td>4200rpm</td>
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<td>$299.97</td>
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## Developer Showcase

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## Services Showcase

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<td>2000 for $169*</td>
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<table>
<thead>
<tr>
<th>Qty</th>
<th>4/1</th>
<th>4/4</th>
<th>Qty</th>
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<th>4/4</th>
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<td>N/A</td>
<td>1,000</td>
<td>60*.</td>
<td>90*.</td>
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<tr>
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<td>145*</td>
<td>195*</td>
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<td>108*.</td>
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<td>289*.</td>
<td>390*.</td>
<td>10,000</td>
<td>250*.</td>
<td>337*.</td>
</tr>
</tbody>
</table>

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FLYERS Book

<table>
<thead>
<tr>
<th>1000</th>
<th>2500</th>
<th>5000</th>
<th>10000</th>
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</thead>
<tbody>
<tr>
<td>8.5&quot; x 11&quot; 100# Gloss Book</td>
<td>4/0</td>
<td>$95</td>
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<tr>
<td>+ AQ Coating</td>
<td>4/4</td>
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<td>$250</td>
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Brochures Book

<table>
<thead>
<tr>
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<tbody>
<tr>
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<tr>
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<td>4/4</td>
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FLYERS Cover

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<tbody>
<tr>
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<tr>
<td>+ AQ Coating</td>
<td>4/4</td>
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</table>

Brochures Cover

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
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<td>4/0</td>
</tr>
<tr>
<td>+ AQ Coating</td>
<td>4/4</td>
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</table>

Postcards

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<th>2500</th>
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<th>20000</th>
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<tr>
<td>12 pt Cts +</td>
<td>4.25&quot; x 6&quot;</td>
<td>4/4</td>
<td>$115</td>
</tr>
</tbody>
</table>

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122 MACWORLD October 2003
Business Cards 2 x 3.5 - Printed 14 pt. C/2/S Premium grade stock

<table>
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<th>Quantity</th>
<th>1,000</th>
<th>2,000</th>
<th>5,000</th>
<th>10,000</th>
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<tbody>
<tr>
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<td>$50.00</td>
<td>$70.00</td>
<td>$130.00</td>
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<tr>
<td>4/4</td>
<td>$90.00</td>
<td>$110.00</td>
<td>$190.00</td>
<td>$320.00</td>
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Post Cards 4.25 x 6 - Printed 14 pt. C/2/S Premium grade stock

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<th>Quantity</th>
<th>1,000</th>
<th>2,000</th>
<th>5,000</th>
<th>10,000</th>
</tr>
</thead>
<tbody>
<tr>
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<td>$120.00</td>
<td>$160.00</td>
<td>$310.00</td>
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<tr>
<td>4/4</td>
<td>$110.00</td>
<td>$130.00</td>
<td>$190.00</td>
<td>$350.00</td>
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</table>

Letterhead 8.5 x 11 - 24# bright white 25% cotton, 50% recycled

<table>
<thead>
<tr>
<th>Quantity</th>
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<th>2,000</th>
<th>5,000</th>
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</thead>
<tbody>
<tr>
<td>4/0</td>
<td>$299.00</td>
<td>$380.00</td>
<td>$875.00</td>
<td>$1500.00</td>
</tr>
</tbody>
</table>

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4/2 100# gloss book
4/1 100# cardstock
4/2 100# gloss book
4/1 100# cardstock
4/2 100# gloss book

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