

Macworld

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The Mac Product Experts

SPECIAL REPORT: APPLE GOES TO INTEL

THE BIG SWITCH

» **What** It Means
for the Mac

» **How** It Will
Affect You

» **Why** There's
No Need to Panic

**We Answer All
Your Questions**



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"It leaves Windows XP in the dust."

– **Walter Mossberg**, The Wall Street Journal

"It's the most elegant, useful and powerful operating system I've ever used in three decades of computer ownership. It runs circles around Windows."

– **Mike Wendland**, Detroit Free Press

"Spotlight isn't just a fast Find command. It's an enhancement that's so deep, convenient and powerful, it threatens to reduce the 20-year-old Mac/Windows system of nested folders to irrelevance."

– **David Pogue**, The New York Times

"Want to see what the future of personal computing looks like? Don't wait for Microsoft to show you; go out and get yourself a copy of Apple's latest operating system release, OS X Tiger. It's that good."

– **Michael Gartenberg**, Computerworld

"Not only is Spotlight super fast, but it looks through absolutely everything: email messages, contacts, the information attached to digital photos, even a page you scanned in or a map you downloaded from the web."

– **Chris Taylor**, Time

"I remember writing an article about Lotus 1-2-3 back when the product was released during the 80s.... It may have been nearly two decades since I wrote that column, but it took Spotlight less than 2 seconds to find it."

– **Larry Magid**, CBSnews.com

Mac OS X Tiger



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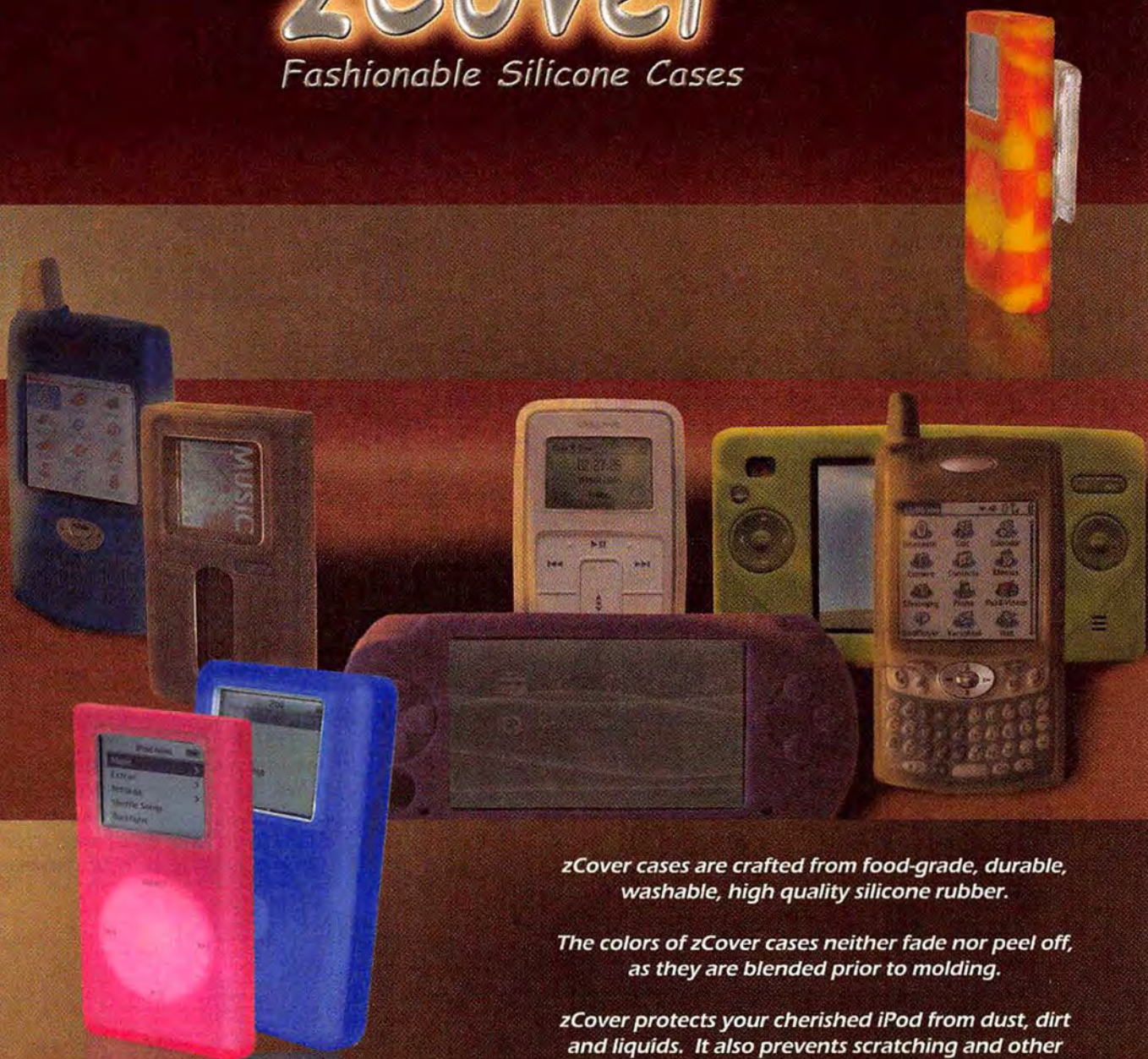


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Macworld

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Intel Inside, Mac Outside

So the rumors are true. After 11 years, Apple will soon ditch the PowerPC architecture and begin building Macs based on Intel processors. And the first thing we have to do is disentangle emotional reactions from the cold, hard technical facts.

Axis of Evil?

Over the years, Apple and its onetime chip partners, Motorola and IBM, have invested considerable time and money in disparaging both Intel's processors and its aggressive marketing efforts. (Remember the ads with the guy in the burning lab suit?) For a long time, Intel has been lumped together with Microsoft as the Mac community's axis of evil: Wintel. To the Mac faithful, that very word stood for everything that was wrong with PCs and right with Macs.

I was one of those faithful. Back in 1993, I went down to Intel for a job interview (one of my journalism teachers had taken a job there). But the whole time I was there, I felt like a sleeper agent. I kept waiting for the Intel CPU Detector to activate, locate the PowerBook 160 hidden in my backpack, and alert the guards who would frog-march me out of the building.

Showing remarkable wisdom for a 23-year-old, I turned down the job at Intel and instead went to work at *MacUser* magazine. The first big story to come along after I started working there was Apple's transition to PowerPC processors. The Pentium and the PowerPC, CISC and RISC, processor-emulation technology and the fear of buying soon-to-be-obsolete equipment: that was 1994 in a nutshell.

So to have Intel and Apple working *together* to drive us through another processor transition is undoubtedly a bit creepy to many of us—though perhaps not as creepy as it would have seemed 11 years ago. Since then, with AMD hard on its heels, Intel has started to look a bit less invincible. Windows, too, has taken its lumps—thanks to some serious security problems and Microsoft's ongoing inability to ship Longhorn, the next-generation version of the OS. Meanwhile, Apple has kissed and made up with former foe IBM, adopted a new operating system based on Unix, and even started releasing hardware and software that work with Windows.

Swapping Chips

Take away the emotional baggage, and Apple has simply chosen a new chip vendor. In announcing the deal, Steve Jobs pointed out two key facts that anyone who has followed the Mac's past year or two

already knows all too well: the 3GHz Power Mac G5 Jobs promised two years ago still doesn't exist, and we still don't have G5-based PowerBooks.

Jobs further explained that Intel's product roadmap—the chips it's going to be developing over the next few years—is far better for Apple than IBM's. Is that a compliment to Intel's chip-designing prowess, or is it a shot at IBM's inability to improve the G5 and make it more appropriate for laptop use? Yes on both counts, I'd say.

I don't think this transition will be nearly as tumultuous as moving from the 680X0 processor family to the PowerPC, or from OS 9 to OS X. Via Rosetta, most apps made for the PowerPC will run on Intel-based systems. And creating Intel-native versions of Mac apps will be much easier than making 680X0 apps work on PowerPC machines or making OS 9 apps run in OS X. The very structure of OS X, which forces developers to write code at a very high level (and which, it should be noted, was designed—as NextStep and OpenStep—to work on multiple processor architectures), should make recompiling programs for Intel-based Macs relatively straightforward.

Clearing Up the Confusion

In my mind, this transition's biggest drawback isn't technical or even political. It's the confusion and misinformation that are going to accompany the change. We've tried to lay out everything we know about the situation in a special report that fills this month's *Mac Beat* section (page 14). And we'll continue to stay on top of this transition, both here in *Macworld's* print edition and online at Macworld.com.

In the meantime, spread the word: Using Intel chips doesn't mean that Apple will become a PC cloner. It doesn't mean that all new Macs will be running Windows instead of OS X. It doesn't mean that current Macs will be obsolete next year. The sky is not falling.

But, I'll admit, it does seem to be a slightly different shade of blue. ☐

Got a comment on the Apple-Intel deal or on anything else related to the Mac? Write to me at jason_snell@macworld.com or, better yet, post your thoughts in our forums at macworld.com/forums.



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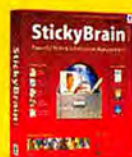
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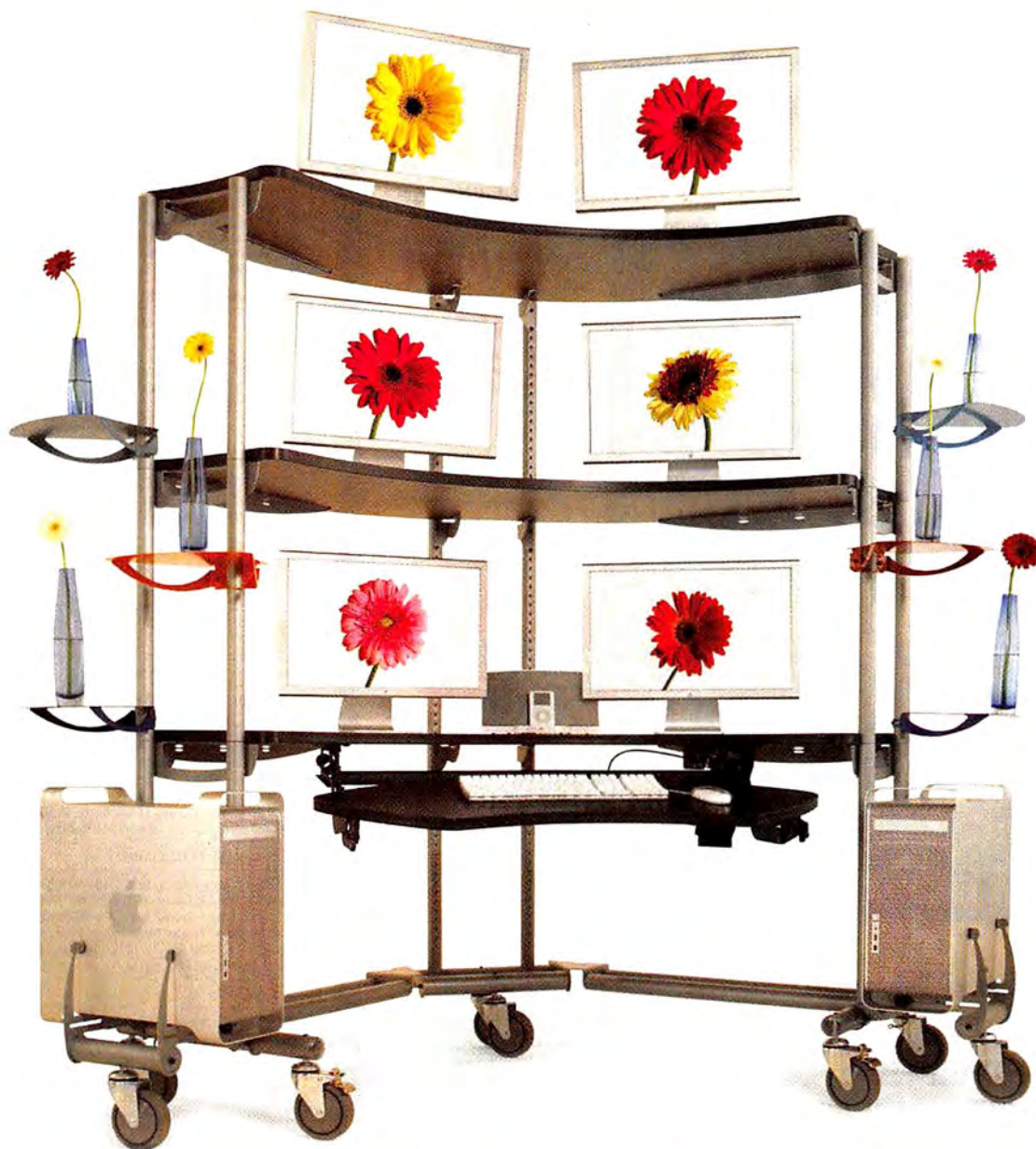
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FEEDBACK

We Get the Message

If you have any doubt that instant messaging (IM) has gone thoroughly mainstream, just check out the response to our review of IM programs (May 2005). The mail was high-volume in both quantity and tone. Everyone, it seems, has an opinion—and it's usually a strong one—about which IM client is the best and why the others are too awful to even contemplate. Here's a sample of the vituperation, as well as reactions to some of our other recent stories. □

Chit Chat

JOSEPH BURNS

As an avid *Macworld* reader, I've often noticed that your ratings for Apple products tend to skew upward. In the case of your review of IM software (May 2005), I feel that bias gave America Online's Instant Messenger (AIM) a bad name. You praise Apple iChat's audio alerts but fail to mention that status changes in AIM can also trigger all sorts of actions, from playing sounds to running a script. AIM also does a better job with sharing files. For example, I can put all my photos in one place and let anyone on my buddy list download them as they please—much easier than sending the file to everyone individually. While iChat does have great audio and video capabilities, I wouldn't recommend it to anyone who needs only text messaging.

ALEX WEISMAN

I've used all the IM clients you reviewed (except for Defaultware's Proteus) and think that Adam Iser's AdiumX deserves more credit than you gave it. No, you can't have AV chats with it, but there isn't much else it can't do. I'd rather use a program with everything a Mac user could want than one with extra bells and whistles.

MICKY STEVENS

In your review of Microsoft MSN Messenger, its cons include "annoying ads." If you purchase Microsoft Office 2004, you can turn off the promotional pane. Only the free version displays ads.

TAYLOR BARCROFT

Are you daft? How can you compare instant messaging systems without including Skype (www.skype.com)? It's

the only IM system that also allows you to talk from a Mac to another Mac, a PC, or any regular phone. Skype is the future—not iChat AV or any other proprietary system.

On the Road Again

RICHARD G. BRIBIESCAS

In response to the excellent tip about backing up your slides ("Hit the Road, Mac," May 2005), I'd like to suggest simply creating a backup PDF copy of your Apple Keynote or Microsoft PowerPoint presentation (either within the respective application or through the Print dialog box). This is especially useful if you're forced to use a Windows machine. Nearly everyone has a copy of Adobe's Acrobat Reader, which has slide-show capabilities. If you don't mind losing your fancy transitions and animations, making a PDF copy can provide peace of mind.

JUSTIN WONDGA

In "Hit the Road, Mac," you recommended using Reverse DNS Lookup to find the current SMTP server when connecting from the road. Trouble is, if you want to send e-mail messages from a hotel, a coffee shop, or a wireless hotspot, it can be hard to connect to SMTP servers; almost all of them bar relaying. (If you try to send mail via a third-party Internet service, your SMTP server will say that you're out of bounds and politely tell you to go fish.) May I offer a couple of solutions? First, talk to your IT department or your ISP to see whether it has an authenticated SMTP server. If it does, configure your e-mail client accordingly and then send messages from just about anywhere. Second, use the secure, authenticated SMTP servers at Gmail or Yahoo.

Codec Confusion

AL LEMIEUX

Jonathan Seff's "Play Anything" (*Playlist*, May 2005) came two months too late for me. That's how long I've been trying to open some AVI files that used an old Intel Indeo 2.1 codec. I tried converting them using a slew of applications on both a PC and a Mac; I posted questions on major video-discussion boards—all to no avail. Turns out the video files were created on a PC running Windows 3.1. I haven't tried the VLC Media Player yet, but I'm planning to give it a go. Thanks for the good article.

How to Download an OS

JOSE DONIGA

I recently bought a new iPod mini. I followed the instructions, loaded the software, and then connected the iPod mini to the computer. Nothing happened. So I looked up the system requirements. Turns out that while iTunes and the iPod software are both current, my operating system isn't; the iPod requires Mac OS X 10.3.4, but I have only 10.3. I really wanted to make this work, so I decided to update to OS X 10.3.9. The problem: it's a 117MB download and I have dial-up service. After three hours, only 50MB had downloaded. Not wanting to tie up our telephone for that long, I disconnected. But what do I do now? Return the iPod? Apple should include the Mac OS update on the CD that comes with the iPod.

So Long, Paper

BAKARI CHAVANU

I agree with Jason Snell when he says that the Internet hasn't replaced the printed word (*From the Editor's Desk*, May 2005).

But I happened to read that column in digital form, using Zinio Reader, which came installed on my Mac mini. I find that it's a nicely interactive way to read the articles, complete with links to the sites mentioned. Now I'm considering switching to the digital format, which would allow me to keep each issue on my computer and organize PDF files of individual pages for future reference.

Apple versus ASP

TYLER REGAS

In response to reader Tom Dalton's letter "Mac Off the Web?" (*Feedback*, May 2005), in which he blames Apple for OS X's incompatibility with a "growing number of Web pages [that] use ASP (Active Server Pages) apps"—his real problem is with ActiveX controls, a PC-only technology. ASP—much like PHP or Apple's own Web Objects—creates pages on-the-fly when they are requested. The client doesn't have to process these pages. ActiveX controls, on the other hand, are small applets that run scripts on the client, and are Windows-only.

Who Burns Your Music?

BOB WEAVER

In "Napster's Bad Math" (*Mac Beat*, May 2005), Jonathan Seff writes that "you own anything you get from iTunes." This is not really true. You are simply licensing the song—you are bound by the terms of the license agreement, which limits what you can do with that song. Whoever owns the copyrights owns the song

itself and the recording. I think this is an important distinction to make when discussing online music services. None of the services, to my knowledge, actually transfers ownership of the copyrights to customers.

Change Is Good

J. REVIERE


The May issue just arrived, and I like the changes you've made. I like the nuts-and-bolts how-tos. I like to make my Macs more useful. Your new direction is much appreciated.

CORRECTIONS

In our review of IM software (May 2005), we incorrectly reported the price of an iChat screen name. If you sign up for a free 60-day .Mac trial period, you can keep your screen name at the end of it. We also misreported iChat's one-way video-chat capabilities; you can set up a one-way video chat if you're the only person with a Web cam. Also, you can add ICQ users to your iChat buddy list, and Yahoo Messenger does allow two-way video chats.

In *More Reviews* (May 2005), we printed an incorrect mouse rating for Evoluent's Vertical-Mouse 2. The correct rating is **4/5**.

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Apple Moving to Intel

Steve Jobs's startling announcement that Apple will begin a transition away from PowerPC chips to Intel processors has left Mac fans' heads spinning—and not just because a former “enemy” of the Mac is now counted among its allies. Many details about the transition are unclear or flat-out unknown—after all, Apple has said that it won't be shipping any Intel-based Macs until next year. To help you sort out the situation, here are answers to all your questions about the Apple-Intel announcement.

BY JASON SNELL

What, specifically, did Apple announce?

On June 6, in an address to Mac developers, Steve Jobs announced that Apple would begin a transition from the PowerPC chips that currently power Mac systems to processors built by Intel. Jobs said that at least some Intel-based Macs would be on the market by June 2006, that most new Macs would be Intel-based by June 2007, and that the last PowerPC-based Mac will have

rolled off the assembly line by the end of 2007.

2006? So why did Apple announce this now?

Developers of Mac software—the people Jobs was addressing—need time to ensure that their programs will work on Intel-based Macs. Now that developers have the necessary tools, chances are good that numerous programs will be ready before Intel-based Macs actually arrive.

Why did Apple do this?

Jobs said that the company made this decision because it “want[s] to be making the best computer for our customers, looking forward.” He cited his 2003 promise to ship a 3GHz G5 by mid-2004—a promise that is still unfulfilled. He mentioned that Apple has also failed to deliver a G5-based PowerBook. Clearly, Apple has not been impressed with the pace of processor development by IBM, which builds the G5 chip. And as Jobs said, Apple believes that



Steve Jobs announces Apple's switch to Intel processors.

PHOTOGRAPH BY DAVID PAUL MORRIS/GETTY IMAGES

when it looks to future processor development for chips destined for Apple systems, Intel will progress much faster than IBM.

Does this mean that Apple has to write a new version of Mac OS X for Intel?

Yes, but it's not as big a deal as you might think. OS X began as NextStep and OpenStep, operating systems that originated on Motorola-based chips and later also ran on Intel chips. So OS X has, from the very beginning, been an operating system capable of running on different chips. And Steve Jobs admitted that Apple has secretly created an Intel version of every version of OS X, just in case it needed to make the switch someday. That day is here, and the bulk of the work has already been done.

Is this going to be like the OS 9-to-OS X transition all over again?

Actually, it's quite different. For most developers already using Apple's Xcode tools, modifying programs to run on Intel processors will be much easier than making that software run natively in OS X was. (For developers using Metrowerks' CodeWarrior as their development environment, however, it might be just as hard or even harder.) From a user perspective, an Intel-based Mac system will look just like a PowerPC-based system. OS X will look and act the same; it's only the underlying processor that will be different.

But it is a transition, and there will be quirks and bumps, new stuff to learn, and a lot of uncertainty. So in that way, it may remind you of the OS 9-to-OS X transition, or the move from 680X0 processors to PowerPC chips back in the mid-1990s.

Does this affect the software I already own? What will happen to my software if I buy an Intel-based system?

Apple has announced a new technology, called Rosetta, that will run PowerPC Mac programs on Intel-based Macs. However, according to Apple's own technical documentation, Rosetta does not support Classic apps, nor does it support apps that require the G4 or G5 processors.

Rosetta works by translating code meant to run on a PowerPC chip into code that is compatible with Intel processors. If you recall running 680X0 code (say, Microsoft Word 5.1) on a Power Mac in the mid-1990s, then you know what this means: programs run slower when they're not running on their native processors. Most common programs will probably be quite usable; some processor-intensive applications such as games and 3-D renderers probably won't be. Over the next year, many software developers will likely update their applications so they'll run properly using Rosetta.

Rosetta doesn't work the same way Classic does, however. Classic emulates an entirely separate operating system (OS 9) on the PowerPC chip in your current Mac. Rosetta runs native OS X applications but translates the PowerPC chip instructions into Intel-compatible ones.

By the time the first Intel-based Macs appear, many of the programs you use may have already been updated to new versions that also support the Intel architecture. You'll be able to tell which processor type a program supports by selecting the program in the Finder and choosing Get Info. In the More Info section, you'll see an Architecture line that lists Intel, PowerPC, or both. (There's also an Open Using Rosetta option that might be useful in certain oddball situations, much as the Open Using Classic option is today.)

Will I have to buy new versions of my software to run on an Intel-based Mac?

As with the PowerPC and OS X transitions, there's no single answer. One company might offer an Intel-compatible version as a free upgrade; another might make it a major release.

Because of Apple's new Universal Binary approach, a developer can deliver one program that contains both Intel and PowerPC versions of its software. You won't have both Intel apps and PowerPC apps floating around, making it easy to click on the wrong one (and making it impossible to drag and drop software from an Intel Mac to a PowerPC one). And future Mac software will likely be sold simply as Mac software,

Conversation With Intel

A few days after Apple made its big announcement, Macworld.com news editor Jim Dalrymple drove to Intel's Santa Clara, California, headquarters to talk about Intel's new relationship with Apple, its commitment to research and development, and the promise of future innovations. Check out macworld.com/0622 for the details.



not as Intel Mac software or PowerPC Mac software. You'll install it and double-click on the program, and then your computer will use the right code for its processor.

Will Intel-based Macs get nasty viruses and spyware, as Intel-based PCs do?

Essentially, no. The viruses and spyware you hear about on Windows are just that—attacks on the Windows operating system, which happens to run on Intel (and AMD) processors. If a Mac were to be infested by viruses and spyware, those infestations would happen no matter what processor was running that particular Mac.

This is not to say that a Mac couldn't get viruses and spyware. But that's true today, too. The Mac is nearly free from viruses and spyware because it's more secure than Windows and because it's a much less common system than Windows. Moving to Intel processors doesn't change any of that.

Does this mean that my Mac is obsolete?

Think of it this way—like any animal, Mac systems have natural life spans. When they're young, they're pretty frisky and can run just about any program you throw at them—even the most cutting-edge, processor-intensive stuff. As they reach middle age, they seem slower. While they're good at running the same programs they did when they were new, they can no longer seriously play out on the cutting edge. Eventually, a Mac becomes old, at which point it can still be a solid contributor for a long time to come; but just like old dogs, old Macs don't tend to learn many new tricks.

continues



Jobs greets Intel's CEO, Paul Otellini.

Or to be more direct, when you buy a Mac, it starts to become obsolete almost immediately. Technology advances, computers get faster—one day, there will be a version of OS X that won't run on your Mac. That was true three years ago, and it's true today. Your current Mac, and any Mac you buy in the next year, will still pass through all the stages of life. The Intel transition will be a very specific milestone along that path. Depending on how the transition shakes out and, more importantly, what you use your Mac for, the Intel transition might make your Mac obsolete more quickly, or it might keep it relevant for a little while longer than would be normal. But all computers are born to be obsolete.

Should I hold off on buying a new Mac until the Intel-based Macs arrive?

It depends on what your needs are and which Mac(s) you currently have. Over the next year, Apple will come out with numerous improvements on existing PowerPC-based Mac models. And keep in mind, according to Apple, the PowerPC won't be completely eliminated from the company's product line until late 2007. If you've got an aging Mac system, do you want to wait until 2007 to get a new one? If you bought a new Mac today, you could be pretty confident that it would serve you well for several years and probably wouldn't become obsolete any faster than it would normally.

Then again, if you're comfortable with the Mac system(s) you've got now and don't feel the need to buy a Mac for a while, waiting until Apple crosses the next barrier might be a good idea.

How will the Intel machines measure up to the PowerPC Macs in performance?

We simply don't know yet. But keep in mind that Apple won't ship any Intel-based Macs until 2006, so the Intel chips that are available in today's PCs are not necessarily the chip models, speeds, or even families that will make their way into Apple's systems. We'll just have to wait and see.

Will this lead to cheaper Macs?

It's possible, depending on what parts Apple buys from Intel and what they cost. But Apple will continue to make Macs, and sales of Mac hardware help fund Apple's development of OS X. Don't expect Apple to start selling computers at rock-bottom prices like cheap PC cloners.

Will any PC be able to run OS X for Intel?

Apple says no. Our guess is that some enterprising hacker may be able to get it to work, but we'd expect that getting OS X to run on PC hardware would be a laborious process, and the result might not be a particularly stable system. You certainly won't be able to buy OS X, stick the installation DVD into a Dell PC, and have it just work. Apple intends for OS X to run only on Apple hardware.

Will my Intel-based Mac be able to run Windows?

It seems likely, although Apple won't support it. Someone will probably figure out a way to install Windows on a Mac system so that you can choose to boot into either OS X or Windows. Or a future version of Virtual PC may let you run PC applications at full speed, on a window within your Mac (or on a second monitor). There are some intriguing possibilities here for Mac users who must use Windows applications some of the time.

But if all Macs will one day be able to run Windows, won't application developers stop creating Mac versions of their programs?

It's possible, but it's not very likely. Mac users are Mac users because they want to run software in the

Mac interface. The large software companies that publish programs on the Mac understand that, and so do the small Mac developers who are making cool OS X applications. The midrange developers who have a flagging commitment to the Mac might be the ones to worry about, but to be honest, the OS X transition has already shaken most of those developers out of the Mac market.

The future of the Mac games market is somewhat more of an open question, as *Macworld's* *Game Room* columnist, Peter Cohen, discovered when he talked to Mac game developers (you can read his story at macworld.com/0620).

Whatever happened to the megahertz myth?

It's still true—you can't compare different chip types solely based on megahertz (or gigahertz). Even Intel has had to deal with this, since some of its chips' speed-per-megahertz ratings can't be measured against some of its other chips' ratings. Apple clearly feels that Intel's chips have the best growth path, and that's why it has made this major shift in technology.

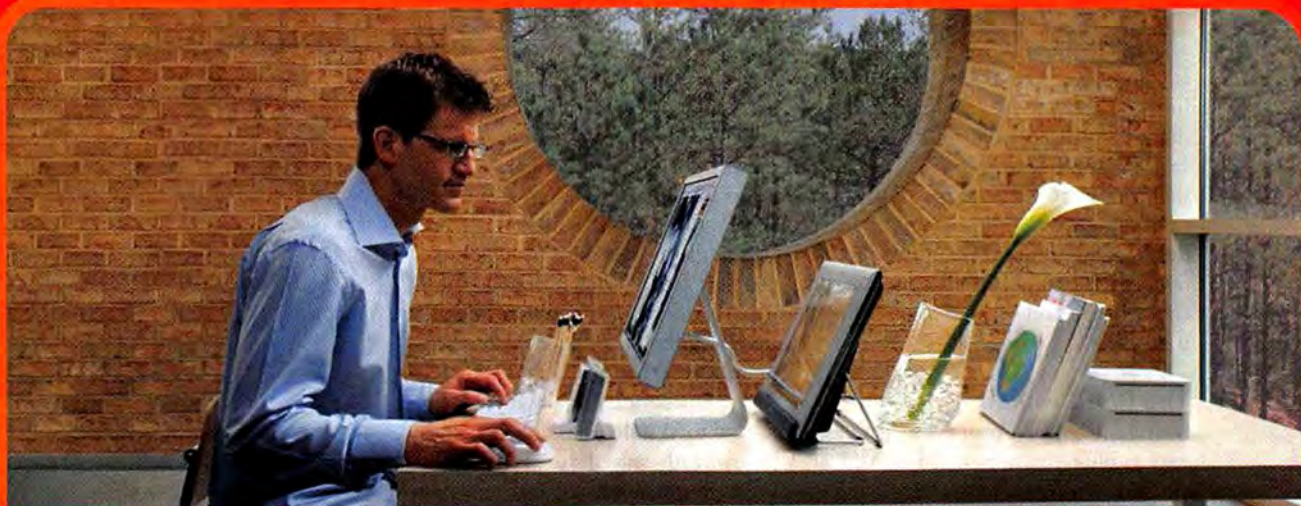
On the positive side, with Apple using Intel chips, PC users will no longer be able to use clock-speed comparisons against Mac users. And with the processors being equal, we will be able to make a much more direct comparison between the speeds of OS X and Windows XP.

Apple used to bash Intel's chips. What changed?

Intel's chips have evolved. Intel is a huge company that has devoted massive resources to improving its chip technology. It has also been spurred on by heavy competition from another PC chip maker, Advanced Micro Devices (AMD). Clearly, Apple now feels that the future of Intel's chip architecture is quite bright; otherwise, we wouldn't be where we are today. □

JASON SNELL is *Macworld's* editorial director.

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DEVELOPERS WEIGH IN ON APPLE'S INTEL NEWS

Transition Time

It could have been a rude awakening for Mac developers. Apple's announcement that Macs would start including Intel-built processors in 2006 means that Mac software makers will have to update their programs to run on the new machines. But most of the developers *Macworld* talked to soon after this news had hit seemed to be taking it in stride.

The Road Ahead

Switching to Intel processors isn't as easy as plugging in new chips. Almost all the software that now runs on the PowerPC will have to be altered to work on Apple's new Intel-based systems. As Steve Jobs pointed out, some apps—widgets, scripts, and programs based on Java—should work on Intel Macs without any changes. But others will require tweaks (ranging from minor to major) and a recompiling of code.

What kinds of tweaks? Take, for example, what developers call the “byte order issue.” Intel and PowerPC chips store numbers differently.

According to ProVue Development founder Jim Rea, “without special code, numbers saved on a disk using the [PowerPC] processor can't be read by an Intel processor, and vice versa.”

Rea, the primary author of ProVue's Panorama, points out that this isn't a problem for apps (such as some utilities) that don't save any data to disk. It's also not a problem for text editors or outliners that deal only with text. And if a program has already been ported to Windows, the developers have already solved the problem. That leaves number-writing, Mac-only apps that need to be updated—a process that Rea says could take a few weeks to a few months.

The Easy Way

To illustrate how easy the porting process can be, Steve Jobs called on Theo Gray, a cofounder of Wolfram Research (makers of technical-computing app Mathematica). Converting Mathematica (a relatively complex application) to work on an Intel Mac required changes to just 20 lines of



source code out of millions—and a total of about two hours.

“It's pretty good when the biggest problem from your port is to figure out what to do with the rest of your weekend,” Gray told fellow developers during the keynote.

Other developers may not have it so easy. Programs that directly address the PowerPC processor, including those that take advantage of the AltiVec vector-processing capabilities of the G4 and G5 chips, will need to be more dramatically modified. Elgato Systems' EyeTV, for example, has a large amount of heavily optimized AltiVec code.

“Porting the AltiVec code to Intel's SSE [the Intel counterpart to AltiVec] can be equivalent to a full rewrite,” says Dr. Markus Fest, Elgato's founder and chief technology officer. Nevertheless, Fest stresses that all Elgato products will run natively on PowerPC Macs and Macs with Intel chips, and that he expects a “relatively painless transition.”

For developers who don't want to rework their applications for Intel Macs, Apple has another new technology, dubbed Rosetta. Described by Jobs as “a dynamic binary translator,” Rosetta will let PowerPC apps run transparently on Intel systems. Using Rosetta during his keynote, Jobs ran unmodified versions of Microsoft Office 2004, Intuit Quicken, and Adobe Photoshop CS2 on a Power Mac with a 3.6GHz Pentium 4 chip.

continues

What They're Saying

“We are absolutely committed to taking our applications so that they run natively on Intel in an Apple box.”—**Bruce Chizen, Adobe CEO**

“From where I'm sitting, it looks like Apple is doing what's right for its own business, and making sure that Apple customers have the best platform to run on.”—**Rich Siegel, Bare Bones Software president, founder, and CEO**

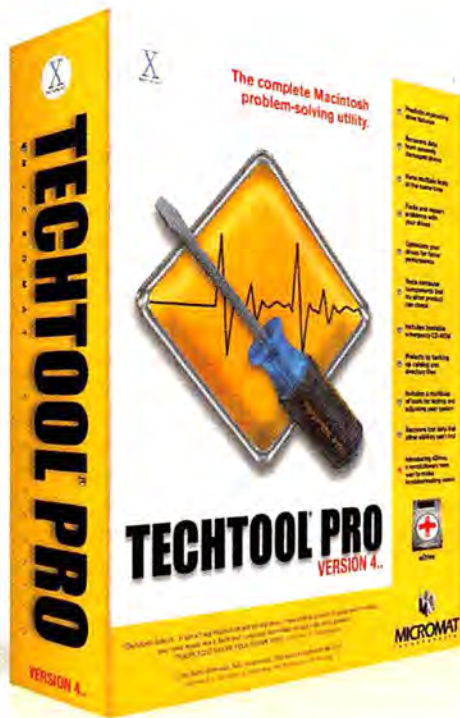
“We don't foresee any challenges on our part, so long as Apple makes this as transparent as possible.”—**Peggy Chang, Intuit senior product manager of QuickBooks for the Mac**

“The Mac Business Unit is already hard at work on the next versions of Office for Mac and Virtual PC for Mac. An important part of that work includes collaboration with Apple engineers to create Universal Binaries of future versions of Office so it will run natively on Apple's future hardware.”—**Roz Ho, Microsoft Mac Business Unit general manager**

“We're optimistic that [Apple has] thought about how to keep things as smooth as possible for developers. The staged approach seems reasonable.”—**Adam Fingerman, Roxio director of product management**

“We've been writing Mac software since System 7. We no longer fear change.”—**Cabel Sasser, Panic cofounder**





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Take MYOB, for example: Rosetta technology will allow its Account-Edge finance software to run on Intel while the company mulls its long-term development plans. "Short-term, [Apple's move to Intel chips] is not an issue, as it looks like Rosetta is going to give us something to move forward with," says product manager Tom Nash.

Past Transitions

Indeed, many developers feel well prepared for the work ahead, especially compared with previous transitions. Jobs announced the availability of a development platform—including an

Intel-equipped Power Mac running the special OS X 10.4 for Intel—at the conference. "To have an operating system, [a] compiler, and hardware to develop and test with at this stage of the process is very impressive," says Fetch Softworks founder (and Fetch FTP software author) Jim Matthews. By comparison, when the Mac platform moved from the 680X0 processors to the PowerPC, Matthews says, many developers got the new hardware at the same time as consumers.

It doesn't seem that the move to Intel's architecture will involve as

much work as the transition from the classic Mac OS to OS X. "That was a more significant effort," says Peggy Chang, Intuit's senior product manager for QuickBooks for the Mac. "I'm not hearing our developers talk about anything close to that. This is more about recompiling and debugging."

And that should translate to a smooth transition for Mac users. As Fetch Softworks' Matthews puts it, "For customers, moving to Intel hardware should be easier than moving to a new OS." —PHILIP MICHAELS



A PRIMER ON INTEL'S PROCESSORS

Behind the CPUs



Apple's decision to move to Intel for its processor needs brings up many questions. But many people are simply wondering why: What do Intel's x86 CPUs offer that IBM's PowerPC chips don't? Steve Jobs mentioned low power consumption, or "performance per watt," as the chief difference. Compared with IBM's chips, Intel's use less energy and run cooler—handy characteristics for a CPU that's wedged within the confines of a laptop.

The Wintel world is cluttered with far more products than the Mac universe, and Intel offers a bewilderingly large array of CPUs that vary in cache size, speed, and features. So here's a rundown on some of Intel's bigger-name processors (but keep in mind that you can expect the chip maker to have some newer processors available by the time Apple starts using its chips).

Pentium 4

Designed for: Desktops and desktop-replacement laptops

The best known of Intel's processors, the P4 was designed to achieve high clock speeds, but it generally does less per clock cycle than competing CPUs. The latest P4s run as fast as 3.8GHz with 1MB or 2MB of cache and an 800MHz frontside bus. They're also 64-bit, courtesy of Intel's EM64T—a version of the x86-64 64-bit instructions developed by AMD for its Intel-compatible Athlon 64

CPUs. EM64T P4s perform both 32-bit and 64-bit instructions with equal facility.

Some P4 models also feature Hyper-Threading, which creates two virtual CPUs to improve performance when running simultaneous tasks—for instance, applying a Photo-shop filter and browsing the Web.

Pentium D

Designed for: Desktops and performance laptops

The Pentium D evolved out of the P4 and, like the G5 and most Intel CPUs, is manufactured using a state-of-the-art 90-nanometer process. The D stands for "Dual-Core," which means that the CPU has two execution cores (the CPU's heart, which actually processes the instructions) on the same chip. It's essentially the same concept as a dual-processor G5, except that the CPUs are found on a single piece of silicon. With two cores, Pentium D CPUs are especially adept at multitasking, and all three models (2.8GHz, 3.0GHz, and 3.2GHz) feature the EM64T instruction set, 1MB of cache per core, and an 800MHz frontside bus.

Pentium 4 Extreme Edition

Designed for: Gaming machines and performance desktops

The newest version of the P4 EE is actually a Pentium D with Hyper-Threading enabled, meaning that two physical processor cores are split via Hyper-Threading for a total of

four virtual CPUs. This flagship EE shouldn't be confused with older models, which are single-core P4s with Hyper-Threading and either a 2MB cache (3.73GHz, 1,066MHz frontside bus, 90-nanometer model) or dual 512KB L2 and 2MB L3 caches (3.2GHz or 3.46GHz, 800MHz or 1,066MHz frontside bus, 130-nanometer models).

Pentium M

Designed for: Laptops

Some think that the 32-bit Pentium M is what Apple was really after from Intel in the short term. The Pentium M isn't based on the P4 core; it's a separate animal that does a lot more work per clock cycle. Available in clock speeds from 1.5GHz to 2.13GHz, it easily outperforms the G4 found in Apple's fastest notebooks and offers wonderfully parsimonious power consumption. Pentium M notebooks regularly last more than five hours on a single battery charge—something iBook and PowerBook users currently can only dream of.

Celeron

Designed for: Budget desktops and budget laptops

Celerons are the lower-priced, 32-bit-only cousins of the Pentium; they generally suffer from a slower frontside bus, less cache, or some other performance-inhibiting characteristic. They cost only a little less than low-end Pentium models, but might be ideal for a budget "MacIntel." —JON L. JACOBI

A PERSPECTIVE ON THE INTEL TRANSITION

Why Today Isn't Like 1994

I started my life as a full-time Mac editor in 1994, just as the 680X0-to-PowerPC transition was beginning. This new PowerPC-to-Intel transition reminds me of the Mac's previous chip transition—but there are also many differences.

The PowerPC transition was spurred by the flagging performance of Motorola's 680X0 chip line, as well as the improved speed of Intel's then-new Pentium chip. Jumping from a 68040-based Quadra to a PowerPC 601-based Power Mac resulted in a noticeable speed boost. The forthcoming transition is more about future speed improvements; as a result, the jump from latter-day PowerPC systems to first-generation Intel Macs probably won't offer such dramatic speed increases.

When the PowerPC transition hap-

pened, Apple actually sold upgrades for Quadras so that they could run as Power Macs. Some of them came in the form of complete logic-board upgrades. Although Apple has remained mum on the matter of upgrades, it's highly unlikely that there will be any Apple-sponsored upgrades that will turn PowerPC Macs into Intel models. And it's unclear whether clever upgrade-card companies will be able to find any way for users of Power Mac G5s to install an Intel processor in their systems.

Unlike in 1994, today's Mac users are much more knowledgeable about concepts such as *native applications* and even *emulation mode*, thanks to the refresher course we got during the move from OS 9 to OS X. But the 1994 rules still apply: emulated applications (running via Rosetta, in

this case) will be slower than Intel-native versions.

As I reviewed my 1994-era Mac magazine collection, it became clear to me that every transition is a time of confusion and fear, as well as of great opportunity. It was interesting to read these words, which appeared in the May 1994 issue of *MacUser*: "With the introduction of the [Power Mac], Apple . . . is relying on developers to write native software [and] relying on us to purchase Power Macs and then to buy upgraded software. If [that happens], then the Power Macs will launch Apple toward the 21st century." Well, here we are in the opening years of the 21st century. Now it's time to launch Apple deeper into the heart of it.—JASON SNELL



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ADOBE CREATIVE SUITE 2

Photoshop CS2

Sprawling Upgrade Adds Depth, Refinement, and Complexity

BY JIM HEID

Something for everybody: that about sums up what's new in Adobe Photoshop CS2. The latest version of the world's top image editor is peppered with improvements for every type of user. Photographers gain the most, but Photoshop CS2 will also bring smiles to film and video producers, print and packaging designers, and Web publishers.

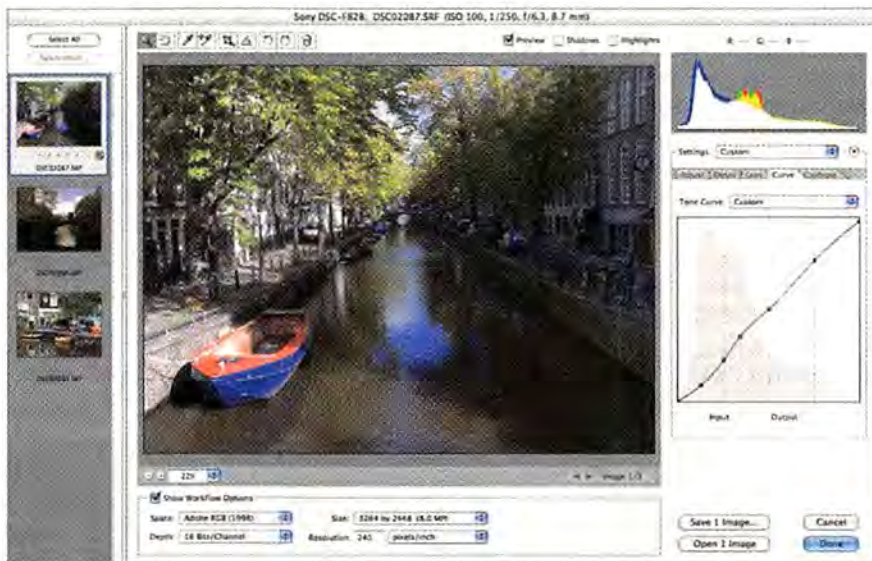
The new version also has interface and automation enhancements that boost productivity. All of this is wrapped in an interface that will be pleasantly familiar to Photoshop veterans—and occasionally daunting to new users.

Photo Finish

Photoshop CS2's photography-related enhancements run the gamut from basic to bleeding edge. The new version adds two tools that debuted in Photoshop Elements 3 but now work on 16-bit images: the Red Eye tool does a fine job of fixing that common snapshot flaw, and the new Spot Healing Brush tool simplifies retouching by eliminating the need to first specify a source point—just select the tool and click or paint on the flaw. Adobe has also updated the venerable Lens Blur, Lens Flare, and Liquefy filters to work in 16-bit mode, which is critical to artists working with 3-D graphics and to photographers who shoot in a raw format.

Speaking of raw image files, Photoshop CS2 includes Camera Raw 3, a major update to the software that most photographers use to prepare and optimize such images. Camera Raw 3 still works as a plug-in—a design approach that allows Adobe to release frequent updates that support new cameras. One update has already appeared; at press time, the current version was 3.1.

Camera Raw 3 features several improvements, including new tools for straightening and cropping images. A new Curve tab lets you finely adjust image contrast by positioning control points (see "Raw Refined"). It works much like the Curves dialog box in Photoshop, and because raw images contain a great deal of highlight data, the Curve feature is particularly useful for bringing out



Raw Refined Camera Raw 3 adds a Curve tab that gives you fine control over contrast. You can choose from a few predefined curves or create a custom one by adding control points and positioning them as desired. The new Filmstrip pane (on the left) makes it easy to apply the same settings to multiple raw files.

highlight detail that might otherwise get discarded during the conversion process.

Camera Raw 3 also works with the new Bridge application, giving you some appealing workflow options: you can make image adjustments without even launching Photoshop—Camera Raw saves your adjustments in a queue for processing later. Busy photographers can quickly tweak a set of images and then get back to shooting while Photoshop crunches through the shots.

Photo Filtering

Photographers will also love Photoshop CS2's new Lens Correction filter, which fixes many common forms of optical image distortion, such as pincushion and barrel distortion. A set of perspective adjustments makes it easy to fix the problem of converging verticals, which can cause a building to appear to tilt backward (see "Straighten Up"). Also new in Photoshop's filter arsenal are noise-reduction, sharpening, and blurring filters. The Reduce Noise filter cleans up noisy images, such as

those shot at high ISO speeds. It gives you far more control than the Dust & Scratches filter—it lets you reduce noise on individual red, green, or blue channels, and adjust edge details to avoid excessive softening—while still providing natural-looking results.

The new Smart Sharpen filter goes well beyond the Unsharp Mask filter. You can, for example, control the amount of sharpening applied to highlights and shadows. Of the three new blur filters in Photoshop CS2, the most interesting is Surface Blur, which creates a diffused, soft-focus look. Used sparingly, it's surprisingly effective at removing noise and film grain. Used with abandon, it creates a dreamy mood that you'll be seeing in a lot of wedding albums.

Some of Photoshop's new filters let you save filter settings for later—a valuable addition I'd like to see in more filters.

Broaden Your Range

No camera can match the human eye's ability to take in a scene containing a wide range of

REVIEWS YOU CAN TRUST Macworld rates only final shipping products, not prototypes. What we review is what you can actually buy.

dark and bright areas. Photoshop users employ several techniques to deal with this reality—from tweaking shadow and highlight details, to processing a raw file using multiple tonal settings and then combining the resulting files.

Photoshop CS2 adds another option: the HDR Merge command. HDR is short for *high dynamic range*. HDR photography involves using a tripod-mounted camera to shoot several photos of a scene, each at a different exposure. Run those shots through HDR Merge, and Photoshop blends them in an attempt to capture the full tonal range of the original scene. The resulting file is a 32-bit image that you can convert to an 8- or 16-bit image for printing and displaying.

During that conversion process, you have a few options for shoehorning the broad dynamic range of a 32-bit image into the narrower range of an 8- or 16-bit image. But this is a tricky process, and it's easy to end up with unnatural-looking photos.

Reality Distortion

One of Photoshop CS2's flashiest enhancements is a feature you may not use often, but it will save hours of effort when you do. The new Vanishing Point tool lets you draw perspective grids over the flat planes in an image, and then paint, retouch, and otherwise mod-

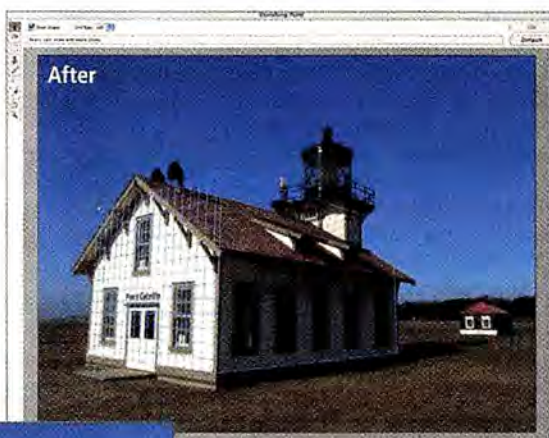
ify them. As you paint or move and clone elements within a plane, Photoshop scales them to match the plane's perspective (see "Pixels in Perspective"). Activate the healing options in the Vanishing Point dialog box, and Photoshop adjusts the color, texture, and lighting of elements as you move them.

The Vanishing Point tool is fun to use, and it's spectacular for architectural applications (moving windows or applying a texture to a building), package design (putting text or images on a box's sides), and general retouching.

Another new reality-distortion tool, Image Warp, lets you warp images by dragging Bézier control points. Image Warp is ideal for package design and illustration.

Working Faster and Smarter

The rest of Photoshop CS2's enhancements may not show up on your images, but they



Pixels in Perspective The new Vanishing Point tool lets you retouch and edit within perspective planes. Here, I gave the lighthouse a second-floor window and a fifth window on its side. I also pasted some text above the front doors.

will show up on your wristwatch: several new features allow you to get more done in less time.

For starters, you can designate a layer or group of layers as a *smart object* and then transform it nondestructively: move, resize, or duplicate it; change its blend mode or opacity; or apply layer styles. Click on a button in the revamped Layers palette, and the smart object opens for editing in a new window. Make changes and choose Save, and the object is updated.

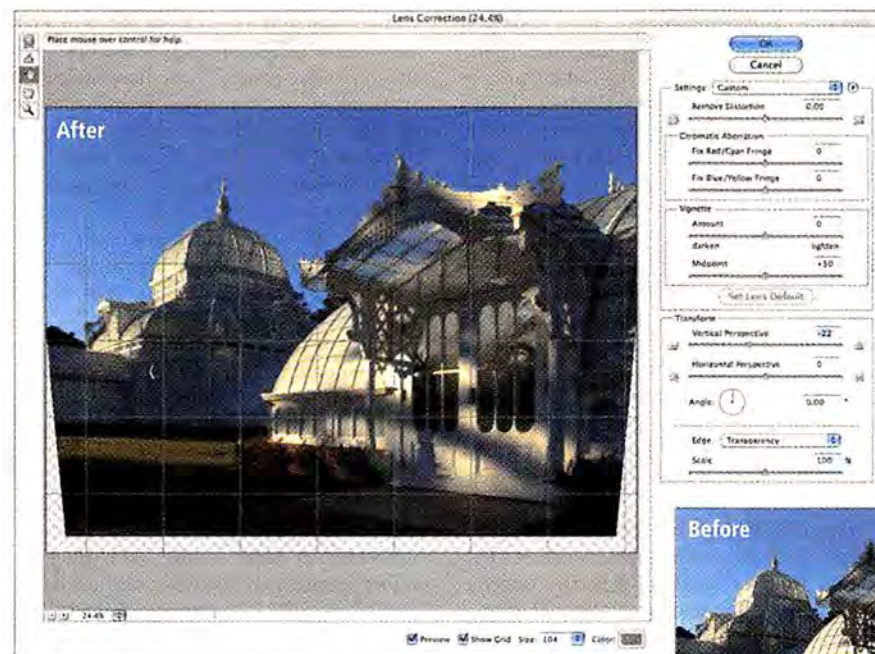
Smart objects are ideal for creating buttons for Web pages or DVD menus. You can even use smart objects to combine multiple copies of a raw image to increase dynamic range. This feature is an updated version of a technique Photoshop users have employed for a while now, and it's ideal for times when the stiff constraints of HDR photography make that technique impractical.

Unfortunately, you can't apply filters to smart objects—a capability that would greatly streamline many imaging tasks.

Other time-savers in Photoshop CS2 include the ability to customize Photoshop's menus: you can remove commands you don't use and even color-code commands so they stand out. Photoshop also provides smart alignment guides that appear when you drag one layer near another.

Video producers will love Photoshop's new ability to out-

continues



Straighten Up With the Lens Correction filter, you can correct common lens flaws and other problems. Here, the vertical perspective has been corrected to fix the common converging-verticals problem. The customizable grid aids in alignment tasks.



put the current document to a video monitor via FireWire: you can preview how your graphic will look on TV without having to save it and import it into a video-editing program. Adobe hasn't forgotten about hard copy, either. It has fine-tuned Photoshop CS2's Print With Preview dialog box, to clarify some of the confounding color-management options.

Adobe's new Bridge application adds depth and flexibility to Photoshop and reinforces its integration with the other applications in Creative Suite 2 (see "The View from the Bridge," page 26).

Room to Grow—and Learn

For all of the improvements in Photoshop CS2, there's room for more.

Some of Photoshop's features and most of its filters still don't work on 16-bit images. Photoshop CS2 provides broader 16-bit support than its predecessor did, and I hope this trend continues—especially now that filmmakers and photographers are beginning to work with 32-bit images.

Next on my wish list is the ability to apply filters nondestructively, as you can adjustment layers. Being able to sharpen images, blur them, and apply other filters without affecting actual pixels would greatly simplify many photographers' workflows. Smart objects are a step in the right direction, but they don't go quite far enough.

And finally, Adobe's documentation is inadequate, especially given Photoshop's complexity and capabilities. Adobe could take a lesson from Apple, which supplies superb documentation with its professional-level applications.

Macworld's Buying Advice

Photoshop CS2 is a tour de force. It's packed with innovations that will make your images better—and get you home faster. Bridge is far superior to the File Browser, smart objects and all the productivity enhancements are great, the new Lens Correction and Vanishing Point features are extremely helpful, and the video preview is glorious. This is the most significant Photoshop upgrade in quite a while, and if you're serious about digital imaging, you need it. □

RATING: ★★★★★

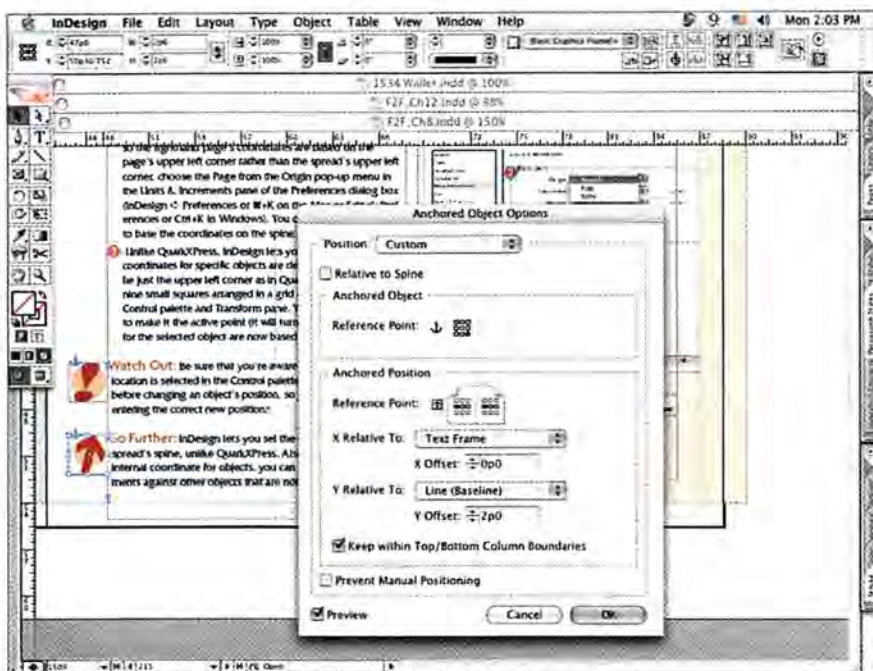
PROS: Broad spectrum of improvements; increased 16-bit support; innovative HDR Merge and Vanishing Point features; excellent productivity and automation enhancements.

CONS: Still can't apply filters nondestructively; inadequate documentation.

PRICE: \$599; upgrade, \$149; CS2 suite, \$899

COMPANY: Adobe Systems, www.adobe.com

A Macworld contributing editor since 1984, JIM HEID is the author of *The Macintosh iLife '05* (Peachpit Press/Avondale Media, 2005) and its companion Web site, www.maclife.com.



Leash Your Objects InDesign CS2 can anchor objects to specific points in text, so they follow the text as it reflows.

InDesign CS2

**Text-Handling Enhancements, Object Styles, and More
Make This the Best Layout Program Available**

BY GALEN GRUMAN

InDesign was already the clear leader in typographic sophistication, object handling, multilingual publishing, and transparency effects for text and graphics. And with InDesign CS2, Adobe has significantly bolstered text- and graphics-handling functions. Many interface enhancements—including unique and powerful features that will entice QuarkXPress and PageMaker users—increase the program's flexibility, extend its many core strengths, and (for the most part) make this version easier to use than previous versions.

Text Handling

Many of the new features provide capabilities long available in Microsoft Word (but not in most publishing programs), such as anchored text frames, automatic text correction, and bulleted lists. With InDesign CS2, layout artists and copy editors alike have the tools they need, reducing the need to switch between Word and InDesign and thus minimizing errors.

Layout artists will love the new anchored-object feature, which links an object (text frame, graphics frame, or line) to a specific place in text. The anchored object moves as the text moves—great for pull-quotes, cross-reference boxes, callouts, and figures. Using a complicated interface that could stand some simplification, you can control the position of an anchored object (such as at the top of the

page and to the left of the text containing the link). If you import Word files that have linked text frames, InDesign now detects and retains them, though not necessarily in their original position. It also lets you modify them.

When you import text from Word or Rich Text Format (RTF) files, InDesign CS2 now gives you real control over how styles are imported, so you can map Word styles to InDesign styles and designate whether the InDesign or Word style is applied when both documents use the same style names. Even better, you can save and reuse these import settings. And when you import styles from other InDesign documents, you can now select which styles to import, rather than importing all of them.

InDesign CS2 supports footnotes, which you can import from Word or create in InDesign, and it lets you control their formatting and placement. InDesign CS2 also supports automated numbered and bulleted lists, with a feature adopted from PageMaker. This feature is adequate but hardly sophisticated. For example, you can't automatically align list numbers to the decimal point. Also, when you import automatic numbered or bulleted lists from Word or RTF files, InDesign doesn't see them as automated lists, so their numbering becomes fixed as regular text.

One nice but easily overlooked new feature is the ability to have InDesign CS2 align text away from or toward a spine, a handy way to

automatically align text such as pull-quotes, based on whether they are on a left- or right-side page. Without this feature, you'd need to align elements on left pages separately from those on right pages, and then watch out for elements that had to be realigned as they moved between pages. It's a subtle enhancement, but it shows the kind of fine-tuning that Adobe has brought to this latest version.

InDesign's spelling checker has been improved in several ways: it now flags suspect words with underline squiggles, à la Word; it offers autocorrection (to fix misspellings as you type); and it provides the option of case-sensitive spell-checking. Rounding out the text-handling improvements are the ability to drag and drop text; the ability to apply styles to text and other objects with a Quick Apply palette (so you don't have to switch between the keyboard and the mouse when editing); the ability to set baseline grids for individual text frames; and the ability to associate multiple dictionaries with a file.

Layout Tasks

Not all of InDesign's significant new features involve text. For example, you can now drag layout objects onto your desktop, creating a separate XML snippet file that you can then drag into another InDesign layout, e-mail to someone, or drop onto another user's shared folder. And InDesign still has traditional libraries that let you store multiple elements for reuse among multiple documents.

InDesign CS2 can also rerun transformations (such as rotations), so you can apply the same change or series of changes to multiple objects, just as you can in Illustrator. While you can't save transformations as macros, the ability to rerun them is a great time-saver.

Creative Suite users will also like InDesign CS2's support for non-vector layers; it lets you turn them on or off for imported Photoshop, Illustrator, and Acrobat documents. QuarkXPress 6.5 (June 2005) added a similar feature through a plug-in, but it works only with Photoshop files.

Other changes extend existing InDesign features. For example, you can now create object styles, which let you apply and change the formatting of lines and shapes consistently. So common graphic elements, such as sidebar boxes, can now easily be updated throughout a document as the design changes.

It's no surprise that Adobe continues to integrate capabilities across its flagship products, given its decision two years ago to present them as a unified suite. InDesign CS2 shows that integration strongly: the file format for color swatches is now consistent across all CS2 applications, color-management settings are now synchronized, and Acrobat job preferences can now be created and shared.

Helping Converts

Several enhancements mimic long-standing QuarkXPress features; most of them aid InDesign's usability and flexibility. For



Consistent Objects The new object-style capability makes it easy to apply consistent formatting—and update it globally—to objects such as a sidebar frame.

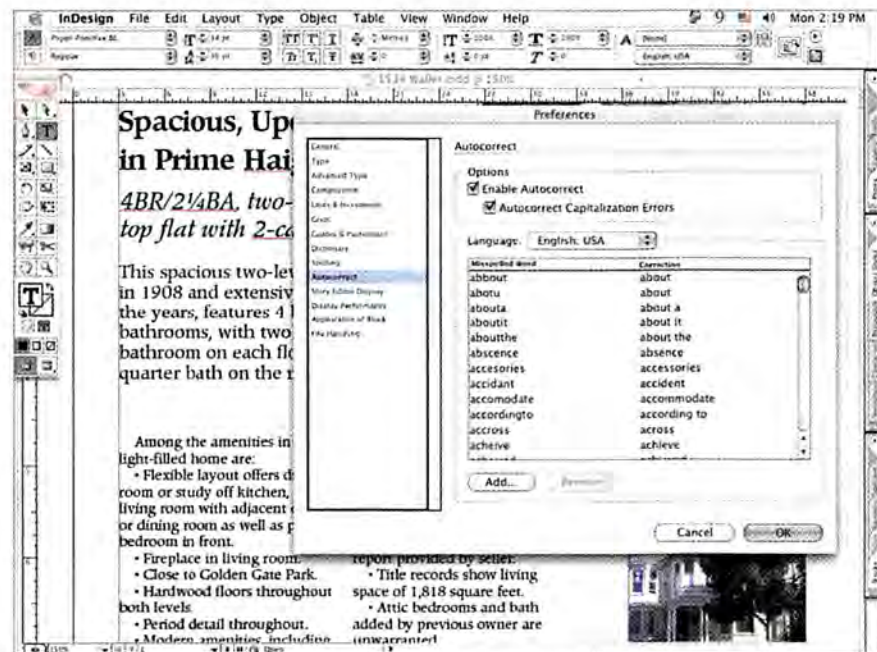
example, you can now convert object shapes via a new menu instead of having to edit them manually. Also, InDesign now lets you select a new style for text when you delete an existing applied style; before, such text retained its formatting but no longer had a style associated with it. And InDesign can now finally save just selected color swatches (instead of all swatches) for import into other InDesign documents; QuarkXPress has long let you select which swatches are transferred. Similarly, you can now choose which styles to import from other InDesign documents.

PageMaker users will also see several familiar features, including the PageMaker toolbar that provides iconic buttons for quick access to controls, such as the Save button. The functions of Adobe's PageMaker Plug-in Pack (June 2004), available for InDesign CS, are now part of InDesign CS2. These include the Position tool (a renamed version of PageMaker's Crop tool), automated bulleted and numbered lists, and a data-merge feature, which is useful for highly structured documents such as mailing labels or form letters. But the data-merge feature is not so well suited to catalogs, because each variable item has to fit within a consistently sized text frame—a mailing label easily does this, but a product blurb in a catalog may not.

A Few Quirks

As amazing as InDesign CS2 is, it has some problems that Adobe should address in future versions. For example, many people will miss the No Paragraph Style option in the list of paragraph styles, for removing styles from text, a standard practice in QuarkXPress workflows. Some designers—and Adobe, obviously—don't like this capability because they object to having styleless paragraphs. InDesign can still remove styles, but now you have to use a hard-to-find menu option for this basic task.

continues



Just Like Word InDesign CS2 can automatically correct spelling and capitalization errors as you type, as well as highlight suspect words on screen with red squiggly underlines.

Despite better integration with other Adobe programs, InDesign cannot apply a Photoshop file's blending modes to backgrounds in InDesign. For example, if you create an object with a drop shadow in Photoshop and you set the drop shadow to Multiply, InDesign uses the Normal blending mode—it can't detect the Multiply setting from Photoshop.

The new ability to display fonts in menus using the actual fonts is well intentioned, but if you own many fonts, the menus get so large that you can't see much of your layout.

Among the enhancements added to InDesign CS2 is the ability to save files to the previous version. But you can easily overlook this feature: you have to choose InDesign Interchange in the Export dialog box, rather than using the Save As dialog box as you do in most other programs. (InDesign CS users must download an update to be able to open these Interchange files.)

InDesign continues to limit its Web-export support to Adobe's own GoLive CS2, a barrier to people who use the much more popular Macromedia Dreamweaver MX (***; January 2004). And I was unpleasantly surprised to see that InDesign still cannot replace two consecutive hyphens with an em dash as you type; the new Autocorrect feature won't accept the em dash (and other special characters such as ®) as a legitimate character. Another feature not thoroughly implemented is text wrap. InDesign document pages do not recognize text wrap set on master pages, so their text doesn't wrap around master-page items as it should.

Macworld's Buying Advice

There's no question that InDesign CS2 is the best layout program available. This upgrade enhances the program's traditional typographic and layout strengths by making text handling more powerful, and it adds dozens of improvements for a more well-rounded interface. □

RATING: ****

PROS: Rich typographic and layout capabilities; handy object styles; strong text and graphics importing and formatting controls; style and color-swatches sharing; anchored-object feature; consistent color calibration; autocorrection and in-line spelling checker.

CONS: Automatic numbered lists have limited formatting options; inflexible data merge; text-wrap feature doesn't work for master-page items; autocorrection doesn't support special characters; can't detect Photoshop blending modes; Web export is limited to GoLive CS2.

PRICE: \$699; upgrade, \$169; upgrade from PageMaker, \$349; CS2 suite, \$899

COMPANY: Adobe Systems, www.adobe.com

Former Macworld editor and veteran technology writer GALEN GRUMAN has written 19 books on desktop publishing, including *Adobe InDesign CS2 Bible* and *QuarkXPress 6 Bible* (Wiley Publishing; 2005 and 2003, respectively).

The View from the Bridge

Adobe's new Bridge—a stand-alone application aptly named for its integrative and management functions—has replaced Photoshop CS's dedicated File Browser. It provides file-management and automation features for the entire Creative Suite 2.

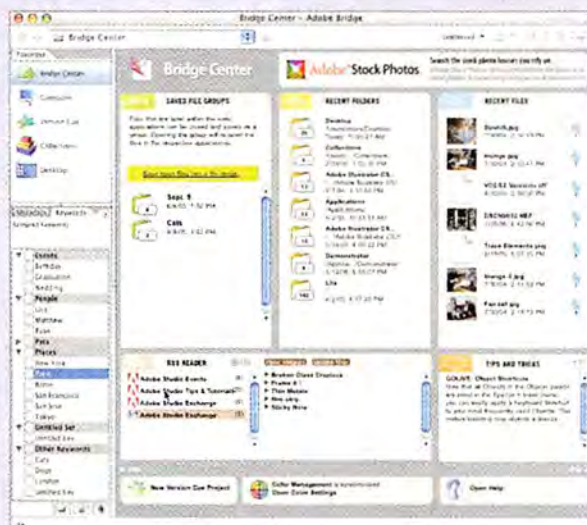
As in the File Browser, Bridge's interface provides separate, resizable panes that display metadata, previews, and your Mac's directory structure. You can use Bridge to preview just about any type of raster or vector file format, including many that don't normally provide previews, and you can easily edit file names and metadata.

InDesign users will appreciate Bridge's ability to display an InDesign document's font and color information without having to open the file.

The interface has been improved with a Film-strip pane that shows both a strip of thumbnails and a full-size image. There's also a built-in slide-show feature that allows you to rate and label images as you view them.

Workflow improvements include better automation, improved searching, and batch processing that spans the entire suite. Bridge also eases color management by automatically synchronizing color settings throughout all the CS apps (this feature is not available if you purchase the apps individually).

In addition to opening documents, Bridge lets you place files into Illustrator, Photoshop, or InDesign documents, making it a very effective command center.



Bridge Center This view of the Bridge interface shows everything from links, to recently opened documents, to the latest RSS feeds from Adobe.

Bridge—through its handy Bridge Center interface—provides a portal to Adobe's new stock-photo service, which sells images from PhotoDisk, ComStock, DigitalVision, and others. Though the feature doesn't provide access to anything you can't get from a Web site, it gives you one interface that lets you search multiple stock libraries with one command.

The Bridge Center also gives you instant access to your most recent files and folders, an RSS reader, the Help and color-management menus, and more.

Bridge is not a replacement for an image-cataloging program such as iView Multimedia's iView MediaPro 2 (****; March 2004), because it can't save catalogs of offline images. But for finding, organizing, and placing images in your current projects, Bridge is a great addition to the Adobe suite. —BEN LONG

How CS2 Apps Use Bridge

Photoshop

As a direct descendant of Photoshop's File Browser, Bridge is a key companion to Photoshop CS2. It's a virtual light table, a slide projector, and an automation assistant. I could see using some of the other Creative Suite 2 applications without also using Bridge, but I can't imagine using Photoshop CS2 without it. —JIM HEID

Illustrator

Bridge is great for quickly finding the Illustrator document you're looking for, thanks to its thumbnail display. Complex Illustrator documents often include many linked image files, and Bridge makes short work of finding, tracking, and placing them. —BEN LONG

InDesign

Most InDesign users can easily ignore Bridge, except for setting suite-wide color preferences (if they own the suite). Most designers will likely use InDesign as the primary interface to the layout's constituent files, unless they're doing a lot of the Photoshop and Illustrator work. But Bridge is there—and it's quite usable—if you need it. —GALEN GRUMAN

GoLive

Adobe GoLive CS2 contains embedded versions of the two most useful Bridge tools for examining versions and alternates, so there's little reason for GoLive users to use Bridge except to look at project files that aren't part of a GoLive site. —GLENN FLEISHMAN

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Illustrator CS2

New Version Focuses on Illustration

BY BEN LONG

In the past, Illustrator upgrades included major interface changes or, as in the CS upgrade, a complete reworking of the program's typographic features. For Illustrator CS2, Adobe's engineers addressed the program's core drawing functions. The result is an application that has some exceptional new tools, as well as a few welcome interface enhancements.

Taking Control

Because Illustrator's interface was beginning to sag under the weight of its expanding array of palettes, Adobe has wisely added a new Control palette, which spans the top of the screen, sitting just below the menu bar. This new palette provides immediate access to brush shape, opacity, and style, as well as drop-down menus for fill and stroke. But it also serves as an object inspector, giving you quick access to all the properties of a selected object.

To access additional properties, you can click on special hyperlinks in the Control palette. Doing so opens Illustrator's full palettes, from which you can easily change just about any object property.

Another welcome interface change is the ability to create and save workspaces, for easy switching between different palette configurations and organizations.

Illustrator CS2 still has some annoying interface elements, though. The Color Picker is cumbersome, and odd behaviors are scattered throughout the program. But the Control palette is a great addition to the package.

Paint and Trace

When it comes to actual illustrating, the upgrade provides two great new drawing tools called Live Paint and Live Trace.

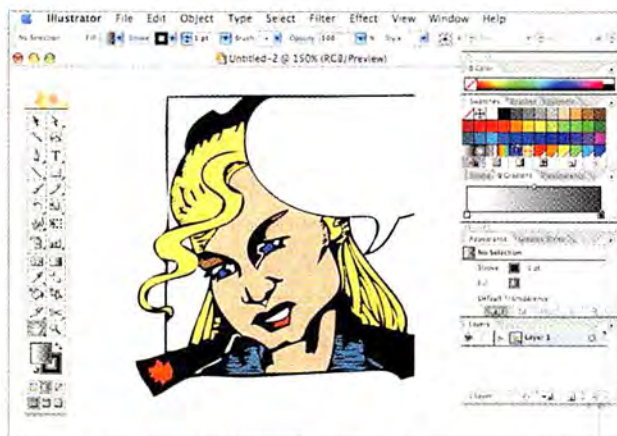
The Live Paint tool is basically an intelligent paint bucket. Click in your illustration with the Live Paint tool, and Illustrator will automatically fill the enclosed area with the current color, just like the paint-bucket tool in bitmap

painting programs. Thanks to its Gap Detection feature, you can use the Live Paint tool to fill areas that aren't completely closed, while modifier keys allow you to fill edges or quickly delete unwanted strokes and regions.

In the past, organizing your document to get the fills that you wanted could be very confusing. The Live Paint tool makes working in Illustrator more like working in Photoshop, and it's a great tool for users of all skill levels.

Illustrator has had its Auto Trace tool for years, but it has never been particularly useful.

continues



Trace Elements Illustrator CS2's Live Paint and Live Trace features make short work of converting hand-drawn sketches into colored vector artwork.

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Meet iFi:



ful. Because the company has never ported Streamline, its stand-alone tracing tool, OS X users who like to create hand-drawn illustrations and convert them to vectors have been left out in the cold. The new Live Trace tool should warm up those users considerably.

You can apply Live Trace to any placed bitmap image. The "live" part stems from the fact that after you trace, Illustrator creates a *trace object*. You can adjust the object's parameters, including tracing methods, tolerances, thresholds, and color options, and then save those configurations as presets. You can even edit the original linked bitmapped image, and Illustrator will automatically retrace it. Trace objects remain live and editable, even across sessions, until you tell Illustrator to expand the object into normal paths and fills. The Live Paint and Live Trace combo is the best solution yet for users who like to start on paper and finish in vectors.

Better Filtering than Photoshop

Illustrator's Appearance palette gets some improvements in this version. In addition to support for Live Paint and Live Trace parameters, Illustrator CS2 includes all of Photoshop's standard filters. These filters can be applied to any bitmapped elements in your image, and any applied filters appear in the Appearance stack for that object as an applied effect. This means that you can go back at any time and *change* the filter's parameters. Photoshop has needed this feature for years, and still doesn't have it. In Illustrator CS2, it's quick and easy.

Illustrator CS2 has many other great additions—including the ability to move a stroke to the center, the inside, or the outside of a path; a facility for tinting gray-scale images with spot colors; and improved controls for outputting tiled images. But all is not perfect. Most annoying is Illustrator's lack of multipage support, something that Macromedia FreeHand has had for years.

Macworld's Buying Advice

I may rant sometimes about Illustrator, but I stick with it because no competitor can compare. Yes, there are little annoyances, but it's a great program. The new Live Paint and Live Trace features and new filter capabilities are well worth the price of the upgrade. □

RATING: ★★★★★

PROS: Convenient Command palette; extremely functional Live Paint and Live Trace tools; can apply Photoshop filters parametrically.

CONS: No multipage support.

PRICE: \$499; upgrade, \$169; CS2 suite, \$899

COMPANY: Adobe Systems, www.adobe.com

BEN LONG is the author of *Complete Digital Photography* (Charles River Media, 2004), now in its third edition, and a longtime Illustrator user.

GoLive CS2

Improved Program but Not a Critical Update

BY GLENN FLEISHMAN

Adobe has added key features to GoLive that make this veteran of the Web-design wars even more appealing to its key audience of designers. But bugs in the release version, coupled with an uncertain future, make GoLive CS2 a tough product to recommend at this time.

The bugs include pages that can't be edited after you switch between the editing mode and the previewing mode, crashes when you open an alias to a missing network volume, and numerous less-serious errors throughout the program. Adobe product managers say that the bugs will be fixed in an update (the timing of the update was not set at press time).

Harder to predict is GoLive's future after Adobe's purchase of Macromedia is complete. Macromedia Dreamweaver MX (★★★★; January 2004) currently dominates the market. Adobe's plan for both products is unknown.

This version of GoLive has four significant changes: improvements to Cascading Style Sheets (CSS); page creation and preview for small devices (such as PDAs); secure file-transfer sessions; and rich file versioning for archiving and renditions (storing multiple versions in the same file). GoLive continues to omit support for database integration, a leading element in Dreamweaver's success.

Full Visual CSS

GoLive has long supported CSS, a method of consistently applying type and positioning specifications. The latest release offers much-improved tools for building and previewing pages using CSS.

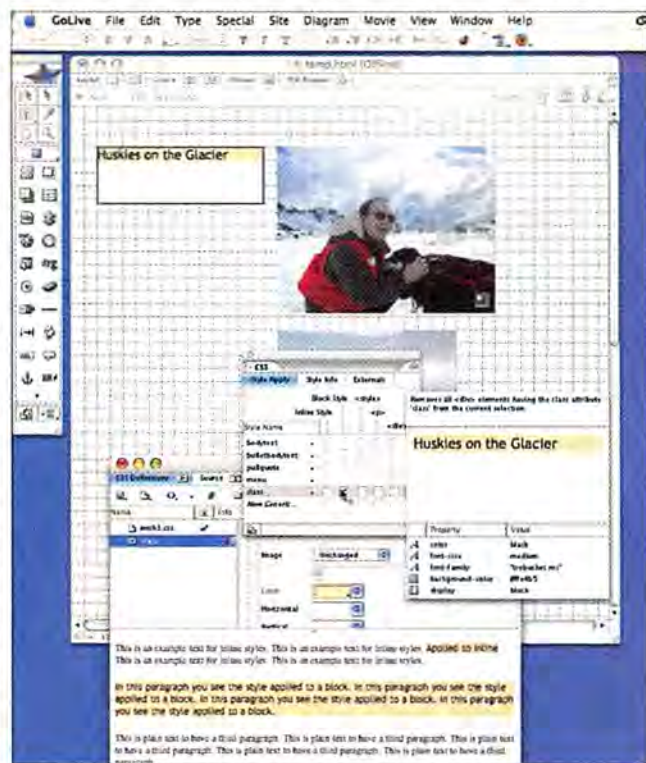
For instance, CSS selectors can be previewed in Layout view, in a preview pane in the CSS Editor, and through the Live Rendering option.

Adobe has abandoned the clunky approach to positioning items on a page

using tables that produced code that was hard to comprehend and that some browsers disliked. Its Layout Grid feature now uses CSS behind the scenes. The CSS option in the Objects palette offers prefabricated layout blocks that appear to avoid many of the pitfalls in multicolumn and multirow CSS design.

Small Devices

GoLive CS2 has improved the range and quality of previews for small devices, which



Easy Preview Adobe GoLive CS2's improved CSS tools allow better interactive design. You can more easily preview its typographically rich pages and sophisticated layouts.

include handhelds, cell phones, and a growing host of small-screen Web browsers.

GoLive CS2 lets you keep a live preview of pages as they would appear on small screens. It also includes rich multimedia-creation tools for phone platforms that support it, including an MMS (Multimedia Messaging Service) designer that allows interleaving of text, audio, images, and video.

While Adobe has included support for this kind of authoring in two previous GoLive releases, GoLive CS2's approach lets designers without a lot of technical expertise design for phones and handheld devices.

continues

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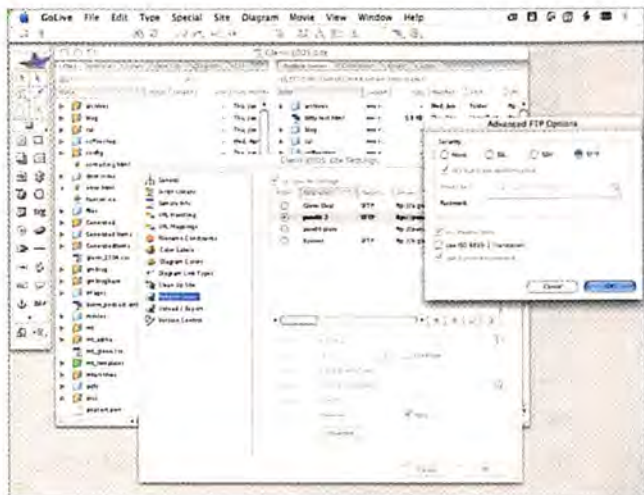
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Choice of Encryption GoLive CS2 supports three styles of encrypted File Transfer Protocol (FTP) for securely transferring files from the program to a Web server.

Encrypted File Transfer

File Transfer Protocol (FTP) and Web-based Distributed Authoring and Versioning (WebDAV) are widely used to manage a Web site's files on a server, but neither protocol will protect passwords or files from prying eyes as that data passes across an untrusted public network, such as a Wi-Fi hotspot.

Last year, Dreamweaver added support for Secure FTP (SFTP), which encrypts

causes the program to repeatedly retrieve listings of the same remote directories if they use aliases or Unix symbolic links. Also, GoLive's FTP goes at a crawl compared with dedicated FTP programs such as Stairways Software's Interarchy (***; September 2003) or Fetch Softworks' Fetch (****; November 2004).

Version Cue CS2

Version Cue CS2 is the third release of

FTP data. And GoLive CS2 brings SFTP and two other methods to FTP (SSH tunneled FTP and FTP over Secure Sockets Layer, also known as FTPS), as well as scrambling WebDAV using SSL. You can even use public keys to skip entering passwords.

In my testing, SFTP in GoLive was unacceptably slow. And although GoLive CS2 has a new method of retrieving files via any form of FTP, this feature has a bug that

GoLive's version-control and archiving system. Previous releases were erratic. What's best about Version Cue and GoLive CS2 is that they now work together happily for their given purposes: checking files in and out to allow groups to collaborate with common files that can be archived.

GoLive CS2 also works with other popular systems like CVS (Concurrent Versions System), for maintaining a persistent archive of older files for comparison and reversion.

Macworld's Buying Advice

In a word, wait. If you currently use GoLive, there's little point in upgrading until the bugs are gone, and then you should do so only if you need the program's new features. New users should wait until Adobe's plans for Web-design programs are clear. □

RATING: **

PROS: Significant CSS improvements; mobile-device authoring; encrypted file transfer.

CONS: Buggy; lack of compelling new features.

PRICE: \$399; upgrade (from any previous version of GoLive), \$169; CS2 Premium (with Acrobat 7), \$1,199

COMPANY: Adobe Systems, www.adobe.com

GLENN FLEISHMAN writes about Wi-Fi and wireless technology on several Weblogs. He is the author of *Real World Adobe GoLive 6* (Peachpit Press; 2002).

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Version Cue CS2

I really disliked Version Cue CS when Adobe introduced it with the first version of its Creative Suite. I found it awkward and highly unintuitive—and I wasn't alone. Adobe has greatly revamped this file-sharing and version-management adjunct to Creative Suite 2—so much so that I've come to regard Version Cue as an extremely useful aid to workgroups and individuals.

Version Cue lets you set up shared projects so that you or multiple people can access the same files from both Macs and PCs. Its file storage is independent of the computers that access it. As long as you set up a shared project in Version Cue (on your own Mac or on a networked server), anyone on the network can access project files and work with current versions of files and their alternates.

But setting up these projects, or workspaces, requires that you have a full version of Creative Suite 2, and only people who purchase the entire suite can create a workspace. (Any user of Adobe CS2 applications, whether stand-alone or in the



Design History Because Version Cue CS2 can track multiple versions of your Creative Suite 2 files, you can go back to an earlier version or create a new branch of alternate versions.

suite, can access, read from, and write to workspaces—but only suite users can create or delete them.) Version Cue CS2 is so handy that I'm disappointed the full Creative Suite 2 is required. Workgroups composed of Photoshop and Illustrator users who don't use InDesign and GoLive won't get Version Cue. In effect, this forces those

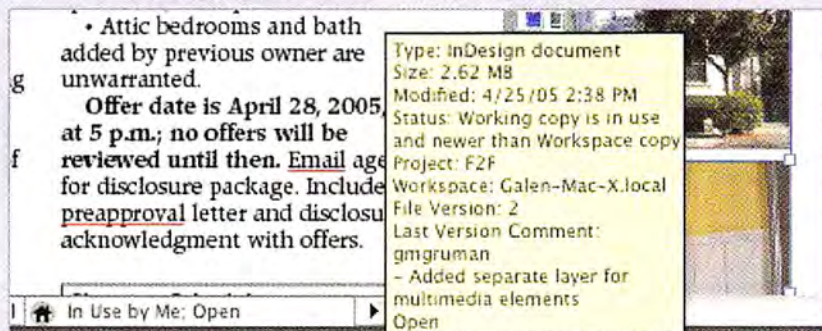


Track Your Designs In Version Cue CS2, you can include comments as you save versions of your Creative Suite 2 files, so you can easily identify what distinguishes each version.

users to buy software they don't need—unfair to longtime graphics shops that have standardized on Adobe's art and photo software.

Working with Version Cue workspaces is straightforward. To see Version Cue workspaces, you either click on the Use Adobe Dialog button in your individual applications' Open and Save dialog boxes or use the Adobe Bridge application, which provides a universal file browser for all CS2 applications. (Acrobat Professional 7 uses the older Creative Suite interface, which is not enabled by default as it is in other Creative Suite programs.) The result is a dialog box that lets you add, update, or save new versions of documents; review old versions; and even make an older version the current working master. (This last feature lets you go back to an earlier version if you don't like how a document has evolved.) You can also create alternates, which are essentially copies of documents that you can revise without affecting the original. Of course, you could accomplish much of this by saving new versions with distinct file names, but that requires a consistent discipline by all parties. Version Cue makes it easier to operate without that internal discipline.

Finally, Adobe has added a status display at the bottom of CS2 application windows, so you know whether your current file has been saved, saved only on your local drive, or saved (synchronized) to the workspace. —GALEN GRUMAN



Friendly Reminder Version Cue CS2 adds a status bar to your applications that shows whether the current document has been saved and, if so, whether it was saved locally or in the Version Cue workspace, which others can access. In addition, it shows you the full status of the document, including any comments you added earlier.

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FIREWIRE HARD DRIVES

PORTABLE HARD DRIVE

★★★★ 100GB Mercury On-The-Go 5400rpm 8MB (\$300), from OWC (www.macsales.com):

It's relatively expensive, but this drive is our favorite. It's fast, FireWire bus-powered, and compact. It has a triple interface, and it boots OS X using FireWire (macworld.com/0314).



DESKTOP HARD DRIVE

★★★★ 400GB Mercury Elite FireWire 800 Pro (\$450), from OWC (www.macsales.com):

This fast desktop drive has FireWire 400 and 800 interfaces and boots OS X (macworld.com/0580).

5-MEGAPIXEL CAMERA

★★★★ Dimage Z5 (\$649), from Konica Minolta (www.konicaminolta.com):

The Dimage Z5 takes great pictures, especially at low ISO speeds. It has a 12x zoom lens and image stabilization; an Automatic mode for snapshots; an anti-shake feature; and Program, Aperture Priority, Shutter Priority, and Manual exposure modes. If you like macro photography, or want to capture decent video, this camera will suit you (July 2005; macworld.com/0534).



COLOR LASER PRINTER

★★★★ LaserJet 2550Ln (\$600), from Hewlett-Packard (www.hp.com):

An inexpensive, networkable color laser printer, the LaserJet 2550Ln offers crisp text and good color fidelity. It supports Apple's Bonjour (formerly Rendezvous) technology. Its paper capacity is only 125 sheets, so you might consider paying the extra \$100 for the optional 150-sheet paper tray (macworld.com/0083).



DUAL-LAYER DVD BURNER

★★★★ d2 DVD±RW 16x FireWire, with Double Layer (\$189), from LaCie (www.lacie.com):

This DVD burner can burn 8.5GB of data to dual-layer DVDs. Although it has a relatively slow read speed, its performance is very good overall. Its excellent Mac compatibility includes Tiger and iLife support, and it comes with the full version of Roxio's Toast Titanium (April 2005; macworld.com/0313).



DIGITAL SLR CAMERA

★★★★ EOS Digital Rebel XT (body only, \$899; with EF-S 18mm–55mm f3.5–f5.6 zoom lens, \$999), from Canon (www.canon.com):

Canon defined this market with the original Rebel, and it keeps its lead with the XT. Though the lack of control interlocks is an oversight, the camera's feature set, image quality, and price, combined with the vast assortment of Canon mount lenses, make the Rebel XT the best choice so far in the sub-\$1,000 digital SLR market (July 2005; macworld.com/0535).



MACS

DESKTOP

Product	Processor	Display	Rating	More Information	Best Price*	Speedmark Score*
	G5/1.8GHz	17 inches	★★★★	macworld.com/0599	\$1,241	163
	G5/2GHz	17 inches	★★★★	macworld.com/0600	\$1,449	174
	G5/2GHz	20 inches	★★★★	macworld.com/0601	\$1,730	174
	G4/1.42GHz (Combo drive)	17 inches	★★★★	macworld.com/0602	\$793	140
	G4/1.42GHz (SuperDrive)	17 inches	★★★★	macworld.com/0603	\$993	142
	G4/1.25GHz	not included	★★★★	macworld.com/0316	\$475	100
	G4/1.42GHz	not included	★★★★	macworld.com/0321	\$569	115
	G5/1.8GHz	not included	★★★★	macworld.com/0177	\$1,400	160
	G5/dual-2GHz	not included	★★★★	macworld.com/0604	\$1,910	205
	G5/dual-2.3GHz	not included	★★★★	macworld.com/0605	\$2,389	226
	G5/dual-2.7GHz	not included	★★★★	macworld.com/0606	\$2,848	250

PORTABLE

	G4/1.2GHz	12 inches	★★★★	macworld.com/0178	\$950	90
	G4/1.33GHz (Combo drive)	14 inches	not rated	macworld.com/0179	\$1,208	not tested
	G4/1.33GHz (SuperDrive)	14 inches	★★★★	macworld.com/0180	\$1,365	100
	G4/1.5GHz (Combo drive)	12 inches	★★★★	macworld.com/0398	\$1,350	not tested
	G4/1.5GHz (SuperDrive)	12 inches	★★★★	macworld.com/0399	\$1,626	not tested
	G4/1.5GHz	15 inches	★★★★	macworld.com/0400	\$1,735	123
	G4/1.67GHz	15 inches	★★★★	macworld.com/0401	\$2,049	not tested
	G4/1.67GHz	17 inches	★★★★	macworld.com/0402	\$2,289	135

*From a PriceGrabber survey of retailers as of June 13, 2005. *Speedmark 4 is Macworld Lab's standard test tool for benchmarking systems running Mac OS X 10.4 (Tiger). For information on Speedmark testing, go to www.macworld.com/speedmark.

LCD MONITOR



21-INCH DISPLAY

★★★★ 321 LCD Monitor (\$1,599), from LaCie (www.lacie.com):

LaCie takes one of the best LCDs available and improves on it. This is a bright, beautiful LCD aimed at professionals who are willing to pay the price for accurate color. It has 10-bit color and optional hardware calibration (macworld.com/0384).

ALSO RECOMMENDED:

23-INCH DISPLAY

★★★★ L2335 (\$1,599), from Hewlett-Packard (www.hp.com); March 2005; macworld.com/0278

COLOR INK-JET PRINTERS



★★★★ Photosmart 8450 (\$250), from Hewlett-Packard (www.hp.com):

This networkable ink-jet printer uses eight inks to print excellent-looking photos (macworld.com/0280).

ALSO RECOMMENDED:

★★★★ Stylus Photo R800 (\$399), from Epson (www.epson.com); January 2005; macworld.com/0246

★★★★ Pixma iP8500 (\$350), from Canon (www.canon.com); February 2005; macworld.com/0275

FLATBED SCANNERS

MIDRANGE SCANNER

★★★★ CanoScan 9950F (\$400), from Canon (www.canon.com):

This CanoScan raises the bar for midrange scanners by offering high optical resolution, improved scan quality, and more-intuitive software controls (macworld.com/0188).



LOW-END SCANNER

★★★★ CanoScan 8400F (\$150), from Canon (www.canon.com):

The 8400F has limited film and transparency support but is a great all-around scanner with some high-end features and a low-end price (macworld.com/0187).



NEW: MINIDV CAMCORDER

★★★★ Optura 60 (\$899), from Canon (www.canon.com):

The Optura 60 shoots excellent video (provided you have enough light), with accurate, vibrant color. It also offers optical image stabilization, true 16:9 wide-screen mode, and extensive manual controls for creative flexibility. It snaps decent still images, too, making it a solid choice (macworld.com/0621).



IN THE MACWORLD LAB

Hardware Products We Tested This Month

6.2-MEGAPIXEL CAMERA

★★★★ Photosmart R717 (\$300), from Hewlett-Packard (www.hp.com):

The Photosmart R717 is a good choice for beginners who want some hand-holding; however, its manual controls are limited. Although it has very good color, useful help features, excellent audio annotations, and an impressive panorama mode, it's marred by very slow performance and poor video quality (macworld.com/0593).



7.1-MEGAPIXEL CAMERA

★★★★ PowerShot SD500 (\$600), from Canon (www.canon.com):

While this camera takes excellent pictures, its lack of manual features makes it pricey for a point-and-shoot. It has a bright LCD, a two-shots-per-second continuous-shooting mode, a fun My Colors mode, good video quality, and the ability to shoot movies at 60 frames per second. It doesn't give you images in TIFF or Raw format (macworld.com/0594).



4-MEGAPIXEL CAMERA

★★★★ Photosmart M22 (\$150), from Hewlett-Packard (www.hp.com):

The HP Photosmart M22 is an attractive package, especially if you have a penchant for panoramas. Extensive help features, respectable images, and a low price make this point-and-shoot model a beginner-friendly bargain (macworld.com/0595).



4-MEGAPIXEL CAMERA

★★★★ PowerShot A520 (\$379), from Canon (www.canon.com):

This camera takes good pictures. It features excellent color, a 4x optical zoom, and full manual controls. The camera's menus are easy to read and navigate in its bright, 1.8-inch LCD. But its handling is disappointing, it lacks a live histogram, and its movie mode is limited (macworld.com/0596).



Top Products are those we've recently reviewed in a comparison of like products. As new products become available, we will update the list. For longer reviews of these products and for other product recommendations, go to www.macworld.com/reviews.

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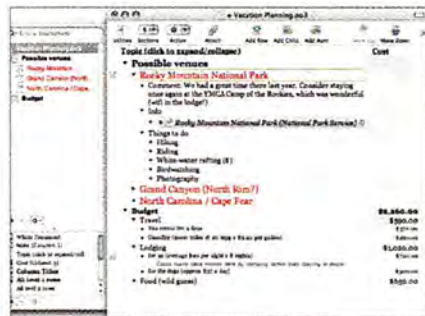
info@miraizon.com
408-434-0959

★★★★ ChronoSync 3.0 (\$30), from Econ Technologies (www.econtechnologies.com): Whether you need to back up files or synchronize them between multiple Macs, Econ Technologies' ChronoSync 3.0 is a potent but easy-to-use tool. On Jaguar, Panther, or Tiger, it duplicates and restores data with surgical precision (macworld.com/0609).

★★★★ Media Rage 1.9 (\$30), from Chaotic Software (www.chaoticsoftware.com): This handy suite provides powerful organizing and editing tools that are capable of tidying up even the most chaotic music collection. Our only complaint about Media Rage is its convoluted, multiple-window interface (macworld.com/0610).



★★★★ OD4Contact 2.5 ▲ (\$55), from Objective Decision (www.objective-decision.com): OD4Contact bundles powerful contact-, task-, and communication-management abilities in a polished interface, but the absence of a few key features keeps the application from fulfilling its potential as a true integrated information manager à la Microsoft Entourage (macworld.com/0611).



★★★★ OmniOutliner 3 Professional ▲ (\$70), from The Omni Group (www.omnigroup.com): If you want a traditional outlining program with a great user interface, as well as one that's versatile, comprehensive, and plays well with other applications, you'd be hard put to find a better tool than OmniOutliner Pro. Its support for multicolumn outlining, text styles, and AppleScript makes it a real class act (macworld.com/0612).



★★★★ PhotoPrinto 1.2 ▲ (\$30), from SmileOnMyMac (www.smileonmy-mac.com): PhotoPrinto 1.2 is an easy-to-use application that makes quick work of creating albums

continues

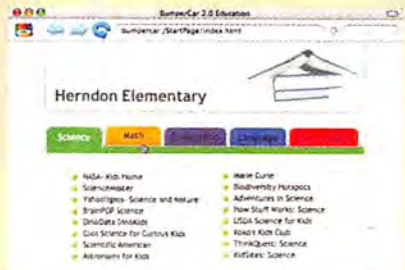
KEEP THE INTERNET SIMPLE AND SAFE

Web Browsers for Kids

It may not be the Wild West, but the Web can still be a dangerous place for kids. Most Web browsers are designed for the broadest audience possible, with little thought about the needs of specific age groups. Kids who are researching assignments, keeping up-to-date on current events, or just surfing for fun have different needs than most adults. If you're buying a browser for young children who are just getting started with the Web (preschool to sixth grade), KidsBrowser 3.2 will provide the best experience. However, for older kids who need a more robust Web experience (and possibly greater supervision), BumperCar 2.0 is well worth the price (macworld.com/0613).

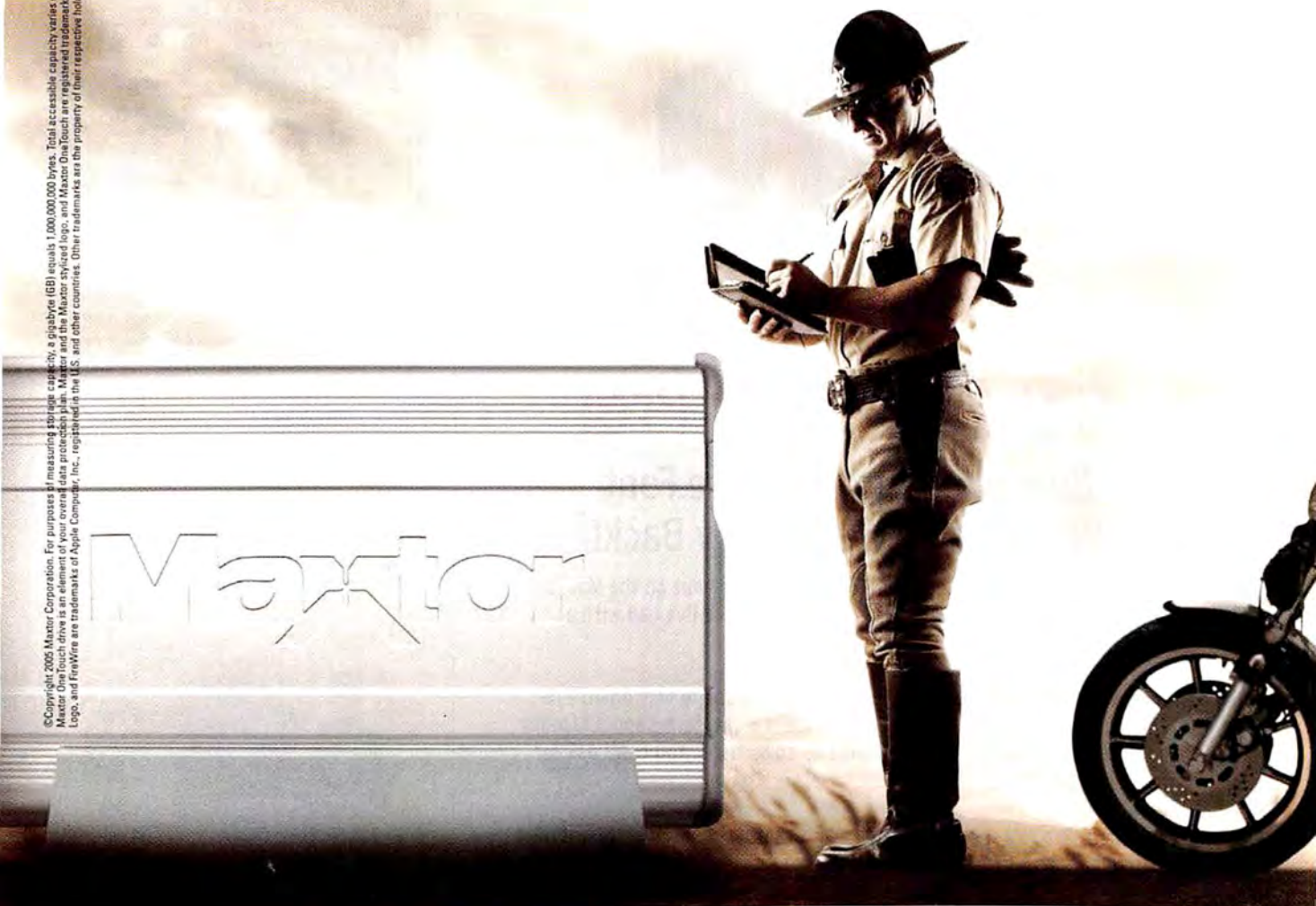


★★★★ KidsBrowser 3.2 ▲ (\$29), from App4Mac Software (www.app4mac.com)



★★★★ BumperCar 2.0 ▲ (\$30), from Freeverse Software (www.freeverse.com)

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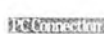
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REVIEWS

of your digital photographs, which you can then print. It doesn't have multipage templates, so you'll have to start from scratch. But if you don't mind tweaking your designs, then templates won't be necessary for you to create albums of all your digital memories (macworld.com/0614).



★★★★ Reason 3 ▲ (\$499), from Propellerhead Software (www.propellerhead.se): If you're already a Reason lover, then you'll want this version of the virtual rack of music gear. The program adds a stronger emphasis on live performance, as well as expanded presets, great mastering effects, and improved integration with newer keyboards and instruments. But the biggest justification for upgrading to Reason 3 is the new Combinator feature (macworld.com/0615).

MAKE THE MOST OF YOUR MUSIC Digital Music Accessories



★★★★ iFi ▲ (\$400), from Klipsch (www.klipsch.com): The first iPod-centric home speaker system provides full, rich sound and convenient features for a decent price. People who want speakers for their desktops should look elsewhere, but for a home-stereo setting, the iFi is by far the best-sounding iPod speaker system we've heard (macworld.com/0617).



★★★★ AirClick USB ▲ (\$40), from Griffin Technology (www.grifintechnology.com): This radio frequency (RF) remote control works through walls to control applications on your Mac. It's an elegant and reasonably priced product (macworld.com/0618).

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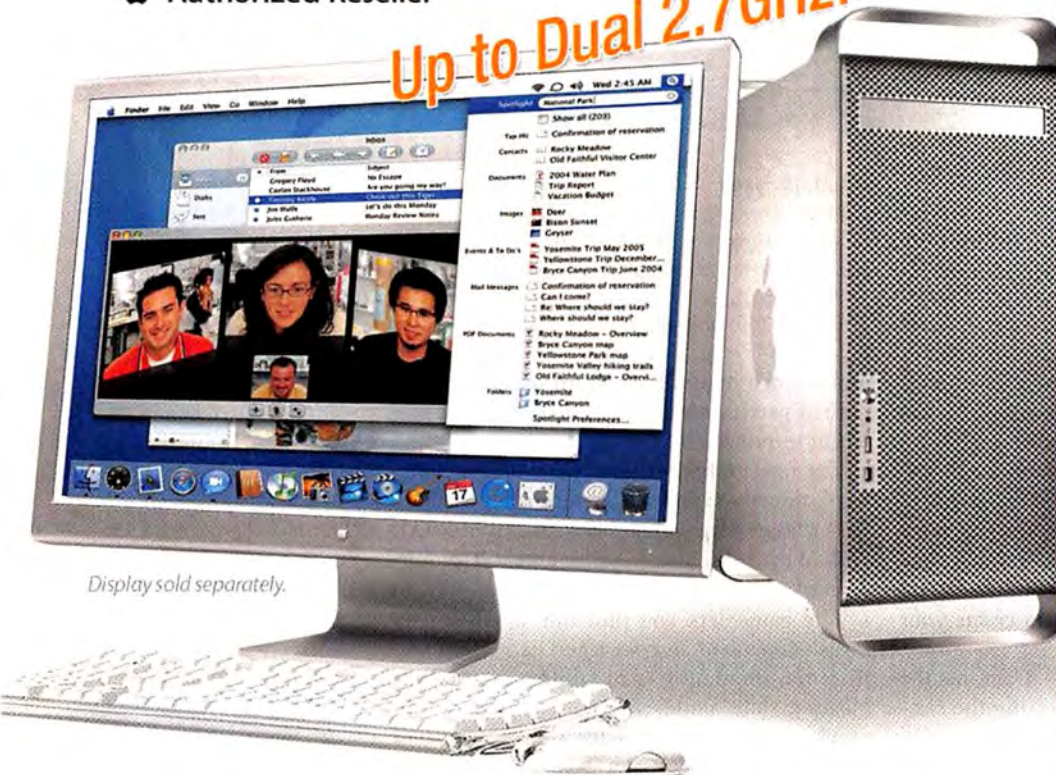
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Roger, Roger, and Don't Call Me Shirley You can fly everything from jumbo jets to stealth fighters in X-Plane 8.



FLIGHT SIMULATION

X-Plane 8

For Mac users who want to know what it feels like to be in the cockpit of a jetliner during a stormy landing with only one functioning engine, there's really just one choice: X-Plane 8. More learning tool than game, this sophisticated flight simulator lets you customize nearly every aspect of your flight—destination, aircraft model, weather conditions, and even instrument or equipment failures—to give you the most realistic experience possible.

X-Plane ships with 29 aircraft models—everything from run-of-the-mill civilian prop-driven models to massive jumbo jets that ferry passengers from one side of the world to the other. Tons more are available online. If you don't find what you want, you can create your own airplanes and scenery.

Planes are complex machines—a fact that the X-Plane interface reflects. Mastering the controls is daunting. And while the game runs well on the Mac, it doesn't come with Aqua-style interface embellishments. It takes some getting used to.

The biggest change in this version of X-Plane is its improved scenery detail, particularly in metropolitan areas. When making a transcontinental flight from New York to Paris, you'll see more-accurate coastlines and more-realistic skylines—at least while you're in New York. The new scenery is available only for maps of the United States. But really, the standard scenery, used everywhere outside dense urban areas, is pretty nice. It looks

RATING: ★★★★★

PROS: New scenery improves realism; numerous options for expanding and customizing the game.

CONS: Text-to-Speech chatter is jarring; daunting interface.

PRICE: \$50

COMPANY: Graphsim Entertainment, www.graphsim.com

much more natural; you'll no longer see the quilted patchwork and jagged contours of different terrains.

The new graphics take a heavy toll on hardware, though. Graphsim recommends a 1GHz G4 or faster Mac with at least 256MB of RAM, 8GB of hard-disk space, and an OpenGL graphics card with 64MB of VRAM.

The game lets you plot out weather patterns, download live weather data from the Internet, simulate system failures to test your piloting skills under adverse conditions, and much more. X-Plane maps the locations of 18,000 airports. You can even simulate Low Earth Orbit (LEO) flights. For a break from reality, you can take your aircraft to the surface of Mars and view terrain information provided by the Mars Orbiter Laser Altimeter.

X-Plane simulates engine sounds and other mechanical noise (such as the muffled thump of landing gear as it's stowed after takeoff) and Air Traffic Control (ATC) radio chatter—all of which rounds out the realism. However, on the occasions when you need to ask ATC ground personnel for assistance, the game continues

News Feed



Two Obsessions Combined

Aspyr Media plans to release a Mac version of Lego Star Wars in August. The game combines the fun of Lego building blocks with the mythology of the epic Star Wars films.



Murder Mystery

CSI: Crime Scene Investigation: Dark Motives, by

Aspyr Media, is coming to a Mac near you this July. Use your forensic skills just like the TV show characters, with whom you'll interact. If you played the first CSI game, you'll find better graphics and tougher crimes to solve in this version.



Puzzling Adventure

Myst-heads looking to satisfy their cravings for a graphical adventure game that's chock-full of puzzles can sink their teeth into Rhem 2, coming this July from Got Game Entertainment. The sequel picks up where the original Rhem left off.

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Pretty Kitty Pass the time with harmless fun in Hello Kitty: Bubblegum Girlfriends—though the game won't play nicely with every Mac.

CHILDREN'S GAME

Hello Kitty: Bubblegum Girlfriends

RATING:

PROS: Varied game options; Hello Kitty theme.

CONS: A bug limits access to one game on some Macs.

PRICE: \$20

COMPANY: ValuSoft, www.valusoft.com

responds using Apple's Text-to-Speech technology, which is a bit jarring after hearing more-realistic radio chatter.

I recommend picking up a joystick or a yoke to play. While flying with the mouse and keyboard alone is possible, it's a bit like trying to draw illustrations with a brick. You'll also need a DVD drive; the game doesn't ship on a CD.

To stay current with the frequent updates, you'll need a broadband connection—updates routinely measure in the hundreds of megabytes (you can get CD updates for an additional fee). In fact, the game's developer has already released an update for version 8.

The Bottom Line X-Plane may have a daunting interface, but it's still the best Mac-based flight sim money can buy.

Sanrio put a lock on little girls' hearts in the early 1970s with its adorable mascot, Hello Kitty. Some 30 years later, she's still a marketing force to reckon with. Kitty White's friendly yet disturbingly mouthless face embellishes thousands upon thousands of products. ValuSoft is looking to cash in on the phenomenon with the release of Hello Kitty: Bubblegum Girlfriends, a collection of eight simple games that feature Kitty and her friends. While the game offers some benign and casual fun, it also has some major problems.

To keep things interesting for young players, each game in the collection features unique music and graphics, as well as widely varied objectives and styles. Crazy Cookie Race, for example, puts

continues

Online Distraction | Crimson Room

If you're in the mood for something completely different and don't want to download a game, check out Toshimitsu Takagi's superlative Crimson Room, a Shockwave-based game that tests the limits of what the technology can do.

After a night of heavy drinking, you wake up in a strange room decked out entirely in red, except for some yellow furniture and window shades and a purple carpet—just the thing you want to see when you're suffering from a vicious hangover.

You have no recollection of how you got here or even where "here" is. But you're thirsty and uncomfortable, and you want very much to leave. Unfortunately, the door seems to be locked, and no one is there to answer your knocks. Hidden around the room are a variety of objects. Figuring out how they interact with each other and the environment is the key to escaping from this room.

To look around and interact with your environment, you just point and click on various objects or corners of the room. A few basic



The Morning After In Crimson Room, you'll have to find the objects and escape before your hangover is the death of you.

sound effects heighten the tension.

The less I say about the actual game play, the better. I don't want to spoil the fun. It's a remarkable piece of work, and well worth checking out. You can find it at macworld.com/0619. The game is free to play, though the author and the hosts of the file ask for a donation (in Japanese yen) after you're done.

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you in the kitchen with Kitty as she matches cookies to the shapes on a conveyer belt. Tea Cup Croquet tests your ability to judge angles as Kitty and her pals take to a croquet field. There's also Rainbow Garden, a color-matching game; Pie Poppin' Dance, a shape-matching game; Bubble Gum Taxi, a fast-paced puzzler; Beach Bubble Frenzy, an action game; and Cup Cake Trampoline.

I'd love to tell you more about Cup Cake Trampoline, but the game didn't work. Whenever I tried to fire it up, it stopped cold with an error, telling me to insert the CD (which was already in).

ValuSoft assures me that the problem occurs only on "a very small percentage" of Mac computers, but that's hardly reassuring. The company couldn't tell me when or how it would fix the problem—

although it did say the developer was working on a solution.

If you want to chance it, you shouldn't have trouble finding a system that can play the collection. Hello Kitty: Bubblegum Girlfriends supports OS 9 and OS X, and it requires only a 300MHz G3. It ships on a hybrid CD-ROM for both Mac and Windows computers, so you might find it in a local retailer's games section even if the store doesn't carry Mac software.

As you'd expect from a game intended for this audience, there's absolutely nothing harmful here. It's like cotton candy—fluffy, insubstantial, but tasty regardless.

The Bottom Line In Hello Kitty: Bubblegum Girlfriends, lousy quality control sabotages an otherwise fine game for an underserved market.

continues

Game Gear

Speed-Link Competition Pro USB

Readers occasionally ask me to recommend a joystick that isn't too complicated or elaborate. Finally I've found one that fits the bill: the Speed-Link Competition Pro USB. It's particularly good if you play arcade-style shooters or are fond of emulators. However, finding it may be tough unless you're willing to pay overseas freight costs to a European reseller.

The Competition Pro USB has a simple design that harks back to the joysticks once available for the Apple II and the Commodore Amiga. It rests on a rectangular base with four rubberized feet that help keep it in place on your desk. A simple stick resembling an upside-down exclamation point emerges from the top.

The Competition Pro USB produces a satisfying click when you move it in any direction. It has four buttons: two large round ones that look as though they came off of an arcade-game console, and two smaller, triangular ones. A turbo switch on the underside of the stick rapidly toggles the fire buttons to save your thumbs the trouble.

You'll want to keep the joystick on your desk when you play; it's not very comfortable to hold in your hands. But it's very sturdy. If I could make one concession to the advantages of modern controllers, though, it would be the soft,

RATING: ★★★

PROS: Simple; retro design perfect for arcade action.

CONS: No Mac software; no American distribution; uncomfortable grip.

PRICE: €15 (about \$20 at press time)

COMPANY: Jöllenbeck, www.speed-link.com

rubberized material on them. This stick could use it to soften its feel.

Speed-Link doesn't provide any Mac software for the Competition Pro USB, but games that support Mac OS X's HID Manager application—the arcade game emulator MacMAME, for instance—recognize it. If you have games that don't recognize the stick, you can fix the problem by installing a shareware utility such as Alessandro Montalchini's \$20 USB Overdrive (www.usboverdrive.com).

Unfortunately, Jöllenbeck doesn't currently distribute the joystick in the United States, so you'll have to buy it from a European distributor and have it shipped to you. But if you're

looking for a simple joystick with a classic style, the Competition Pro USB is worth the effort.

The Bottom Line

Without the sleek ergonomics and special features of modern joysticks, the Competition Pro USB isn't for everyone. But if playing old-school games is your bag, you might love it.



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Little Deuce Coupe Jammin' Racer shows kart racing on the Mac at its finest.

ACTION

Jammin' Racer

RATING: 

PROS: Varied terrains; tons of customizable cars; rumble-pad and steering-wheel support.

CONS: No network multiplayer support.

PRICE: \$25

COMPANY: DanLabGames, www.danlabgames.com

Shareware game developer DanLabGames has a knack for creating top-notch casual Mac games that are refreshingly original and fun. Jammin' Racer—an arcade-style racing game—is its most ambitious release to date.

Jammin' Racer isn't a simulation game like SCEA's popular Gran Turismo series. It doesn't offer real-world physics modeling or AI-based opponents who hold a grudge from race to race. Instead, Jammin' Racer focuses on arcade-style racing—and does a great job of it. The game puts you behind the steering wheel of a customizable vehicle. You can apply paint jobs, spoilers and trim, different body styles, and more. Win races, and you'll have access to even more body styles.

Your goal is to finish first, but to cross the finish line, you need to be careful. Scrapes with other racers or walls damage your kart. Wrench icons help you monitor the health of your vehicle. If you lose too many wrenches, you'll have to park it for a minute and fix yourself up—adding precious seconds to your lap time in the process. Power-ups improve your health or boost your vehicle's speed. Watch out for oil slicks and puddles—they'll slow you down.

You're competing for six different racing cups and playing on two dozen tracks. The game takes you to a variety of locales—a tropical island, urban streets, desert tracks, outer space, and more. The graphics are top-notch and so is the original soundtrack.

You can choose from three race classifications. Larger engines produce higher speeds, but they're also harder to control.

You can control the car with basic keyboard commands, as well as with game pads and steering wheels. The game also supports force-feedback wheels—a rarity.

If you tire of racing against the computer, you can run Jammin' Racer in two-player mode, as long as your opponent is there in the room and doesn't mind the split-screen mode. The game doesn't offer network support, however.


Jammin' Racer requires an 800MHz G3 or faster Mac and an OpenGL video card with at least 32MB of VRAM. You can adjust options such as full-scene antialiasing, glow effects, full-screen mode, and sun glare to optimize the graphics for your Mac's capabilities.

By the way, Jammin' Racer is also family-friendly. There's nothing in it that will offend parents or folks with delicate sensibilities.

The Bottom Line If you love kart racing, then make a pit stop at DanLabGames and download Jammin' Racer.

Recently Reviewed

Star Wars: Battlefront

 Aspyr Media, www.aspyr.com; \$50

In July's issue, I gave you the first look at Aspyr's Star Wars: Battlefront, which puts you at the front lines of many of the battles you've seen in the Star Wars movies. Now shipping, the first-person shooter is a must-have if you're a Star Wars fan or if you enjoy fighting big multiplayer battles. It's Star Wars meets Battlefield 1942, and it's loads of fun.

Star Wars: Battlefront lets you fight for the Empire, the Rebel Alliance, the Republic, or the Separatists. The action will take you to many planets and locations from the six movies. You can even take command of ships, speeders, and other vehicles.

By the way, in my first look, I was wrong about cross-platform multiplayer support. It does indeed work—if you're playing on a local area network (LAN) or over a direct TCP/IP-to-TCP/IP connection with Windows-based users. Otherwise, you'll have to rely on GameRanger, which limits you to playing with other Mac players.

Macworld.com Senior News Editor PETER COHEN doesn't have any patience for little Learjets that get in his way when he's rumbling down the runway in his 747-400.

OmniGraffle



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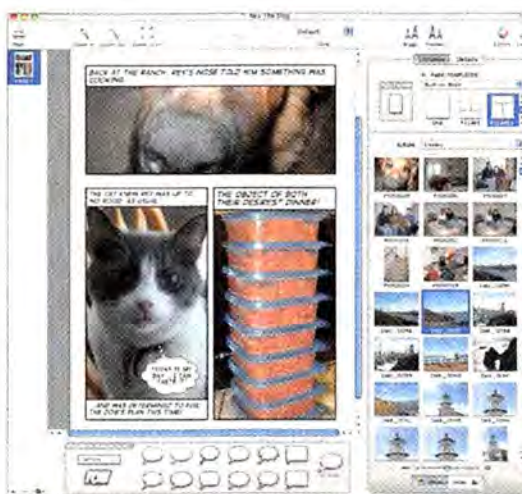
Comic Life 1.1.1

Most of the software I review in *Mac Gems* fills a clear need, but some of it is just for fun. Case in point: Plasq's \$25 Comic Life 1.1.1 (★★★★; www.plasq.com), an amazingly clever app that lets you make comic-book pages, or even an entire comic book, out of your own images or drawings.

You start by picking a page size (standard paper, a photo size, a Web page, a blog, or an iPhoto book layout, for example) and choosing from 40 different page layouts (a single panel, multiple panels laid out in various patterns, picture-in-picture panels, and more). You can then click on the Details tab to customize a layout.

Comic Life provides access to your entire iPhoto library, as well as to images on your hard drive that aren't in iPhoto—such as sketches or drawings you may want to use for cells. In either case, you get resizable previews without having to switch to another application. The program even lets you capture images with an iSight camera. Once you've found the right image for a cell, drag it into that cell; Comic Life automatically crops it to fit. To change the crop, just drag the image around within the cell; handles on the edges let you zoom in and out. If you're running Tiger, you can apply Core Image filters to your images. And when you double-click on a placed image, a handy rotation tool appears in its center.

Now that you've got an image, you need some text. The bottom of the Comic Life window has many text-bubble designs, including shapes that comic aficionados will recognize as representing whispers, exclamations, and thoughts. You can even link bubbles, and there's a caption box for narrations. Just drag a bubble to a cell, position it, and then type your text. You can resize the bubble to fit your words, and the Bigger and Smaller buttons in the toolbar let you adjust the text's size. You can also adjust the length and angle of the bubble's tail.



An Easy Cell You can create your own comics—and even comic books—with Comic Life.

A nice touch, especially if you're designing an action-oriented comic, is the sound-effect tool, which allows you to graphically express your sound effect of choice—*pow*, *smack*, *thud*, and so on—and then resize and distort the graphic for the intended effect.

Once your comic creation is complete, you can print it. You can also export it as an HTML file with images, as just images (one image per page), as a QuickTime slide show (each page is a slide), or as an iPhoto album. If you designed your comic using one of Comic Life's iPhoto book layouts, exporting your comic book to iPhoto means you can then order a printed copy. Alternatively, if you have a



Take Out the (Old) Trash Compost can automatically delete stale Trash contents or delete the Trash from only a particular volume.

.Mac account, you can publish your comic book to the Web using your .Mac account's Web space. Comic Life is definitely one of the coolest products I've seen this year.

TRASH ENHANCER

Compost 1.6.4

OS X's Trash has two significant limitations: it doesn't empty itself, and it doesn't let you empty just part of it. The first limitation is an issue for everyone, but I find that it disproportionately affects new users, who end up with gigabytes of information sitting in unemptied Trash Cans. The second limitation is more of a concern to power users—people who want to rid the Trash of only files deleted from a particular volume, or only files that have been in the Trash for a while.

If either limitation is a problem for you, check out Greg Weston's \$9 Compost 1.6.4 (★★★★; www.mac-compost.com). Compost, which operates as a system preference, takes care of the aforementioned issues and adds a few other nifty features as well.

First, you can set Compost to delete files that have been in the Trash longer than a user-defined number of minutes, hours, or days. It can also limit the Trash to a certain size—for example, if you limit the Trash to 512MB, and later place an item in the Trash that pushes the size of the Trash over that limit, Compost will delete the oldest items until the Trash size is below the limit. You can also tell Compost to make sure that your boot volume always has at least a certain amount of free space, by size or percentage. If you're running low on disk space—not a good thing in OS X, which uses the hard drive for memory management—this is a handy option, as it will delete items from the Trash to keep the amount of free space above your limit.

If you've got multiple hard drives or volumes connected to your Mac, Compost will let you choose different settings—age limits, size limits, and free-space limits—for each volume. For example, if you've got a FireWire drive that you use as a scratch disk for Adobe

Photoshop, you'll want as much free space as possible on that drive—so you can tell Compost to keep that drive's Trash empty.

Compost also provides a few options for the actual deletion process. The Delete Locked Items option automatically deletes locked items without requiring that you unlock them first. The Delete Empty Folders Immediately setting gets rid of empty folders right away, no matter what your other settings are—the idea here being that since there's nothing in them, why clutter your Trash with them? You can also have Compost securely delete items from the Trash; the software uses the same secure-deletion routine as the Finder's Secure Empty Trash command. This kind of deletion takes longer, since files are overwritten multiple times as they're deleted, but makes it less likely that someone will be able to recover those files, even with special data-recovery tools.

What if you don't really mind having to remember to empty the Trash? Compost still has a few tricks up its sleeve that you'll appreciate. The most useful is its ability to empty the Trash for just a particular volume. By bringing up Compost's Trash Info window—accessible via a keyboard shortcut—you see a list of all mounted volumes, along with each volume's free space and the number and size of files in that volume's Trash. By clicking on the Recycle button for a volume, only that volume's Trash is emptied; the Trash contents of other volumes are left untouched.

Alternatively, if you install Compost's contextual menu, you can empty a volume's individual Trash by control- or right-clicking on that volume's icon in the Finder. This contextual menu also lets you delete files in the Finder immediately (without the need to move them to the Trash).

Compost also includes an optional menu-bar menu that provides quick access to a number of its features: viewing the Trash Info window, emptying Trash from a specific volume, opening the standard Trash window, and opening the Trash window for a specific volume. You can even empty the Trash on a removable volume and then eject it—a common sequence of tasks, in my experience—with a single command.

I wish Compost's contextual menu—or, even better, its menu-bar menu—were accessible from the actual Trash icon in

the Dock. But even so, Compost is what OS X's Trash should be.

DICTIONARY

LiveDictionary

These days many students spend a lot of time on the Web, because it offers unparalleled access to information on everything from core subjects to news and world events. But students—especially young ones—don't always understand what they're reading. Unlike children's books, news articles aren't written with a child's vocabulary in mind. Even those of us who write for a living often come across words that we aren't sure we can properly define.

Tiger includes a built-in, pop-up dictionary that works with Safari, but if you haven't yet upgraded, Eloquent Software's \$25 LiveDictionary (www.eloquentsw.com) can give you similar functionality in Panther with less work. Hover your cursor over a word to bring up a floating text balloon—directly above the text or next to the Safari win-



Pop-Up Definition With LiveDictionary, Panther users can access a pop-up dictionary that's much like the one in Tiger.

dow—containing the definition of the word. (You can also set a hot key to activate LiveDictionary.) You can customize the balloon's appearance, including its opacity and font, and LiveDictionary can even speak a definition (in English only).

By default, LiveDictionary uses Princeton University's WordNet 2.0 English Dictionary. However, it also includes WordNet Thesaurus, and you can download and install other references, provided they're in the correct format (but

continues

Tweaks for Tiger

Less than a week after Tiger's release, people had come up with some interesting utilities that let you customize parts of the OS—in subtle ways—to suit your preferences. Here are four worth a look (some are still in development, so the usual "use at your own risk" caveat applies; however, I've tried all these utilities on my own system without incident):

Cage Fighter 1.1 I actually like the new look of Mail in Tiger, but if you're not a fan of its new buttons, you can use Tristan O'Tierney's Cage Fighter to replace them with borderless buttons similar to the ones Panther's Mail uses—you'll still be stuck with the rest of Mail's new look, but at least the toolbar will be a bit subtler. And if you want to revert even further, Cage Fighter can replace Mail's button icons and title bar with their actual Panther equivalents (free; www.otierney.net/cagefighter).

SafariButtons 0.4.2 One of Safari's most popular features is tabbed browsing. As a result, one of the most requested Safari features has been a New Tab button in the Safari toolbar (which Apple still hasn't provided). Now you can get one using Jules Payne's SafariButtons, which replaces Safari's Report Bug toolbar option with a New Tab button. As a bonus, SafariButtons also lets you enable imageless browsing, which disables images for faster page loading (free; www.plan8.org).

Amnesty Widget Browser 0.80b Dashboard works as an overlay—you can view its widgets only when the Dashboard layer is activated. Mesa Dynamics' Amnesty Widget Browser adds a menu-bar menu that lists all available Dashboard widgets.

Choosing a widget from the menu opens it without the need to invoke Dashboard; it remains on screen until you close it. You can decide whether each Amnesty-induced widget should float above all applications, act as a standard application window, or become part of your desktop; you can also customize the widget's opacity (beta, free; contact company for final-version price; www.mesadynamics.com).

Dasher 1.0.1 To be honest, the idea of a Dashboard screen saver never crossed my mind. But it evidently crossed someone's, because that's exactly what Splasm Software's Dasher provides. After a period of inactivity, Dasher activates Dashboard. Move or click the mouse, or press a key, and it disappears, just as it would if it had been activated manually. Dasher even cooperates with OS X's screen saver—if you've enabled the latter, it will take precedence over Dasher's Dashboard activation (free; www.splasm.com).



you can use only one at a time). Despite its name, LiveDictionary isn't just a dictionary; it's also able to translate words via one of the included Ultralingua translation dictionaries.

LiveDictionary has a few flaws. For example, sometimes pointing to a compound word—such as *everything*—provided me with the definition of one of the component words (in this case, *every*) instead of the full word. And if you point to the first word in a common phrase, hoping to see the definition of that word, LiveDictionary will sometimes provide the definition of the phrase instead. For example, I pointed to the word *kitchen* in the phrase *kitchen sink*, and LiveDictionary showed me the meaning of the entire phrase; however, when I pointed at *sink*, it correctly gave me the definition of just that word.

LiveDictionary could be a great resource for classrooms and computer labs. The only obstacle to that is its price: \$25, which is reasonable for individuals but expensive for schools, since each computer would need its own copy. Fortunately, Eloquent Software is open to working with schools on institutional pricing.

FLOATING CALCULATOR

Calq 1.2.1

One of the most useful widgets in Tiger's new Dashboard feature is the calculator. Unfortunately, people who haven't upgraded to Tiger can't take advantage of it—and some Tiger users aren't fond of Dashboard. I recently came across Katoemba Software's free Calq 1.2.1 (0001; www.katoemba.com), and it just might be the solution for both groups of people.

Calq is a handy on-screen calculator that waits invisibly in the background after launch; it appears only when you press a user-defined shortcut. (You can also activate Calq from a menu-bar item.) Once visible, the small Calq display lets you type in your calculations; then it fades away after a period of inactivity or when you switch to another application.

Although you can't use the mouse to enter numbers by clicking on calculator buttons, as you can with OS X's own calculator, Calq offers the basic functionality most people need for everyday use: you can add, subtract, multiply, and divide, as well as copy results from, and paste numbers into, the display. And for



Convenient Calculator Calq pops up only when you need to figure some figures.

those times when you don't want Calq to fade away automatically, you can lock it on screen.

Calq also offers a few ways to customize its appearance. You can choose where the Calq window appears on screen, the transparency of that window, and the period of inactivity that will cause the window to automatically disappear.

Calq doesn't have any of the advanced features that would allow it to replace a more full-featured calculator—in fact, it doesn't even have some basic features, such as a memory register, found in most calculators. But for simple, everyday number crunching, it's quite handy.

DESKTOP TRASH ICON

SideTrash 1.1

Getting back to OS X's Trash, a frequent question I get from readers is, "How do I get the Trash icon onto the desktop?" If

THE CONQUEST

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



Phone: 1-800-257-6381 Fax: 281-353-9868 Email: sales.info@alsoft.com Web Site: www.alsoft.com

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you're one of these people, you'll like Paolo Portaluri's free SideTrash 1.1 (👍👍👍; macworld.com/0569). SideTrash is simply an application—with a trash-can icon—that mimics the behavior of OS X's own Trash. Place SideTrash on your desktop, and you've got that icon wherever you want it. Just drag files and folders to the SideTrash icon, and they're moved to the actual Trash. You can even drag discs and mounted volumes to SideTrash to eject them, just as you can with the real Trash, and double-clicking on the SideTrash icon opens OS X's Trash. You can also drag the SideTrash icon to the sidebar of any Finder window for convenient access; dragging an item to the SideTrash icon in the sidebar moves that item to the Trash.

Two limitations prevent SideTrash from getting an unequivocal endorsement. First, the minor one: unlike the Trash icon in the Dock, SideTrash's icon doesn't reflect the state (empty or not empty) of the Trash. A more significant drawback is that if you drop an alias onto the SideTrash icon, it moves the original item—



Trash Access SideTrash lets you put the trash can where you want it.

not the alias—to the Trash (a limitation of OS X, not SideTrash). So keep this in mind when using the program.

iDISK TOOL

iDiskMenu 1.1.1

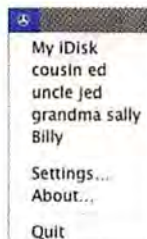
I may be in the minority, but I have more than one .Mac account, so I frequently connect to different iDisks. And when I help friends and relatives with their computers, I sometimes connect to their iDisks using their login information.

OS X makes it easy to connect to your own iDisk—but what about connecting to an iDisk other than the one listed in the .Mac preference pane? You could go through the iDisk submenu in the Finder's Go menu, or use the Finder's Connect To Server command and type in the appropriate URL. But a better alternative is Arizona Software's free iDiskMenu 1.1.1 (👍👍👍; macworld.com/0568). iDiskMenu is a systemwide menu-bar item that lets you define shortcuts to iDisks, WebDAV servers, and FTP servers, and then easily connect to any of those remote volumes.

Setting up iDiskMenu for an iDisk is easy: you provide a nickname for the menu

shortcut and then enter the .Mac user name and password. You can enable the Reveal In Finder option, which will open a new Finder window for the iDisk once it's mounted, if you want. Repeat the process for each iDisk you want quick access to. You can then mount and unmount an iDisk from the iDiskMenu menu. (You can also set up shortcuts for WebDAV and FTP servers, but note that as of OS X 10.4.1, the Finder's support for FTP is read-only; to write, you'll need a third-party FTP client.)

Choosing an iDisk from the menu, to mount it or unmount it, sometimes results in an error—an annoying but not serious bug (choosing the iDisk again usually solves the problem). Nonetheless, iDiskMenu is an effective utility that I use regularly. ☐



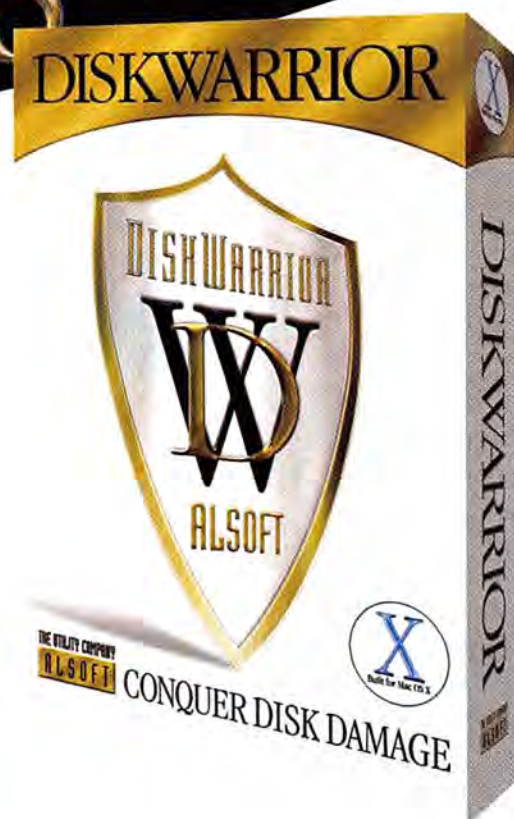
Freedom of Choice iDiskMenu lets you quickly access multiple iDisks.

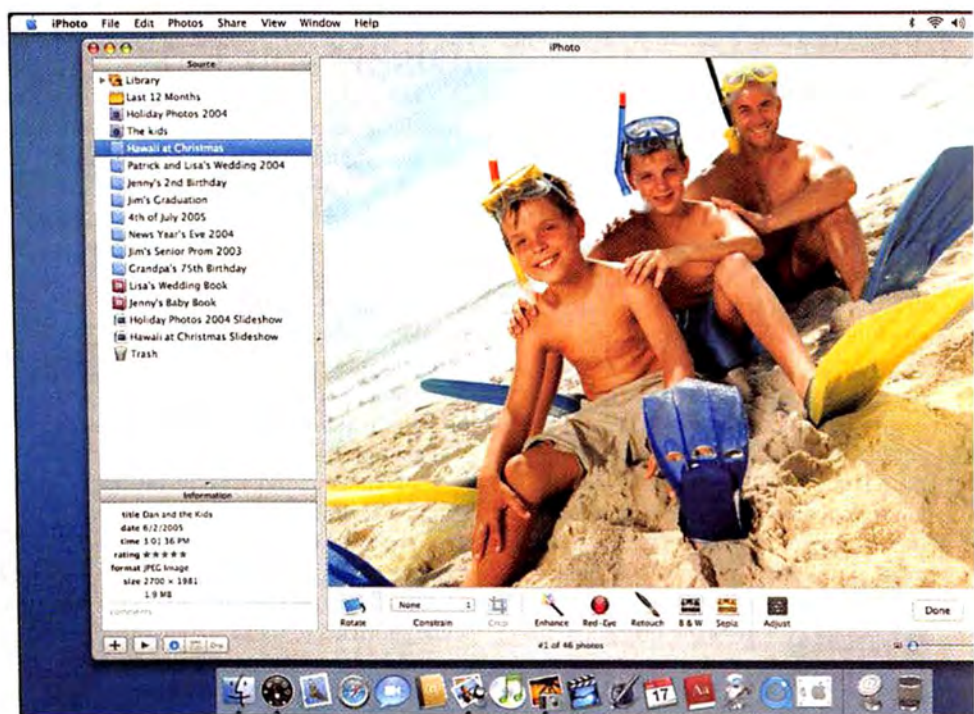
Senior Writer DAN FRANKS (www.danfranks.com) is also the reviews editor of Playlistmag.com. Send your thoughts on this column, or on things you'd like to see in future columns, to macgems@macworld.com.

CONTINUES

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."







Vacation season is here.

Most of us wouldn't dream of traveling this summer without our digital cameras. An underwater snorkeling adventure may last only two hours, but the photos will last a lifetime—assuming that you can *find* the photos on your computer, and that they aren't accidentally deleted the next time you upgrade your system.

Relax. Working with your photos doesn't have to be a chore. From polishing your pictures, to choosing the right printing service, to backing up your images, we've got simple solutions to the most-common postproduction tasks. So you can enjoy your favorite vacation moments for years to come.

If only your tan lasted as long.

thebigpicture

SNAPPING THE SHOT IS JUST THE BEGINNING. HERE'S HOW TO PREPARE, PRINT, AND PROTECT YOUR DIGITAL PHOTOS.



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PHOTOGRAPH BY PETER BELANGER

www.macworld.com

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prepare your photos

SIMPLE IPHOTO TRICKS THAT BRING OUT THE BEST IN YOUR IMAGES BY DERRICK STORY



Apple's iPhoto 5 is anything but another ho-hum digital shoebox. You can use it to create an efficient workflow for managing all your pictures. No more fumbling with folders of obscurely named pictures—iPhoto takes images directly from your camera and presents them to you in an orderly manner. From there, you can do just about anything with them: make prints, build Web pages, create slide shows, and more.

Understanding and using iPhoto's organizational tools will help you get the most out of the program's creative side. I'll show you how to enhance your photos, as well as how to use iPhoto to sort them so they're ready when you need them for any type of output.

Take Control of Your Collection

Do you spend all your time scrolling through your image library looking for shots you need? Just like a garden, a photo library left untended can quickly become overgrown and uninviting. Unless you instill order early and often, you're likely to spend as much time searching for a photo as you do polishing it.

Before the days of digital photography, I used a light box to sort my slides. I'd lay them out side by side on the glowing surface and, with magnifying loupe in hand, rate each image by putting one, two,

or three dots in its lower left corner. Great shots had three dots; outtakes, one dot. iPhoto lets you use this procedure on your Mac—but makes it even better. You can not only assign ratings, but also use those ratings as filters to keep your favorite images within easy reach. It takes just a minute or two, and the rewards are well worth the extra effort.

After you've uploaded a new batch of images, click on the Last Roll icon in iPhoto's Source list (on the left side of the interface). All the pictures you just transferred from the camera will appear in the photo-viewing area. Create a new album by clicking on the plus-sign (+) button in the lower left corner of the iPhoto window. Give the album a logical name. Now go to Edit: Select All. iPhoto will highlight all the pictures you just uploaded. Drag them into your new album, and you're ready to sort.

Cast a Critical Eye One of the best ways to sort your images is by their star ratings. You have your five-star award winners at the top of the album and your one-star duds at the bottom. This is a huge time-saver for future projects. Instead of having to open each picture in Edit mode to see whether it's the good one, you can find out just by breezing through the thumbnails and looking at the images' star ratings.

iPhoto's slide-show controls are perfect for quickly assigning ratings. The slide show presents each picture at full screen so you can get a good look at it, and you can use the slide-show controls to rate the images as you view them. That way, you don't have to click and scroll from picture to picture.

To enter Slideshow mode, click once on your album title to highlight it—or select Last Roll if you just imported the images—and then click on the Play triangle beneath the Source list (not the big Play button on the Slideshow toolbar). The Slideshow dialog box's Settings pane will greet you. Deselect all the slide-show options except Show Slideshow Controls. You don't want anything fancy for this presentation, just a good look at the pictures and a way to rate them. I usually choose 2 Seconds for each slide, but I'm speedy (see "Slideshow Settings").



Star Shots By selecting View: My Rating you can see how many stars you've assigned to each picture in thumbnail mode. You can take this even further by choosing View: Sort Photos: By Rating. The thumbnails will be rearranged with your favorite shots at the top.

avoid the upload bottleneck



bright idea!

Uploading pictures into iPhoto couldn't be easier—you just plug your digital camera into your Mac and click on iPhoto's Import button. But the process isn't necessarily fast. Far too many digital cameras still use USB 1.1 connections. So if you're connecting a mega-megapixel camera with a gigabyte card full of images, you'd better have lots of time on your hands.

You can speed things up considerably by investing in a FireWire or USB 2.0 card reader, such as Lexar's CompactFlash FireWire Card Reader (\$50; www.lexar.com) or Belkin's Hi-Speed USB

2.0 15-in-1 Media Reader & Writer (\$50; www.belkin.com). The trick is to format your memory card with your digital camera before you start shooting. (Look for a Format option in your digital camera's settings menu.) Doing so imprints the camera's identity onto the card. When you remove the memory card from the camera and put it in a reader, iPhoto behaves as if your dependable digital camera itself were connected directly to your Mac—but the program receives the images many times faster than before. As an added bonus, you won't drain your camera's battery in the process.

PowerBook owners also have the option of using a PC Card adapter, such as the SanDisk Ultra PC Card Adapter (\$10; www.sandisk.com) or the SanDisk 6-in-1 PC Card Adapter (\$30). The transfer rate isn't quite as fast as with USB 2.0 or FireWire, but these adapters are slim and extremely affordable.



The Belkin Hi-Speed USB 2.0 15-in-1 Media Reader & Writer

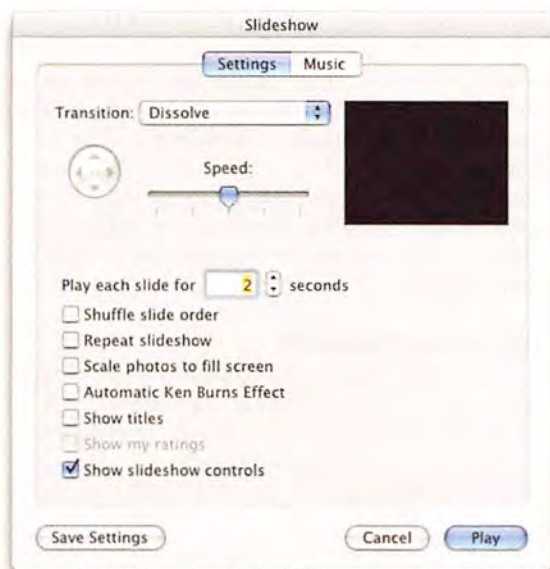
You'll notice that the control bar lets you pause or play the slide show; go to the previous or next slide; and rotate, rate, and delete the image on screen. To rate a picture, simply click on the dots to assign a star rating. (Once you click, the dots turn into stars.) Don't fret over this for too long—you can always change your mind later. Just go with your first reaction. Remember, the object here is to move fast and assign a first-impression rating. You can even save yourself the extra mouse click by assigning star ratings from the keyboard. Press ⌘-1 for one star, ⌘-2 for two stars, and so on.

One advantage to this method is that the slide show gives you big pictures to evaluate. The images appear

at a higher resolution than they do in the little preview thumbnails or even in Edit mode (see "Fly through Ratings").

When the slide show ends, you'll be returned to the main iPhoto window. Make your ratings visible under your thumbnails by going to View: My Rating. Now you can easily see the best shots without having to open each in Edit mode (see "Star Shots"). Even better, go to View: Sort Photos: By Rating, and your very best thumbnails will appear at the top of the album.

Use Some Smarts iPhoto also lets you organize your image library by grouping similar photos from different film rolls into smart albums. Similar to iTunes' smart playlists, iPhoto's smart albums automatically build collections based on all sorts of criteria, such as date, file name, comments, and so on. I recommend building a smart album that contains all your best pic-



Slideshow Settings View your album as a slide show, and use the Slideshow controls to rate your pictures as they appear on screen.



Fly through Ratings When you use a slide show to evaluate your pictures quickly, you not only get to see much bigger images, but also can rely on your gut reaction to their quality. This image got four stars because I really like it.



Steps to Perfection The original image of the heron suffers from flat colors and soft image details (A). To improve it, I adjusted the Levels slider (B) to create stronger shadows and highlights; then I tweaked the Temperature (C) and Saturation (D) sliders to improve the color. Finally, I sharpened the image (E).



tures. Just think, when it's time to make holiday books for the relatives, if you have a "Best Shots" smart album, for instance, you can just open it up instead of scouring your collection for decent photos.

Start by holding down the option key. The plus sign (+) in the lower left corner of the iPhoto window will become a small gear symbol. This is the Smart Album icon. Click on it. In the dialog box that appears, name your album and choose My Rating as the condition. Use Is Greater Than, and click on three stars. Then click on OK, and iPhoto will instantly build a smart album containing all the pictures from your library that have a four-star or higher rating (see "Only the Best").

Enjoy a Daily Display Now that you've located your best photos, why not enjoy them all the time? To show off your photographic prowess, open System Preferences and go to the Desktop & Screen Saver pane. Click on the Screen Saver tab, and select your new smart album from the list. You've just created a dynamic, automatically updating screen saver of your prized images. I bet you'll catch plenty of people slowing down as they pass your desk.

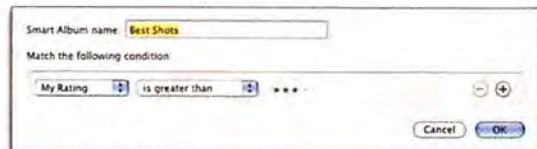
Don't Use Bad Data

Now that you've found your best shots, it's time to edit, right? Not quite. The weak link in any image-editing routine is the monitor. The colors on a monitor shift over time—and there's little point in editing if the on-screen colors aren't the colors you'll get in print. You'll get much better results if you spend a few moments adjusting your monitor *before* you fiddle with your pictures.

If you're already using a screen-calibration device, such as ColorVision's \$299 Spyder2Pro (####; www.colorvision.com), you're in great shape. (To see a comparative review of screen-calibration devices, go to macworld.com/0488.) But if you aren't, you're still in good shape. OS X includes some handy built-in tools that can get you off to a good start. Check out "See Your True Colors" (*Digital Photo*, page 78) for instructions on taking advantage of these tools. They're worth exploring before you get into serious photo editing.

The 3-Step Makeover

Now it's time to take your best pictures and make them better. You can use an external image editor, such as Adobe Photoshop Elements 3 (\$90; www.adobe.com).



Only the Best You can use iPhoto 5's Smart Album feature to create an album that contains only your favorite pictures.

(Choose iPhoto: Preferences and select the Double-Click Photo option to set the default image editor for your photos.) However, thanks to the new Adjust palette, there's plenty you can do without ever leaving iPhoto 5. In fact, iPhoto now includes many of the tools, such as a Levels histogram and color-correction tools, that you once needed an external editor for. (For an Adjust-palette primer, go to macworld.com/0583.)

I'll walk you through the process I use to adjust pictures. Every image is a little bit different, so pay more attention to the steps I take than to the settings I use. While I may increase the saturation in this example, I might decide to decrease it in another image. Adjusting the saturation is the step, but *how* you adjust it depends on the image and your aesthetics. (For a quick image-editing reference, see "Find the Right Tool for the Job.")

To improve an image, select it in the library, click on the Edit button, and then click on the Adjust button. Now you're ready to take the three simplest steps to image enhancement:

1. Examine the Exposure Take a look at my image of a heron (see "Steps to Perfection"). The overall tones are "flat"—meaning that the middle tones dominate this scene: there isn't much highlight or shadow detail. The Adjust palette's histogram, to the right of the original shot, confirms this: bars representing the tonal information are bunched up in the middle **A**. What I'd like to see is a tonal scale that stretches more evenly from shadow detail (on the histogram's left) to highlights (on the right).

First, I dragged the Exposure slider a little to the right, to move more of the data to the center of the histogram. Then I could've either used the Contrast slider to spread out the tones, or moved the shadow and highlight endpoints inward **B**. I chose the latter for this picture. I didn't want to bring the endpoints all the way out to the edges of the histogram, because things would still be changing a bit with the next few adjustments, as you'll see.

2. Correct the Color I took this picture on an overcast day, so the tones are a little "cool" (or bluish). I warmed them up by moving the Temperature slider a little to the right **C**. I also wanted more saturation, so I dragged the Saturation slider to the right to intensify the colors **D**. You may notice that the temperature and saturation adjustments pushed the bars in my histogram a little to the left. I readjusted the high-



Colorful Results If your camera gets the colors wrong, try using the Auto Gray Balance tool, and let iPhoto correct those tones for you.

one-click color correction



Adjusting the histogram can mean fiddling endlessly with the Temperature and Tint sliders to get colors right. If you don't have the patience for that, you might be able to get iPhoto to make the adjustments for you. The trick is to use iPhoto's Auto Gray Balance tool.

Search your picture for an area that should be a medium to dark gray. Hold down the \mathbb{A} key, and click on that area of gray. iPhoto will automatically adjust the tint and temperature for the entire picture. If you don't like the results, click on the Reset Sliders button at the bottom of the Adjust palette, or use the Undo command (\mathbb{Z}), and the image will revert to its original colors.

I sometimes try a few different gray areas and pick the results I like the best. When this trick works, the results are amazing (see "Colorful Results").

light and shadow endpoints again, using both the histogram and the colors in the image as a guide. (If the process of adjusting colors seems intimidating, and if your photo includes a neutral gray tone, you might be able to have iPhoto do the work for you. See "One-Click Color Correction.")

3. Sharpen Up Then it was time to sharpen up the image. I moved the Sharpness slider a little to the right until the picture was nice and crisp **E**—don't drag it too far, or your images will have an unpleasant "digital" look.

If you want to peek at the original any time during the editing process, hold down the control key—iPhoto will reveal it. That way, you can tell whether you're going in the right direction with your adjustments.

find the right tool for the job

iPhoto 5's Adjust palette includes several new options for beautifying your problematic images. Here's a quick guide for solving some of the most common picture dilemmas.

If You Have This Problem	Red eyes	Tilted image	Out-of-focus image	Dull colors	Cool (bluish) tones (due to shooting without a flash in open shade)
Try This Tool	Red-Eye tool	Straighten slider (in the Adjust palette)	Sharpness slider (in the Adjust palette)	Saturation slider (in the Adjust palette)	Temperature slider (in the Adjust palette)
Tool Tip	Click once on the Red-Eye tool; then click in the center of the eye.	Drag the slider to the left or right to straighten your image. Some of the image will be cropped.	Sharpen only as much as needed.	Move the slider to the right to increase color intensity.	Move the slider to the right to add warmth to the image.

When you like the way your picture looks, either click on the Done button or simply click on the next thumbnail at the top of the editing window. iPhoto saves your changes. Don't be concerned if you change your mind and decide that you don't like the edits you've made—choosing Photos: Revert To Original at any time will take you right back to square one.

You can bring out the best in any photo in your library just that quickly.

Crop for Printing

Since your photo is looking so darn good after these adjustments, you might decide to make a print right now. To make sure the image is positioned correctly, crop your photo to the same proportions as the paper you'll be using.

Let's say that you're going to make a 4-by-6-inch print. Return to Edit mode and select 4×6 from the Constrain drop-down menu on the iPhoto toolbar. The edges of the images that don't fit will be grayed out. Enlarge or reduce the cropping area by clicking on and dragging any corner. Once you've set the cropping area, click on the Crop button, and iPhoto will trim the excess. When the image comes out of the printer, it will be composed in the same way it appears on your Mac's monitor.

should you go raw in iPhoto?

One of iPhoto 5's most talked-about additions is the ability to process Raw files. But just because iPhoto can handle this format, does that mean you ought to use it? Understanding the differences between Raw files and processed JPEGs will help you decide.

JPEG versus Raw Most compact digital cameras capture picture data, process the information right away, and write it to the memory card as a JPEG. Equipment manufacturers have worked hard to perfect in-camera processing, so data is transformed into a pleasing photograph. Conveniently, JPEGs are also compressed, so you can squeeze more of them onto a memory card.

Advanced cameras (in other words, expensive ones) often let you save image data in a Raw format as well. Unlike JPEGs, which are written to the memory card as "whole pictures," raw images aren't processed at all. You do that later on your Mac, using additional software. Before iPhoto 5, you had to use Adobe's Camera Raw—included with both Photoshop CS2 and Elements 3—or the program that came with your camera to convert this raw data into a photograph. Now iPhoto 5 offers similar tools.

Unlike with JPEGs, where you essentially reprocess the images when you edit them, every time is like the first with a Raw file. There's no image degradation. The downside is that raw images are *much* larger than JPEGs. A high-quality JPEG from a 6-megapixel camera takes up about 2MB. When saved as raw data, the same image takes up more than 8MB. Time to start shopping for memory cards!

The Right Quality Do you need this level of quality and control for snapshots of Aunt Susie's birthday party? Probably not—that is, unless you plan on making a 20-by-30-inch poster of her blowing out the candles. In most cases, you can continue letting your camera do the photo processing, and focus instead on taking great shots.

When you want the highest quality and most accurate color balance possible—as well as the flexibility to change your mind later—consider using the Raw format. Go to macworld.com/0506 to see whether iPhoto supports your camera. For more information about the Raw format, see macworld.com/0507.

iPhoto keyboard shortcuts

Want to really speed up your iPhoto workflow? Take the time to learn these handy shortcuts. Cut out this list and keep it nearby while you work.

PRESS THESE KEYS	TO DO THIS
⌘-,	Open iPhoto's Preferences
⌘-N	Create a new album
⌘-option-N	Create a new smart album
⌘-I	Get information about a selected photo
⌘-shift-B	Batch-change selected photos
⌘-R	Rotate selected photo(s) counterclockwise
⌘-option-R	Rotate selected photo(s) clockwise
⌘-D	Duplicate photo
⌘-shift-E	Export selected photo(s)
⌘-shift-T	Toggle titles shown in thumbnail view
⌘-shift-K	Toggle keywords shown in thumbnail view
⌘-shift-F	Toggle film rolls shown in thumbnail view
⌘-shift-R	Toggle ratings shown in thumbnail view
option-click on the triangle next to any film roll	Show or hide all photos within the film roll
click on the film-roll icon	Select all photos within that film roll
⌘-] (right bracket)	Go to the next photo's Comments field when editing text
⌘-[(left bracket)	Go to the previous photo's Comments field when editing text
press 1 while in Edit mode	Zoom in to 100 percent (one pixel on screen equals one pixel in photo)
press 2 while in Edit mode	Zoom in to 200 percent (two pixels on screen equal one pixel in photo)
press 0 while in Edit mode	Zoom out to normal Edit-mode size for photo
right arrow	Skip to the next photo while in Edit mode
left arrow	Skip to the previous photo while in Edit mode
double-click on photo	Open photo in preferred image editor
⌘-Z	Undo last action
⌘-shift-delete	Empty Trash

If you plan on printing your picture in different sizes and proportions, you may want to duplicate it before cropping (Photos: Duplicate). It's true that you can always return to the original image if you want to undo the cropping, but you'll also lose the image edits that you worked so hard to perfect. Duplicating the photo before cropping is more efficient.

Pretty as a Picture

Just a short while ago, you had a camera full of digital images and no real procedure for dealing with them. Now you've uploaded the pictures, rated and organized them, adjusted your favorites, and cropped them to fit your output medium—and you're ready to enjoy the fruits of your labor. You did it all within iPhoto 5, and it was almost as much fun as taking the pictures in the first place.

DERRICK STORY coauthored *iPhoto 5: The Missing Manual* with David Pogue (O'Reilly, 2005). He's the editor of O'Reilly's MacDevCenter.com, and he runs his own photo business (www.storyphoto.com).

turnpixelsintoprnts

HOW TO CHOOSE THE BEST ONLINE PHOTO SERVICE FOR YOUR PRINTS BY BEN LONG

One of the great things about digital photography is that you can choose to print only the photos you truly love—and then leave the other 20 shots of your cat perched precariously on the windowsill stored safely away for posterity. Far too often, though, even our best pictures never leave the confines of our computers. But if you have an Internet connection and a few minutes, you can turn your great shots into finished prints—without a photo printer, and without even leaving the house. Just upload them to an online photo-printing service and place your order.

There are a lot of online photo services out there, but there can be a huge difference in results from one online photo finisher to the next. To find the best option, I took a look at nine online photo services: Kodak EasyShare Gallery, Mpix, PhotoCheap, PhotoWorks, Shutterfly, Snapfish, Wal-Mart, Webshots, and the Order Prints option built into Apple's iPhoto 5 (see "9 Printing Services Compared"). I sent five different images to all of the services and then asked a jury of *Macworld* editors to evaluate the prints' image quality. I incorporated their opinions into my overall evaluation of the services.

While I was hoping to find a clear winner that always produced superior prints, the frustrating truth is that most services produced good prints at some times and bad prints at other times. However, once you weigh price, speed, ease-of-uploading, and a few other considerations, some services stood out from the pack—in particular, Snapfish.

Submitting Your Images

All the services I tested accept JPEG files, the standard format for digital cameras. Mpix, PhotoWorks, Wal-Mart, and Webshots also accept TIFF files. However, since TIFF files are substantially larger than JPEGs, they take much longer to upload. Unless you're printing a large image and are extremely picky about image quality, I recommend sticking with JPEG. If you're shooting in your camera's Raw format, you'll need to convert the images before uploading them to any photo service. iPhoto 5 does this automatically during the upload process.

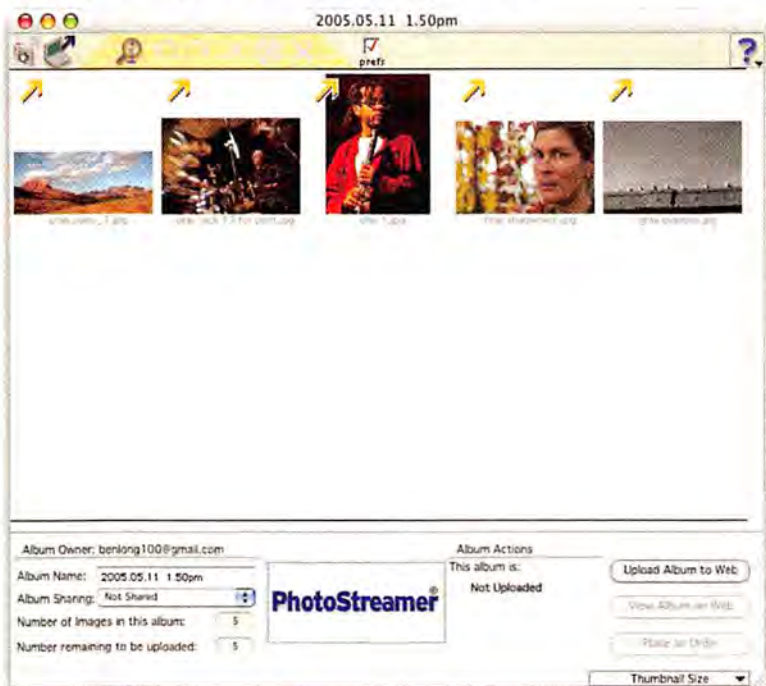
Uploading With the exception of iPhoto 5, which handles uploading for you, all the sites I tested let you upload images via a Web interface. However, I don't really recommend doing so unless you have only a few images or are looking for a tedious way to pass the time. Having to locate each file one by one is cumbersome. What's worse, you can upload only small batches of images at a time—which can make for a very time-consuming process. But while none of the Web interfaces were a pleasure to use, Photo-

Cheap's clunky, and at times confusing, Web site was the worst of the lot.

To make uploading easier, Kodak, Mpix, PhotoWorks, Shutterfly, and Snapfish offer either stand-alone applications or browser plug-ins. Kodak, PhotoWorks, and Snapfish take the lead here; their well-designed upload tools let you simply drag and drop files from the Finder (see "Painless Uploads").

Sharing One great advantage a Web-based photo service has over your local photo developer is that it lets you share your prints with others. All these services let you create online albums, fill them with images, and then send announcements to friends and relatives. Guests can look at your images and even order prints of their own—saving you the hassle and expense of creating and mailing duplicate pictures to multiple people. Most sites will leave your photos up indefinitely as long as you order prints at least once a year.

All but one of the services I looked at offer very good sharing services: PhotoCheap forces you to upload your images a *second* time, to a separate area



Painless Uploads PhotoWorks' stand-alone client makes it easy to upload large batches of images to specific albums. You simply drag and drop images from the Finder and then click on the Upload icon.

THE BIG PICTURE

designated for sharing. iPhoto's built-in sharing option requires membership in Apple's \$99 .Mac service, and it doesn't allow visitors to order prints. However, some iPhoto plug-ins will let you upload your images to a dedicated photo-sharing service; for instance, Fraser Speirs's free FlickrExport (www.speirs.org/flickrexport) uploads photos to Flickr.com.

Preparing Your Order

Just as your local photo lab provides a variety of printing options—from glossy paper to artsy borders—many online photo services let you cus-

tomize your order; some offer an astounding array of options.

Print Sizes and Finishes All the sites I tested offer the basic print sizes—including 4 by 6 inches, 5 by 7 inches, and 8 by 10 inches. Mpix offers the greatest variety of sizes, with 20 choices ranging from wallet size to 20 by 30 inches. PhotoWorks offers the largest size: 24 by 36 inches.

However, depending on the size of your files, not all of these options will be practical for your images. If you try printing a two-megapixel image at 8 by 10 inches, for example, you're going to be sorely disap-

9 printing services compared

★ = Editors' Choice.

Service	URL	Cost per 4 × 6 Print*	Shipping Cost for 20 Prints	Volume Discount Available	Offers Mac Upload Client	Includes Cropping Tool	Prints at 4:3 Aspect Ratio	Paper Types Available	Print Sizes ^a	Pros	Cons
Apple iPhoto 5	www.apple.com	\$0.19	\$2.49	○	●	● ^b	○	glossy	2 × 3 (wallet), 4 × 6, 5 × 7, 8 × 10, 16 × 20, 20 × 30	Easy-to-use organizing, editing, and uploading tools.	Offers only glossy paper; sharing tools cost extra; others can't order prints from your galleries.
Kodak EasyShare Gallery	www.kodakgallery.com	\$0.25	\$2.49	○	●	● ^c	○	glossy	2 × 3 (wallet), 4 × 6, 5 × 7, 8 × 10, 16 × 20, 20 × 30	Well-designed Mac client.	Offers only glossy paper; cropping tool doesn't support Safari.
Mpix	www.mpix.com	\$0.29	\$4.95	●	●	●	●	glossy, matte	2 × 3 (wallet), 3 × 5, 4 × 5, 4 × 6, 5 × 5, 5 × 7, 6 × 9, 8 × 8, 8 × 10, 8 × 12, 5 × 15, 10 × 10, 10 × 13, 12 × 12, 10 × 15, 11 × 14, 10 × 20, 16 × 20, 20 × 24, 20 × 30	Very good image quality; wide array of sizes; easy-to-use crop tool.	Expensive; mediocre Web interface.
Photo-Cheap	www.photocheap.biz	\$0.14	\$0.99	● ^b	○	○	●	glossy, matte	3 × 5, 4 × 5.3, 4 × 6, 6 × 8, 8 × 10, 8 × 12	Inexpensive; additional discounts for volume purchases; good image quality.	Cumbersome Web interface; no Mac client; poor sharing capabilities; no cropping; slow shipping.
Photo-Works	www.photoworks.com	\$0.19	\$2.90	○	●	●	●	glossy, matte, canvas	2 × 3 (wallet), 3.5 × 5, 3.75 × 5, 4 × 6, 4.5 × 6, 5 × 7, 8 × 10, 8 × 12, 11 × 14, 12 × 18, 16 × 20, 20 × 30, 24 × 36	Well-designed Mac client; flexible crop tool.	Consistently dark prints.
Shutterfly	www.shutterfly.com	\$0.29	\$2.49	● ^b	●	●	○	glossy, matte, canvas	2 × 3 (wallet), 4 × 6, 5 × 7, 8 × 10, 11 × 14, 16 × 20, 20 × 30	Easy-to-use crop tool.	Inconsistent image quality.
Snapfish★	www.snapfish.com	\$0.12	\$1.97	● ^b	●	○	○	glossy, matte, heavy-weight glossy	2 × 3 (wallet), 4 × 6, 5 × 7, 8 × 10, 11 × 14, 12 × 18, 16 × 20, 20 × 30	Inexpensive; very good image quality; good variety of paper types.	No crop tool.
Wal-Mart	www.walmart.com	\$0.12	\$1.68 ^d	○	○	●	○	glossy	2 × 3 (wallet), 4 × 6, 5 × 7, 8 × 10	Offers in-store pickup.	No Mac client; consistently dark prints; offers only glossy prints.
Webshots	www.webshots.com	\$0.24	\$1.95	○	● ^e	○	○	glossy	2 × 3 (wallet), 4 × 6, 5 × 7, 8 × 10, 11 × 14, 18 × 24	None.	Poor image quality; no crop tool; slow shipping; upload client doesn't support Tiger; offers only glossy prints.

● = yes; ○ = no. ^aAll dimensions in inches. ^bYou need to crop before you click on the Order Prints button. ^cNot compatible with Apple's Safari. ^dDiscount applies to prepaid orders. ^eNo shipping charge if picked up in a store. ^fNot compatible with Mac OS X 10.4 (Tiger).

counting your pixels

Although different services may have different specifications, here are some general guidelines for how many pixels you'll need to print at standard image sizes.

Print Size	Minimum Resolution
4 × 6 inches	1,280 × 960 pixels (roughly 1 megapixel)
5 × 7 inches	1,600 × 1,200 pixels (roughly two megapixels)
8 × 10 inches	1,600 × 1,400 pixels (roughly 3 megapixels)

Keep in mind that if you've changed the Quality setting on your camera, it may not be using its full pixel capacity when snapping shots. So while your camera may be able to capture 3-megapixel images, if you've set the Quality to Medium to save space, your images may be considerably smaller. If you're using iPhoto, you can check your image's pixel dimensions by selecting it in the library and pressing \mathbb{H} -I. In Adobe Photoshop or Photoshop Elements, go to Image: Image Size and Image: Resize: Image Size, respectively.

pointed with the results; the image will likely suffer from blocky details and fuzzy compression artifacts. All these services provide guidelines that explain how many pixels you'll need for specific print sizes (see "Counting Your Pixels"). And all but Mpix and PhotoCheap will warn you if you don't have enough pixels for the job.

In addition to standard glossy prints, Mpix, PhotoCheap, PhotoWorks, Shutterfly, and Snapfish offer a matte option. PhotoWorks and Shutterfly also offer a Canvas option. The texture of matte papers can vary—some are more pebbled than others. One editor on our panel of jurors, for example, disliked the matte finish from Mpix; he thought it made the image look blurred. I recommend ordering a small sample before committing to a big matte order.

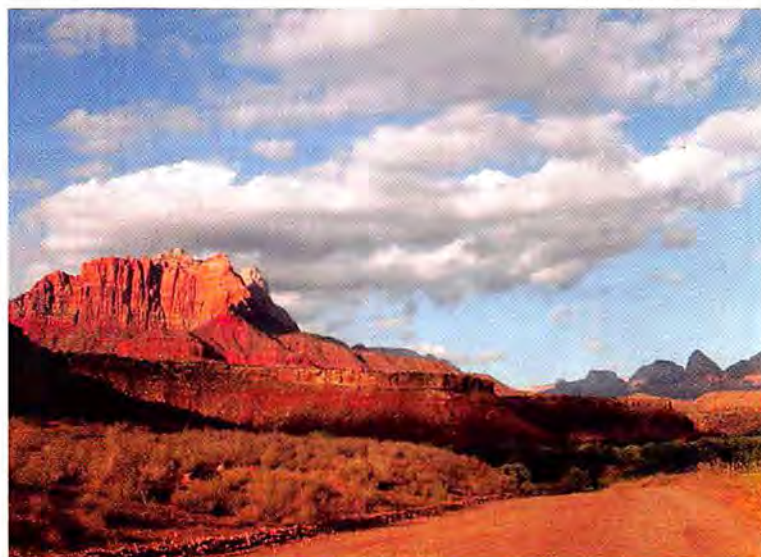
Cropping to Fit Traditional photo sizes, such as 4-by-6-inch and 5-by-7-inch prints, were created to accommodate the 3:2 aspect ratio of 35mm film. However, most digital cameras use a 4:3 aspect ratio—the same as a TV screen. (Digital SLRs, such as the Canon Digital Rebel, are an exception here. They usually shoot at 3:2.) Because of this discrepancy, most digital images won't fit traditional print sizes without cropping. If you forget, some of the services will crop for you—though not with any real thought given to the composition of the image. Others will leave white borders along the sides of your image.

Of the sites we tested, Mpix, PhotoWorks, Shutterfly, and Wal-Mart provide the most flexibility when it comes to cropping or zooming. All offer easy-to-use controls that can be applied either to an entire batch of photos or on an individual basis. Kodak also provides good cropping controls that let you crop each image separately—to either pre-

defined or custom sizes—but it doesn't work in Safari. You'll need Microsoft Internet Explorer or Mozilla's Firefox.

PhotoCheap doesn't offer Mac-compatible cropping features. Instead, it gives you the option of printing at a 4:3 aspect ratio, such as 4 by 5.3 inches. PhotoWorks also offers special 4:3 sizes, including 3.75-by-5-inch and 4.5-by-6-inch prints. These options save you the trouble of cropping. However, the prints won't fit a standard picture frame. That's not as much of a problem as it used to be, thanks to online frame vendors, such as Framesbymail.com, which provide 4:3 frames.

At the bottom of this pile are Snapfish and Webshots—neither of which provides zooming or cropping controls. Surprisingly, iPhoto also offers weak support in this area. Unlike the other online services, iPhoto gives no warning if your images don't fit your chosen print size. And once you're in the ordering process, there are no zooming or trimming options. You must have your images prop-



Going Wide When you order odd-sized images, such as this panorama, PhotoWorks gives you the option of fitting the entire image on the paper. Mpix, however, automatically crops to fit.

erly cropped and adjusted before you click on the Order button.

If you have any panoramic images, or if you've cropped your pictures to a different aspect ratio—say, to fit a square frame—you'll want to have the service letterbox your photo so the entire scene fits on the page, rather than cropping (see "Going Wide"). Of the services I tested, only Mpix didn't offer such a feature.

The Waiting Game

Delivery times differ greatly from service to service. And because of your geographic location, you may find that your delivery times differ from ours. When I had prints shipped to my office in San Francisco, I got the fastest results from Kodak and iPhoto (not surprising, since Apple uses Kodak for iPhoto prints), which delivered the prints to my door the next day. Most services delivered within two or three days. The slowest responses were from Webshots and PhotoCheap; their photos took six and eight days, respectively. In all cases, the prints were sturdily packaged and arrived intact.

If speed is of the essence and you live near one of Wal-Mart's more than 3,600 outlets, Wal-Mart may be your best option. The company lets you upload your photos from your computer, prepare your order, and select a store, and within an hour your prints will be ready for pickup at your chosen location. You'll also avoid the shipping charge.

Proof in the Print

Image quality can vary dramatically between services. This is the same image printed by Mpix (top) and by Webshots (bottom).



one-hour service



bright idea!

If you can't wait a couple of days for your prints and you don't have a printer at home, look for a drugstore or a one-hour photo lab such as Wolf Camera (www.wolfcamera.com). Many of these establishments have photo kiosks that can read all major media, including CD-ROMs.

After you insert your memory card or disc, you'll be led through options very similar to what you'd see on a photo-printing Web site. When you submit your order, it's delivered to the in-house photo lab, which develops your prints just as if you'd dropped off a roll of film. Turn-around times can vary, depending on how busy the store is, but you can usually come back for your prints within an hour or two. I sent my test images to Wolf for processing. Although the results weren't as good as what I got from some of the better online services, they weren't bad. If you're in a hurry to get your prints, or if you don't have a fast Internet connection for uploading, then kiosk printing is a speedy, affordable alternative.

Image Quality

Of course, the true test of any photo service is the quality of its prints. I submitted a variety of images to each service, including a bright landscape shot, a couple of indoor portraits, a low-light test, and a black-and-white image (see "Proof in the Print"). Although no single service gave me the best version of every print, I did find some clear winners and losers.

Overall, Snapfish sent the best images. Its prints all had good exposure, contrast, and detail. The saturation was nice, too. Mpix, which also handled exposure and brightness very well, was a close second. Despite being the slowest service and offering the fewest features, PhotoCheap's prints were good overall but slightly low on contrast and saturation.

As *Macworld* has seen in past reviews of photo services ("Turn Pixels into Prints," June 2002, and "Hot Shots," October 2003), there was a slight difference in quality between prints ordered from iPhoto and prints ordered directly from the Kodak site, despite ostensibly coming from the same place. Kodak's print was slightly better than iPhoto's, but the differences were subtle, and both delivered good results overall—though not as strong as results from Snapfish or Mpix.

The worst of the bunch was Webshots. Its photos were consistently dark, low on contrast, and just plain dingy. Although not as bad as Webshots, both PhotoWorks and Wal-Mart also yielded images that were a little too dark.

The most difficult service to judge was Shutterfly. It provided an almost even balance of acceptable and unacceptable prints. Although no service provided perfect prints for all of my samples, Shutterfly was more varied in quality than any of the others. Before

print at home or order in?

Online printing services will deliver your favorite photos right to your door within a few days. But they're not your only option for putting those pixels on paper. Thanks to the prevalence of small, affordable desktop printers, it's easier than ever to print your own photos at home. Many of these printers will even print stacks of borderless 4-by-6-inch prints just like the ones you'd get from a service. So which route is right for you?

Photo-Printing Services

How It Works Photo-printing services use a combination of digital and traditional film printing technologies to create your prints. The digital data that you submit is used to expose a piece of photographic paper. That paper is then processed and developed just as if it had been exposed through a piece of photographic film.

The Good The advantage of a photo service over a desktop printer is that the prints you get back will have a truly continuous tone, which means that you'll never see individual pixels or printer dots (though with low-resolution prints, you might see other annoying artifacts). In addition, the prints you get back from a photo-printing service tend to be far more resistant to fading and color shifts than what you'd get out of a home printer—although that's becoming less of an issue, thanks to today's long-lasting inks and papers.

Then there's convenience. With a photo-printing service, you upload your images and then get back to your life while you wait for your prints to arrive in the mail. You don't have to worry about choosing papers, trimming borders, or clearing paper jams.

The Bad If you don't like the results you get from a particular service, you can't tweak the image and reprint it without a lot of hassle and more waiting. And for larger print sizes, doing your own prints is usually a little more cost-effective, especially when you add in the cost of shipping and handling.

Photo Printers

How It Works Ink-jet printers spray tiny droplets of ink onto a page. By combining several (between four and seven) different colors of ink, they create the illusion of a continuous-tone print.

The Good If you need prints in a hurry, or if you want to tweak your prints to perfection, then you'll be better



Portable Printing

The Epson PictureMate Deluxe Viewer Edition can print 4-by-6-inch prints from just about anywhere, thanks to an optional battery pack.

served by printing yourself. If you discover that you don't like the color or that the image seems soft, you can make adjustments and print the image again. For low-fuss printing, consider getting a printer that prints only 4-by-6-inch prints, such as the \$250 Epson PictureMate Deluxe Viewer Edition (www.epson.com) or the \$200 Hewlett-Packard Photosmart 375 Compact Photo Printer (www.hp.com). These compact printers can print from your Mac or directly from a media card. However, getting good results may take several test prints. This will mean using more ink—the most expensive part of the printing process. Still, the per-print costs for these printers come to around \$0.29 per page, which makes them competitive with photo-printing services. And you won't have to pay shipping fees.

The Bad Making your own prints is more work than ordering from a service, especially if you're hand-correcting your images. Of course, that labor pays off in better image quality, but if you need to quickly crank out dozens of snapshots, doing your own printing may not be a reasonable solution.

In the end, you can think of these printers as a home darkroom. When image quality is paramount, it may be better to do it yourself. When you need many images with little effort, you should probably go with a photo service.

relying on any of these services for a huge order, I recommend trying out a few shots and judging the quality for yourself.

Macworld's Buying Advice

For getting the best print quality possible, Snapfish and Mpix are my services of choice. While Mpix offers an amazing array of sizes, Snapfish's excellent image quality and Mac-friendly interface make it the all-around standout.

If ease of use is your top priority and you already own Apple's iLife suite, iPhoto is your best bet.

Although the pictures weren't the jury's favorites, they will satisfy most customers, and the time you save on uploading images to the Web may compensate. If you absolutely *must* have your prints right away, Wal-Mart's walk-in service may be appealing. However, you'll get comparable quality by just walking into a nearby photo center. If you go either of these routes, I recommend brightening your images before submitting them.

Based in San Francisco, BEN LONG is the author of *Complete Digital Photography*, third edition (Charles River Books, 2004).

fine-tune prints for iPhoto books

While I might not put the photos ordered through iPhoto 5 at the top of my list, the program's photo books are a different story. With the release of iPhoto 5, Apple unveiled new book-printing features that offer more options and higher quality than the previous service. Now, in addition to the original hardcover book with single-sided pages, you can choose between several sizes of paperback books, all with either single- or double-sided pages. The new sizes not only cost less (as low as \$15, including shipping, for three tiny softcover books) but also offer more design choices, so you can craft books that are appropriate to more situations.

Though setting up a book is easy, it's not without pitfalls. Here are some tips for getting the best-looking images from your books while avoiding some of the program's quirks.

Before You Enter Book Mode

If you want your iPhoto books to look fantastic, give the images you include a bit of special attention:

Lighten Dark Shadows iPhoto books suffer from *dot gain*, a darkening of images that's caused by the paper absorbing too much ink. So it's a good idea to err on the side of lighter images. If you have a very dark image, use iPhoto 5's Adjust controls to brighten it up. Obviously, you don't want a washed-out image, but if your picture has lots of dark, shadowy detail, a little adjustment can help ensure that you don't lose it.

Add Contrast The human eye loves contrast. A photo with strong distinctions between light and dark tones will be more pleasing and yield slightly punchier color. Adjusting contrast is very easy in iPhoto 5. Consult the histogram in the new Adjust palette, and set the white and black points so they sit right at the edge of the graph. (For a tutorial on reading and using the histogram, go to macworld.com/0574.)

Sharpen The printing process used for iPhoto book printing doesn't yield tremendously fine detail. Individual hairs and delicate textures can sometimes get lost. So it's a good idea to apply some slightly aggressive sharpening to your



Self-Publish iPhoto's improved book-design interface makes it easy to select layouts for book pages, and to quickly move images from page to page.

book's images. This will give you better detail, and it will help to improve the contrast in your final image. Too much sharpness can be a bad thing, though. Don't push the sharpening to the point where you see noticeable halos around the fine details in your image.

Rotate You can't rotate images in the book-layout mode, so you need to be sure that all your images are properly rotated before you begin laying out your book.

Convert Books don't support Raw files, so create JPEG versions of any raw images you want to include, before you start laying out your book.

Perfecting Your Book

Creating a book in iPhoto is simple. Select the images you want to include—either in the main library or in an album—and then click on the

Book button. A simple dialog box will let you pick the type of book and an overall theme.

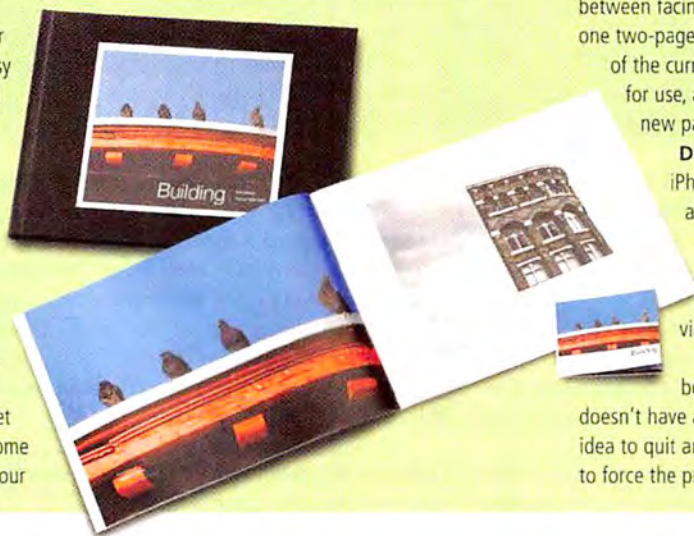
Mix and Match Each theme has a unique overall design and a number of different layout schemes that fit into that design. While this helps ensure that there's a little something for everyone, it also means that you'll need to do a fair amount of experimentation to find the layout that works best for your project. For example, some page designs crop your photos. You can scale and pan within the cropped area, but if you want to display an image with an unusual aspect ratio, you might need to change that page type, or even pick a different theme. Some page designs also include a field for text, which can affect your page-design choice. You can easily drag and drop new layouts onto a page to change the way each page looks.

Rearrange You can drag images only between facing pages. To move an image from one two-page spread to another, drag it off of the current page; this makes it available for use, and you can then place it on a new page.

Double-Check Your Work

iPhoto's thumbnail display is not always up-to-date. Once you've completed your layout, look at each page and be certain it's correct. Don't rely on proofing via the thumbnail images.

Force Save Laying out a book can take a while, and iPhoto doesn't have a Save command. It's a good idea to quit and restart iPhoto every so often, to force the program to save your book design.



make your images last



DON'T LET YOUR PHOTOS GO UP IN SMOKE—
DEVELOP A BACKUP STRATEGY NOW BY JOE KISSELL

If your house were on fire and you could save just one item, what would it be? Many people would say “my photo albums.” But more and more photo albums are going digital these days. And it doesn’t take a fire to destroy all that data. Disk errors, power surges, or accidentally deleting the wrong folder—not to mention theft or vandalism—can wipe out years of irreplaceable photos. (Then there’s the risk that someday you might run out of room on your hard drive.) Your best defense against all of these catastrophes is a solid backup strategy.

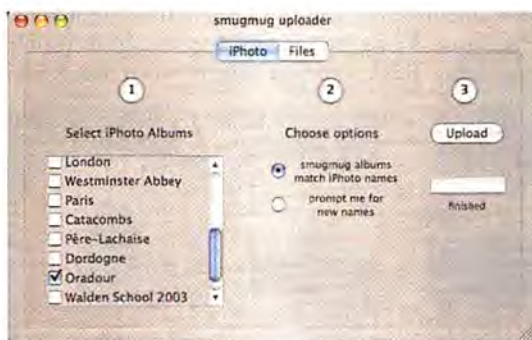
Backup Basics

Formulating a reliable backup strategy takes a little thought. You need to consider four things: cost, capacity, convenience, and security.

Cost You can keep your photos safe inexpensively, but the more you invest, the safer your photos will be and the easier they’ll be to retrieve when you want them. And in addition to money, any backup strategy will require at least a modest investment of your time.

Capacity Image files take up a lot of space. So any backup strategy for photographs must give this factor plenty of weight. Even if you have relatively few photos today, your collection will probably grow. You’re going to want a strategy that’ll accommodate not only the photos you have now, but also the ones you’ll have in five years.

Convenience You’ll need to consider the speed of your hardware and the ease with which it and your software let you find and access specific photos. Unlike other files, photos can never be fully described just by titles and keywords. Without a bit of preparation, searching a large archive of backed-up photos for that one special shot can be a huge hassle. (OS X 10.4’s new Spotlight feature, with its ability to index and search the metadata that accompanies photo files,



That Smug Look Smugmug’s software scans your iPhoto library and then lets you quickly and easily select albums for uploading.

dramatically improves searches on your hard drive—but it doesn’t help you find photos stored on a disc in your closet.)

Security How long will your backups—or the media you’ve stored them on—last? And how easy are they to keep safe from prying eyes? If you’re using a physical medium, such as a removable disc or a portable hard drive, you can keep it in a safe place. Look for a media safe that’s *UL rated*, which means that it can protect computer media from heat. (If your house catches fire, discs will melt in a regular safe.) To be even safer, keep a second copy of your photo backups in another location—in your office or at a friend’s place, for instance (but never in your car!).

After you’ve considered these four aspects of backing up your photos, you’re ready to look at some of your hardware and software alternatives.

Media

The first essential component of a backup system is the medium you use and the hardware it requires. You have many choices, each with its own pros and cons.

photo backup: your options

Confused by all the different ways you can back up your photos? Here’s how the major options compare for cost, capacity, convenience, and security.

	Cost	Capacity	Convenience	Security
Hard drives	Good	Excellent	Very Good	Poor
Optical drives (DVD or CD)	Very Good	Good	Poor	Good
Magneto-Optical drives	Poor	Good	Poor	Very Good
Online storage services	Poor	Poor	Good	Good
Photo-sharing services	Excellent	Excellent	Good	Good

Hard Drives Hard drives are great for general-purpose backups: they're fast, capacious, and convenient. But they're not as great for backing up photos. For one thing, the cost per gigabyte is far higher than it would be with, say, DVDs. Hard drives are also prone to failures that can imperil your data—especially over the long term. However, if you need rapid access to thousands of photos, or want to integrate your photo collection into a more comprehensive backup strategy, a hard drive (particularly an external FireWire model) can be ideal.

You can say almost the same thing about using an iPod as a backup device: it's fast and it holds a lot. If you already have a high-capacity iPod with some free space, it's an inexpensive and readily accessible possibility. But if you don't already own one, it's an



Burning Discs in iPhoto After you insert a blank CD or DVD, select the folders, albums, or photos you want to burn. iPhoto will display a dynamic indicator of the space available on the disc.

expensive way to go. And be careful: iPods are popular with thieves.

Optical Drives (DVD or CD) Optical drives that write to recordable CDs or DVDs are convenient—most Macs have them built in—and require relatively inexpensive media. (You can find blank DVD-R discs for less than \$1 each when you buy in quantities of 50 or more.) They're also getting roomier: The newest dual-layer drives can store a whopping 8.5GB per disc (see our review of dual-layer DVD drives at macworld.com/0584). On the other hand, optical drives are comparatively slow, and despite early claims that CDs would last for decades, research has

backup strategy: the budget-minded amateur

Who: A casual photographer who takes a relatively small number of photos on vacations and special occasions, she wants to protect her collection but is on a strict budget. Because she rarely needs to use archived photos, fast access is not crucial.

The Solution: For a backup medium, she chooses inexpensive recordable CDs. Because she uses her Mac's built-in SuperDrive, she doesn't need any additional hardware. Whenever she adds a large number of photos to her collection, she burns a CD from within iPhoto. When she needs to clear space on her hard drive, she burns an extra copy of some older photos to CDs, just to be safe, and then deletes them from iPhoto. She also uses a Kodak EasyShare Gallery account as a free secondary location to store and share photos (she orders at least a few prints each year to keep the account active).

shown that the data on optical media can begin to degrade in just a few years. You can't count on CDs or DVDs for long-term storage; to be safe, you should make (and test) a new copy of your backups at least every couple of years.

Magneto-Optical Drives Magneto-Optical (or MO) drives use a disc that looks a bit like a CD in a protective case. These discs vary in capacity, currently maxing out at 9.1GB. New Ultra-Density Optical (UDO) MO drives increase that to 30GB per disc.

Unfortunately, MO drives and discs are expensive, and write speeds are even slower than with CDs and DVDs. But MO discs have one big advantage: longevity. Some are rated to last 100 years. Of course, that's in theory; they haven't yet stood the test of time. But if you need the most reliable medium available and can afford it, MO is the way to go.

Online Storage Services Mac subscribers have 250MB of online storage space at their disposal (or 1GB, for an additional fee). Other services, such as BackJack (www.backjack.com) and Tuloy (www.tuloy.com) offer more-sophisticated backup capabilities. But for backing up lots of photos, these services are less than ideal, because of storage limitations, high prices, or both.

Several photo-sharing sites, however, offer terrific value and unlimited photo storage. Two of the best choices for Mac users (because they integrate easily with iPhoto) are Smugmug (\$30 per year; www.smugmug.com) and the Kodak EasyShare Gallery (free with at least one annual purchase of prints or other products; www.kodakgallery.com). In addition to storing your photos online, these services let you share them on the Web, order prints, and even get CD or DVD backups mailed to you. The low price and extra security of off-site storage make these services a valuable part of any digital photographer's

keep track of iPhoto backups



bright idea!

Before burning a group of photos to a disc, consider putting them all into one folder or album, so you'll be able to tell later on which photos went onto which disc. (iPhoto 5 conveniently lets you group multiple albums in one folder.) Give the folder or album the same name that you give the disc itself. And be sure to label the disc, too.

backup plan. But because you're relying on your Internet connection (and the company remaining in business and online), it's best to think of such services as supplements to local backups.

Software

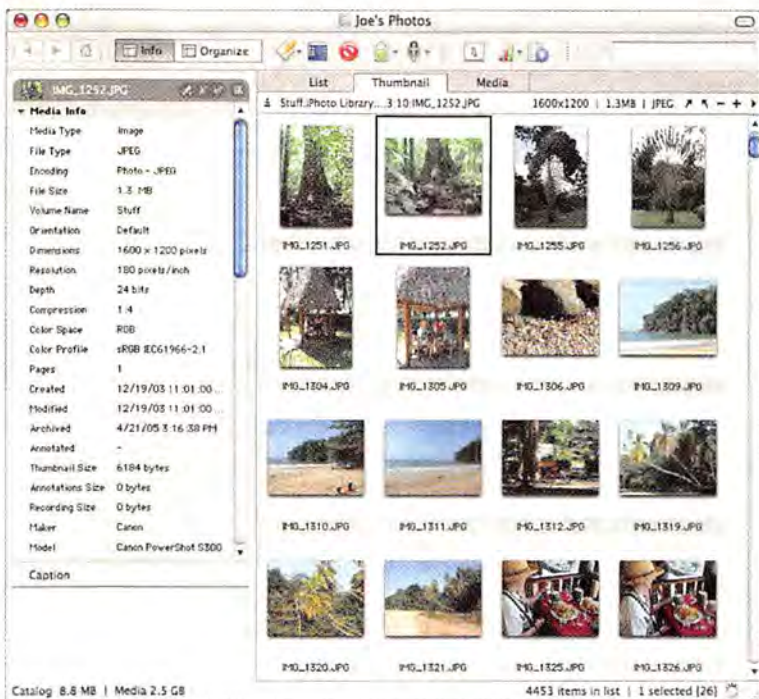
For backing up photos, you generally don't need all the bells and whistles of a full-blown backup app—in fact, you may already have all the software you need. But you should take some steps to make sure that you'll be able to easily find and retrieve your photos when you need them.

iPhoto iPhoto can burn CDs or DVDs without any additional software. To use this feature, choose Share: Burn Disc and insert a blank CD or DVD. Select the folder(s), album(s), film roll(s), or photos you want to back up; an indicator at the bottom of the screen will display the used space and available space on the disc (see "Burning Discs in iPhoto"). When you're ready, type in a descriptive name and click on Burn. That's all there is to it.

After iPhoto ejects the disc, reinsert it to verify its contents. I recommend making at least two copies of any backup and storing each in a different location.

If you intend to delete the photos from iPhoto after burning the disc (to save space), consider making a catalog or contact sheet first (see "Keeping a Catalog"). Even though you've labeled a DVD "Jimmy's Birthday," you may later wonder which birthday that was, or whether you happened to include those photos of the dog doing tricks on that disc.

Third-Party Photo-Management Software If your needs exceed iPhoto's capabilities, consider professional media-management tools such as the \$160 iView MediaPro (ⓂⓂⓂ; macworld.com/0585) and the \$200 Extensis Portfolio (ⓂⓂⓂ; macworld.com/0586). Both can automatically build catalogs of all your photos (including thumbnails), no matter where the



originals are stored. If you use either program's built-in backup features to move files to another volume, the program will automatically update its catalog to reflect the files' new locations. This makes storing and searching a vast collection of offline photos easy. Both applications can also create contact sheets, among many other features.

Not surprisingly, all these features make for a higher price and more complexity than iPhoto has. But if you have an extensive photo collection, you will likely find the investment worthwhile.

Conventional Backup or Synchronization Software If you already have a conventional backup program, such as EMC Dantz's \$129 Retrospect (ⓂⓂⓂ; macworld.com/0587), or synchronization utility, such as Econ Technologies' \$30 ChronoSync (www

Photo Management for Pros iView MediaPro is a high-powered alternative to iPhoto. If you back up or move photos, it learns their new locations and keeps thumbnails available for easy searching.

backup strategy: the anxious parent

Who: This parent of two young and very photogenic children takes lots of snapshots to send to friends and family members. Protecting these valuable memories is his chief concern, even if it costs a bit of money.

The Solution: Because he has just a few gigabytes of photos so far, he chooses recordable DVDs for his backup medium. Every month or so, he burns two DVDs from within iPhoto, leaving one of them at his office for safekeeping. When he needs to make space on his hard drive, he creates a catalog before making a DVD archive. Knowing that those DVDs may not last forever, he makes an annual routine of duplicating last year's DVD archives. He also spends \$30 a year for a standard Smugmug account, so he can keep copies of all his photos safely online and easily share them with family members.



Needle in a Haystack Although Retrospect will ably back up your iPhoto library, restoring an individual missing photo requires that you know its file name. Keeping a catalog of thumbnails can eliminate confusion.

backup strategy: the professional photographer

Who: For this pro, thousands of high-resolution digital photos aren't just memories—they're business. So locating and accessing archived photos rapidly is essential, and bulletproof backups are worth some extra expense.

The Solution: To efficiently catalog all her photos, she uses iView MediaPro, which automatically updates its records whenever she moves photos around. Even if the originals are on a volume that isn't currently available, she can still find the photos she needs.

Because she must keep a large number of photos available for active use, she uses a pair of external hard drives as her backup medium—always keeping one safely off-site (and swapping them weekly). She uses the Backup Server script in EMC Dantz's Retrospect Desktop to ensure that the drive that's attached is always up-to-date.

Finally, she periodically archives older projects onto MO discs for long-term storage. iView MediaPro keeps those photos in its catalog, so she can retrieve them easily when she needs to.

(econtechologies.com), you can use it to back up your photos, too. However, these applications are best suited to backing up and restoring your entire photo collection at once: Finding and restoring particular photos from a backup can be challenging (see "Needle in a Haystack"). On the other hand, most backup and sync utilities offer the ability to schedule an operation, which can eliminate the risk that you'll forget to back up your photos.

Be sure your backup program adds new or changed files to an existing archive (without deleting older copies of the files). If your only backup is an exact duplicate of your files at a certain point in time, you could be in trouble if you discover that you accidentally changed or deleted a photo before your last backup.

Putting It All Together

With this information, you can begin to devise a personal strategy. There's no "one-size-fits-all" approach to backing up. You have to ask yourself: "What matters most to me? Cost? Capacity? Accessibility? Security?" Once you've prioritized those concerns, you can start to whittle down the possibilities.

To help you do that, I've constructed three sample scenarios—"The Budget-Minded Amateur," "The Anxious Parent," and "The Professional Photographer"—that illustrate how three very different photographers could configure backup plans for their specific needs. You can pick the personality that's closest to yours, and then tweak the backup plan as needed.

A solid backup plan doesn't have to be difficult, expensive, or time consuming. The hardest part is getting started. To get over that hump, just remember that your photos are worth it. ☐

JOE KISSELL is the author of the *Take Control of Mac OS X Backups* e-book (www.takecontrolbooks.com). His secret identity is Curator of Interesting Things for InterestingThingOfTheDay.com.

keeping a catalog

If you have thousands of photos archived onto a stack of DVDs, finding the one you're looking for can be difficult. You can create a basic catalog of archived photos with iPhoto, and even make contact sheets (printed pages of thumbnails). The key components: thumbnails, file names, descriptions, and the locations of the original files. iPhoto's Export Web Page feature can provide all four:

Step 1 Select the photos that you want to store.

Step 2 Choose Share: Export, and click on the Web Page tab in the Export Photos dialog box.

Step 3 Enter a descriptive title for your catalog (the title should match whatever you write on the CD or DVD).

Step 4 Enter the number of columns and rows you want. For a catalog, fairly small, low-resolution images are generally adequate—for example, a 6-column layout with a maximum image width of 100 pixels. To make your catalog easy to search, choose a large number for the Rows field (such as 999); this will force all the images onto a single page (see "Not Just for Web Pages").

Step 5 In the Thumbnail section, specify a maximum width in pixels (try 100 pixels as a starting point); iPhoto automatically calculates the maximum height. Be sure to select the Show Title and Show Comment options.

Step 6 Click on Export, and choose a destination for the files. iPhoto will create a folder with the title you entered.

Step 7 After the export process has finished, open the newly created folder in the Finder and double-click on the HTML file with the same name as the folder. The page of thumbnails will open in your default browser. Because all the photos are on one (perhaps very long) page, you can use your browser's Find command to quickly locate file names or comments. You can also print the catalog from your browser (or save it as a PDF file) to make a contact sheet. (Although iPhoto can print contact sheets directly, these sheets don't include titles or comments.) When printing, most browsers split images onto multiple pages if they happen to fall at a page boundary. To work around this, open the HTML file in Microsoft Word or another word processor and print from there instead.



Not Just for Web Pages By choosing settings such as these in iPhoto's Export Photos dialog box, you can create a catalog of archived photos as a Web page.

Step 8 After verifying that all your thumbnails exported correctly, you can then delete the *descriptive title-Images* and *descriptive title-Pages* in the main catalog folder to save space.

Step 9 You can now return to iPhoto, burn a disc with the photos you previously selected, and then delete them from iPhoto.

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Energize Your Slides

Do your presentations bore even you? Keynote 2, included in Apple's iWork '05 (\$79; www.apple.com), offers a host of new tools that can help make your presentations more exciting and dynamic. I'll show you how to use three new features to jazz up your slides—plus, I'll give you a trick that may save your slide show if the cheering of your audience causes you to run out of time.

Jump to the Point

If you've wanted a way to link to Web pages or add interactivity to your presentation, you're not alone. Keynote finally includes one of the features requested most by users: hyperlinks. You can now add hyperlinks to any object—text in a bullet point, graphic shapes you create in Keynote, or an imported image.

Create hyperlinks by selecting an object and then selecting the Enable As A Hyperlink option in the new Hyperlink pane of the Inspector palette. (If you can't see the palette, choose View: Show Inspector.) The Link To pop-up menu offers five choices for the hyperlink's destination: Slide, Webpage, Keynote File, Email, and Exit Slideshow. Choose Link To Slide, for example, and Keynote lets you link to the next, previous, first, or last slide; type a slide number to link to; or choose the last slide you viewed. The Link To A Webpage option lets you type a URL to link to. Clicking on this sort of link during your presentation hides Keynote and opens the Web page in your default browser. To return to the slide show, click on the dimmed Keynote icon in the Dock.

Secret Links The most obvious use for hyperlinks is to navigate within your slide show during your pre-

sentation. But you can also use buttons and links to change the order of your presentation on-the-fly, without your audience even noticing.

For example, let's say that you're giving a sales presentation and you come to a slide introducing a new product line. If the audience is receptive, simply continue on to the next slide on that topic. But what if you get a negative reaction? Some creative linking can give you a Plan B. Create a graphic object that matches the slide background or has an opacity setting of zero (so it's invisible to the audience) and apply a hyperlink that jumps to a particular slide number—for instance, the first slide about another product. You can use this emergency exit button to skip to another section without ever appearing to lose your cool.

Skip to the End This trick can also come in handy for those of us who sometimes run out of time before finishing all our slides. Put an invisible button on all your slides that jumps right to the closing one. (Placing the button on the master slides is easier than adding it to individual presentation slides.)

Bring In the Internet

Perhaps you'd like to display the most recent census statistics for your economics lecture, or show off the new company Web site at your monthly team pep talk. If you want to show your audience a Web page but don't need to browse through the site, Keynote's new Web View feature is perfect.

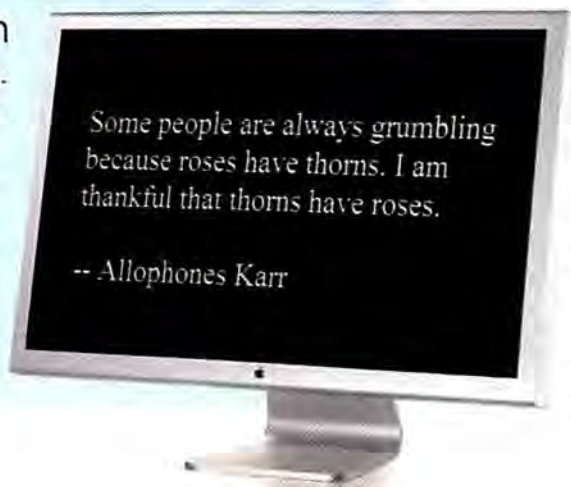
It lets you put a static snapshot of the Web page right on your slide. If you have an active Internet connection during the presentation, the Web View box shows the current version of the Web page. You can also use Web View to add a hyperlink, so if you need more interaction, you can click on it to open the site in a browser. If you don't have a connection, Web View shows the most recently downloaded snapshot.



CHECK IT OUT

Screen Inspiration

Do you find yourself feeling more like Dilbert each day? Michael Grothaus wants to cure your workplace ennui. Try his **MacHouse Quotes Screen Saver**, and whenever you take a break from typing to sigh dejectedly into your coffee cup, your screen saver will display an uplifting quotation (10-quotation version, free; 50-quotation version, \$5; macworld.com/0530). —SCHOLLE SAWYER MCFARLAND



To put a Web snapshot on a slide, you simply choose Insert: Web View. A box will appear on the slide. Type the address of the site you want in the Hyperlink Inspector palette's URL field, and click on the Update Now button. The current site will appear.

You can resize the Web View box as needed. For instance, you might want a small box focusing only on the new navigation bar you made for your client's Web site, or a large box that shows the whole page. You can also apply some of Keynote's graphics effects to it. I like to add a drop shadow, to make the box stand out from the rest of the slide. (Go to the Graphic Inspector and select the Shadow option.)

Web-Page Wallpaper Here's a trick: Use a Web View box as the *background* for a slide. First, resize the box to cover the entire slide. Then switch to the Graphic Inspector palette, and use the Opacity slider to dim the Web-page snapshot (about 30 percent opacity works well). Finally, use the Back button on the toolbar to send the Web View box to the background. Now the slide's title and bulleted text will overlay it.

Build Your Own Animations

If you really want to liven up your presentation, Keynote 2's new Automatic Builds feature allows you to easily create animations to illustrate almost anything. For Access Healdsburg, my local public-access cable station, I created a dynamic diagram that shows the station's funding sources (see "Diagram Building"). In this animation, the outer circles appear one by one, beginning at the top and continuing clockwise. After the fifth circle, radial lines draw toward the center; as they do, the center circle pops into view.

An Example Animation You can create a similar animation (and, of course, you can employ this technique to create any diagram) by using Keynote's Shapes menu (in the toolbar) to create each of the six circles; then you can use the Graphic Inspector palette to color them in. Double-clicking inside each circle lets you enter text. Use the Fonts palette and Text Inspector palette to style the text. Next, place the five radial lines with the Shapes menu, move them into the right positions, group them, and then send them behind the circles.

To create the animation, open the Build Inspector palette and click on Set Automatic Builds. The Automatic Builds drawer will open. Select the top circle on the slide; then, in Build Inspector, go to the Effect

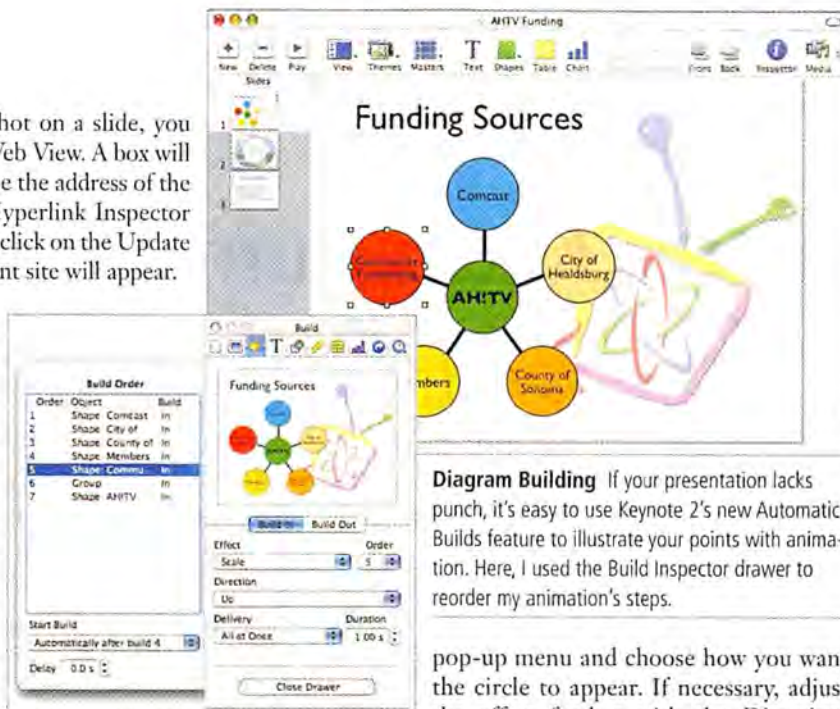


Diagram Building If your presentation lacks punch, it's easy to use Keynote 2's new Automatic Builds feature to illustrate your points with animation. Here, I used the Build Inspector drawer to reorder my animation's steps.

pop-up menu and choose how you want the circle to appear. If necessary, adjust the effect further with the Direction, Delivery, and Duration controls. In the drawer, choose On Click from the Start Build pop-up menu. Select the second circle and set the effect as you did for the first object, but this time in the drawer, choose Automatically After Build 1 from the pop-up menu. This makes the second object appear immediately after the first one, without you triggering the effect.

Repeat this process for the rest of the circles in the outer ring. To make the radial lines appear to be drawing into the center, use the Iris effect and set the direction to In. To make the center circle appear at the same time the lines appear, choose Automatically With [Previous Build] in the Builds drawer. You can see a short QuickTime movie of the result at macworld.com/0527.

Get More Animated

Several companies have released themes that take advantage of these new features and create effects it would be difficult to make yourself. For instance, one makes pictures seem to extend from one slide to the next, and another creates the effect of panning across multiple slides. Check out Keynote Theme Park (www.keynotethemepark.com), Keynote User (www.keynoteuser.com), and KeynotePro (www.keynotepro.com) for themes that you can use to build slick presentations.

But always remember that the line between just enough fancy effects and too many of them is razor-thin. We've all seen boring presentations, but we've also seen a few that used too much of a good thing. If you err on the conservative side, you'll get your point across and keep your audience happy.

Longtime *Macworld* contributor TOM NEGRINO is the vice chair of Access Healdsburg and the author of *Creating Keynote Presentations with iWork: Visual QuickProject Guide* (Peachpit Press, 2005).

Better Audio Burning

iTunes is a great tool for ripping, encoding, and managing your music—and it's free—but even Apple wouldn't claim that it's the be-all and end-all for creating audio CDs. iTunes just doesn't have some advanced features. With a program such as Roxio's \$100 Toast 6 Titanium, \$100 Jam 6, or \$200 Toast with Jam 6 (www.roxio.com), you can do more with your music and create a greater variety of audio discs.

playlist

Want more tips on digital music? For iPod- and iTunes-related expert advice and breaking news, as well as reviews of all the latest gadgets, check out playlistmag.com.

Making Copies

Backing up audio CDs with iTunes is a tedious process. You need to rip them as AIFF files (by going to iTunes' Importing preference pane and changing the Import Using setting to AIFF Encoder) and then burn the resulting files back to a CD-R. And OS X's Disk Utility won't let you create an image of an audio disc. But Toast makes duplicating audio CDs easy by letting you copy an audio CD directly from one optical drive to another. If you have multiple burners, just choose the drive you want to copy from in the Read From pop-up menu (see "Burner Bonanza"), and choose the drive you want to record with in the pop-up menu that appears at the bottom of the Toast window. Then click on the Record button and watch as Toast copies your disc.

Toast also gives you the option of saving audio CDs as disk images (instead of copying them directly to blank CDs)—ideal if you have only one burner or if you plan to make multiple copies of a disc. You can also mount these images, and they'll play back in iTunes as if they were physical audio CDs.

And when burning audio CDs, iTunes creates a plain-vanilla disc. If you'd like to create an enhanced audio CD that also includes pictures and text, or if you want to fashion a disc that includes CD-Text (information, such as the album and song title, that appears in the display of compatible players), a tool such as Toast is necessary.

Mind the Gap

One of iTunes' aggravating quirks is its inability to create discs with seamlessly connected tracks. For example, the last several tracks of the Beatles' classic *Abbey Road* album flow continuously. But even

if you configure iTunes so it doesn't put a gap between the tracks when you burn them to disc (as you can in iTunes'



Burner Bonanza You can use Toast to burn audio discs directly from one drive to another.



Once Is Best Toast's Disk-At-Once option lets you burn CDs that have seamless transitions or CDs that contain gaps of differing lengths.

Burning preference pane), you'll still hear a tiny hiccup between songs.

If you think you might burn audio CDs from your ripped music, consider joining multiple tracks into one at the time of import (Advanced: Join CD Tracks). However, this leaves you with long tracks that you can't navigate easily. And suppose you want no gap between tracks two and three, but a two-second gap between tracks five and six? iTunes can't help you.

Toast supports a feature called Disc-At-Once (DAO), which keeps the laser on between the tracks it's burning. DAO maintains the seamless track flow when burning a CD from uncompressed files on your Mac, copying from one CD to another, or copying from a disk image to a CD (see "Once Is Best"). It also lets you record tracks with gaps of different lengths between them (the program offers gaps from zero to eight seconds long).

Creating a seamless CD from compressed (MP3 or AAC) files in your iTunes library is a different matter, however. To create smooth transitions between iTunes tracks, you need a tool that can cross-fade one track into another (in other words, overlap portions of each track and fade the first track out while fading the second in). iTunes' cross-fade feature affects only playback in iTunes, not burning. Although Toast doesn't include a cross-fade feature, its professional

continues

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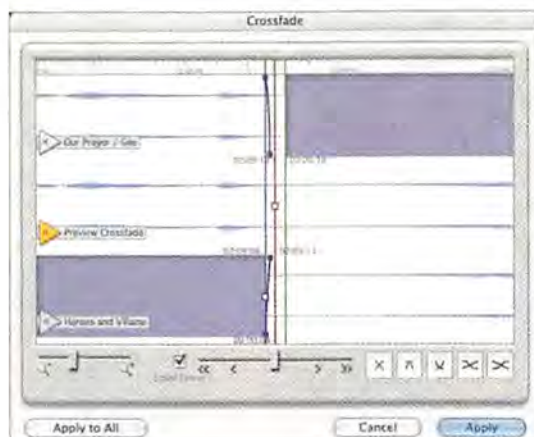
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recommended

by PC Magazine

Make It Smooth

Jam's cross-fade tools help you smooth over gaps between tracks.



sibling, Jam, does. (Note that with Tiger and QuickTime 7, you can no longer use Toast or Jam to burn protected AAC files.)

With Jam, you can not only impose cross-fades on tracks and burn those effects to disc, but also change the cross-fade's shape and duration (see "Make It Smooth"). This allows you to create a more natural-sounding cross-fade, one that's likelier to cover up the audio hiccup that occurs between tracks. As with Toast, you can pick gaps of different lengths between tracks—although with Jam, these gaps can be of any length (perfect if you want that surprise bonus track to begin 45 seconds after your listener thinks the last track has ended).



CHECK IT OUT

Sound Advice

For years, Ultimate Ears (www.ultimateears.com) has been offering personalized in-ear-canal headphones (or "canalphones"), which are custom-molded to perfectly fit a user's ears. However, with prices starting at \$550, the market for these products has been limited mainly to professional musicians and serious audio geeks.

Now the company has introduced the first two models of its new super.fi series of consumer canalphones. These models are universal-fit products: you choose the tips—from four rubber-tip sizes and one foam-tip size—that best fit your ears.

The \$249 super.fi 5Pro features two balanced armatures—one for high frequencies and one for low frequencies—that are identical to those found in the company's \$550 UE-5c. The \$199 super.fi 5EB (EB stands for "Extended Bass") consists of one balanced armature and a ported diaphragm for low frequencies. Although the overall sound of the 5EB isn't as refined as that of the 5Pro, its additional bass response should appeal to people who enjoy certain types of music (hip-hop, rap, and rock, for example).

Each model is available in white or black and comes with two cases, and each includes a 1/8-to-1/4-inch adapter, a 1/8-inch attenuator for use with overly loud airline headphone jacks, and a cleaning tool (hey, you're sticking these things deep in your ears—wax happens). —DAN FRANKS



Added Features

Toast and Jam (and Toast with Jam, which includes both apps and additional Toast features) perform other tricks that iTunes can't.

Support for High-Resolution Files iTunes can convert the files it supports (44.1kHz and 48kHz AIFF, WAV, MP3, AAC, and Apple Lossless files) to a format compatible with audio CDs, but it doesn't know what to do with higher-resolution audio files—files created in professional audio applications with special hardware. Toast and Jam can burn an audio file of up to 192kHz and 64 bits to a standard audio CD. The Toast with Jam package can even add Dolby Digital files to an audio CD.

DVD Audio Discs Although iTunes can back up your music as data to a DVD-R disc, you can't play these discs in regular AV equipment. Toast with Jam can create DVD Music Albums—DVDs with as much as 36 hours of two-channel, Dolby Digital-encoded music (less in PCM format). The discs include basic navigation menus and on-screen "now playing" information, and a standard DVD player will play them.

Convert and Restore LPs and Tapes You can use iTunes to rip CDs but not to record audio from a computer's audio-input port. With CD Spin Doctor (a program included with Toast and with Roxio's \$50 The Boom Box), you can record your old LPs and tapes to your Mac. The program can recognize gaps between songs and automatically segment albums into tracks for you; it can also remove pops and crackles.

Track and Album Normalizing iTunes includes the Sound Check feature, which balances the volume of tracks so they more closely match one another. This isn't always a desirable effect, because audio engineers purposely master recordings so that some tracks are quieter than others, and when you impose Sound Check, you lose the balance between soft and loud recordings on an album. Jam lets you balance (normalize) tracks either individually or in groups; you'd balance them individually to give tracks from different CDs the same volume, and you'd balance a group of tracks to increase an album's overall volume without boosting all the tracks to the same volume.

The Next Step

If you do little more than rip CDs, listen to music in iTunes and on your iPod, and compile the occasional mixed CD, iTunes is a great tool that will serve you well. In fact, Steve Jobs recently announced that iTunes 4.9 will support Podcasting, so the application is clearly growing. If you need more from your audio CDs, however, it may be time to look beyond iTunes. For Mac users, Toast and Jam are excellent choices. □

Contributing Editor CHRISTOPHER BREEN is the author of *Secrets of the iPod and iTunes*, fifth edition (Peachpit Press, 2005), and the editor in chief of *Playlistmag.com*.

iPod is already your essential music companion when you're on the move, with the i-Station an ultra-portable docking and 2.1 speaker system from Logic3, you can now play your favorite tracks out loud in the comfort of your home. With its stylish design, compact size and its powerful sub-woofer speakers (12 Watts RMS) turn your iPod into a powerful and convenient sound system for every occasion. The dock, which fits the iPod, iPod mini & iPod Photo, even recharges the iPod battery while it plays, leaving you to enjoy your music. i-Station can be synchronized with your PC or Mac via USB or FireWire (cables included) and can also be used with other portable audio devices such as iPod Shuffle, MP3, MiniDisc and CD players.

Listen • Recharge • Synchronize

i-Station

Docking Station for iPod and iPod mini



Logic3.com

2.1 Subwoofer speaker system for quality sound plus docking station for recharging and synchronization



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See Your True Colors

With great image-editing tools such as iPhoto 5 and Adobe Photoshop, you'd think that every print would turn out perfect. But how many times have you slaved over a photo until it looked great on screen, only to have it look much different when printed? If you've encountered this disappointment, it's time to think about calibrating your monitor. Calibration ensures that your editing decisions are based on the right information.

Monitor calibration is a simple process. First you adjust the brightness, contrast, and tint of your screen. Then you create a profile for those settings so your computer can communicate them to other devices. OS X includes some basic tools for calibrating your monitor. For more-precise results, you can use a USB device called a *colorimeter*, which reads the colors of your monitor and then works with software to create the correct profile.

No matter which method you use, let your monitor warm up for an hour before you calibrate it. (You should do this before editing photos, too.) Also make sure the room's ambient lighting is similar to your normal working conditions.

Keep in mind that calibrating your monitor isn't a one-shot deal. Over time, your monitor undergoes subtle color shifts. You'll want to repeat the process once a month to keep things looking good.

Using OS X's Calibrator

Most people don't realize that OS X includes its own monitor calibrator. To access it, open the Displays preference pane and click on the Color tab. When you click on Calibrate, OS X launches the Display Calibrator Assistant, which walks you through the steps required to adjust your screen. At the bottom of the screen, turn on the Expert Mode option and then click on the Continue button.

The first series of tests addresses *luminance*—how brightly images appear on your monitor. Use the

Tip If you'd like to get rid of one of your monitor profiles, go to the /Library/ColorSync/Profiles/Displays folder on your hard drive and drag out the unwanted ICC profile. If you opted to not allow your Mac's other users to access your calibrated profile, you'll find the profile by following this same path in your user folder.

right-hand control to make the color of the gray apple as neutral as possible. Then use the left-hand control to adjust the color's intensity. The goal is to make the apple blend as seamlessly with the background as possible (see "Eyeing It"). You may find that squinting makes this adjustment easier.

When the apple seems to disappear, click on Continue. You'll repeat this process four more times, calibrating different aspects of luminance.

The next test calibrates the target gamma—the setting that determines your monitor's contrast. Deselect the Use Native Gamma option, and then move the slider control to the 2.2 marker. Mac users sometimes balk at this setting because it makes the display look too much like a Windows PC screen. However, this has become the default setting in the world of imaging, and your best bet is to be on the same page as everyone else. Of course, if you work in a production environment where printing is based on a different target gamma, then you should choose that gamma setting here.

The next test asks you to set the target white point. This influences the tint of your monitor. The standard setting is 6,500 degrees. Don't worry if you can't get the slider to read exactly 6,500; 6,512, for example, is close enough.

In the next screen, turn on the option that lets other users access this calibration. That way, anyone who uses your Mac can take advantage of the profile you're creating. Finally, give your profile a name and click on Continue.

The Display Calibrator Assistant produces an overview of the ColorSync profile you've just created. Click on Done to leave the assistant.

Eyeing It You can use OS X's calibration tools to fine-tune your monitor's colors. Adjust the right and left controls to make the apple match its background as closely as possible.



Using a Colorimeter

OS X's built-in calibrator is great for a casual photographer who doesn't have a big budget—and using it is the very least you should do before editing images on your Mac. But it does have one weakness: it relies on the viewer's perception of color.

A colorimeter, on the other hand, eliminates subjectivity from the process. It takes precise light measurements directly off your monitor and feeds them into dedicated software that creates the profile for you.

Colorimeters used to be quite expensive, but prices have recently come down—putting them within the reach of even amateur photographers. One of the most popular colorimeters for the Mac is the Spyder2, by ColorVision (\$189; www.colorvision.com). The Spyder2 is easy to use, thanks to a step-by-step calibration wizard. You just load the software, plug the Spyder2 into a USB port, and follow along.

The entire calibration process takes about 30 minutes. When it's over, you'll have a new profile, in your Displays preference pane, based on the readings from the colorimeter (see "Automated Color").

Communicating with Your Printer

Now that your monitor is calibrated to industry standards—the same standards online photo-printing services use—you should see an improvement in the prints that show up in your mailbox.

You should also get better output from your ink-jet printer. But here, monitor calibration isn't a complete solution. Each ink-jet printer produces slightly different results. To account for these differences, you need a custom ICC profile for your specific printer. This data file describes the output characteristics of the printer so your Mac can eliminate differences between what you see on the monitor and what comes out of the printer.

You can often download custom printer profiles from the manufacturer's Web site. If not, you'll have to create your own. The easiest way to do this is to get a printer profiler. If you're already investing in a colorimeter, you can often spend a little bit more to add a printer profiler to the mix. For example, ColorVision's \$250 ProfilerPlus includes the Spyder2 and printer-calibration software—not a bad investment if you're serious about ink-jet output. To create a profile for your ink-jet with the ProfilerPlus, you print a calibration

Printing Smarts

Even without profiling software, there are a few basic steps you can take to better match your prints to the image you see on your monitor.

In the Print dialog box (⌘-P), make sure that your specific printer is selected (from the Printer pull-down menu). Then choose Print Settings from the third pull-down menu. Be sure to specify the type of paper you're using. You'd be surprised at how much your prints will improve if you simply tell your Mac whether you're using glossy, matte, or plain paper. Also choose the photo-quality setting, if that option is available.

Next, switch to the Color Options or Color Management section (its name may vary depending on your printer's driver). Select the ColorSync option for color correction. If you have a printer profile for your device, select it from the Printer Profile pull-down menu. These settings should produce an image that is very close to the calibrated picture on your monitor.

Keep in mind that there will always be differences between what you see on screen and what you see on paper. A print is reflective, while the image on your

monitor is illuminated. So you're dealing with two different ways of displaying a picture. However, with a little work, you can narrow the color-reproduction gap between your monitor and your printer.

Give Good Info For an accurate print, make sure that you choose your specific printer and type of paper in the Print dialog box.

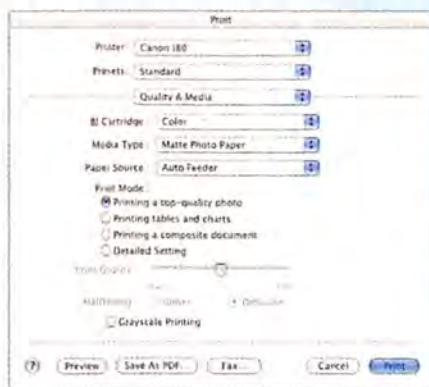


chart with your ink-jet printer and then scan that print with your flatbed scanner. The software builds a printer profile by comparing the output with the original file.

Whether you download your profile or create it yourself, you'll need to make sure your image editor knows it exists. In Photoshop, for example, open the Print With Preview dialog box. Make sure that Show More Options is selected. Choose Color Management from the pull-down menu. In the Print Space window, choose your printer's custom profile from the Profile pull-down menu. If you don't have a custom profile, choose the Same As Source option. Double-check these settings before printing an important image. This way, your Mac can send the most-accurate output settings to the printer.

Getting Results

The quest for consistent color may seem daunting at first. But by following these simple steps, you can make great strides toward consistent colors and tones, no matter where your pictures go after they leave your Mac. □

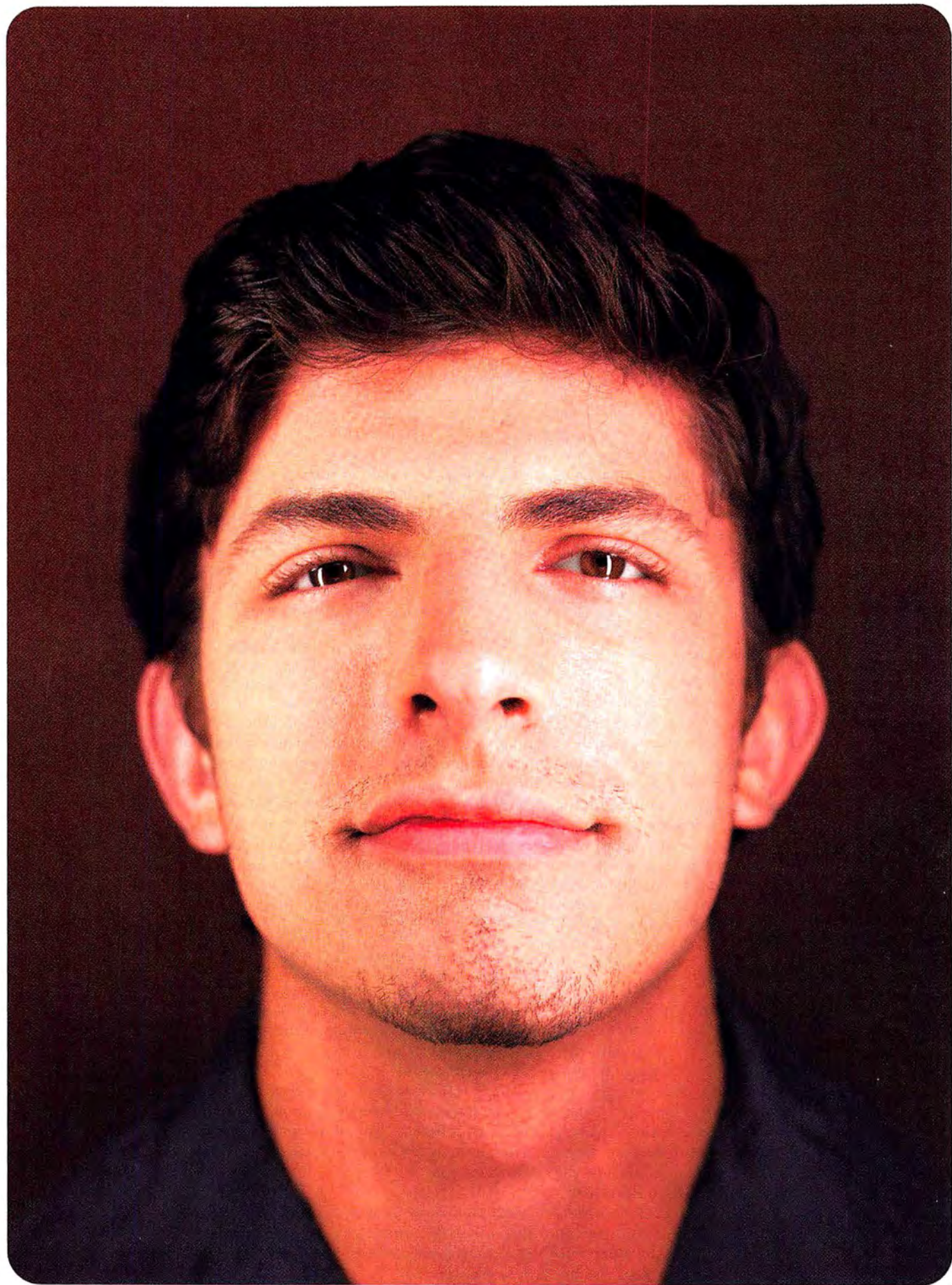
DERRICK STORY (www.storyphoto.com) is a coauthor of *iPhoto 5: The Missing Manual* (O'Reilly Media, 2005) and the author of *Digital Photography Hacks* (O'Reilly Media, 2004). He's also the editor of O'Reilly Media's MacDevCenter.com.



Automated Color

The Spyder2 uses a piece of hardware to take color readings from your monitor and then feeds them to the software to create a precise profile.

files from the manufacturer's Web site. If not, you'll have to create your own. The easiest way to do this is to get a printer profiler. If you're already investing in a colorimeter, you can often spend a little bit more to add a printer profiler to the mix. For example, ColorVision's \$250 ProfilerPlus includes the Spyder2 and printer-calibration software—not a bad investment if you're serious about ink-jet output. To create a profile for your ink-jet with the ProfilerPlus, you print a calibration



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— Chris, associate creative director
last project: blasting cap safety manual

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Solve InDesign Type Trouble

The make-or-break feature of any page-layout program is how it handles type. Importing, formatting, and tweaking a document's text usually accounts for the lion's share of layout work. Thanks to its elegantly designed text controls, Adobe InDesign (CS and CS2) offers endless possibilities for perfecting your type. But not all of its features are obvious. Here are answers to some common type questions.



By the Book This article is an excerpt from *Adobe InDesign CS/CS2 Breakthroughs*, by David Blatner and Anne-Marie Concepción (2005; reprinted by permission of Peachpit Press/Blatner Books).

Get a Word Count

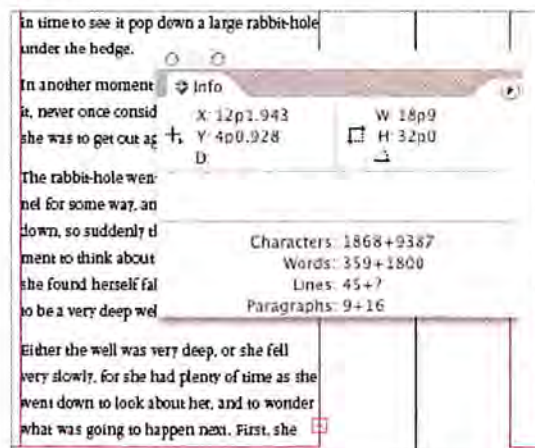
Our authors give us Microsoft Word files for stories, but I can't figure out how to give them the word count they should be aiming for. I can set and style placeholder text, but how can I then count the words so I can tell the authors what their target count is? InDesign doesn't have a Word Count function like Microsoft Word's.

Indeed it does. After you fill your frames with dummy text (choose **Type > Fill With Placeholder Text**), click anywhere in the frame with the **Type** tool and look at the **Info** palette. You'll see a count for that story's characters, words, lines, and paragraphs. If you select some text, you'll see a word count for the selected text.

And if you want a real word-count feature, you can install the **TextCount.js** script from the InDesign installation disc (it's in the **Goodies** folder). This even counts words across multiple unthreaded frames or all the words in an entire InDesign file.

Access Overset Text

InDesign shows the same red overset icon whether I'm over by one character or 10,000. I wish I could quickly select and cut—or even just peek at—what's actually causing the overset, without resizing the frame or creating a temporary threaded one.



If you're sure you want to get rid of the overset text (for example, if it's due to trailing carriage returns), place the cursor at the end of the visible text and press the **Select To End** keyboard shortcut: **⌘-shift-end**. (The end key is usually above the arrow keys, by the home and page down keys.) Now you can press delete or cut the text and put it on the Clipboard.

More often, though, the overset text has important content you want to keep. You can see that content—and edit it—without messing with the text frame. Open the **Story Editor** (**Edit > Story Editor**) or press **⌘-Y** to see all the text in your story, including overset text, in a new window. (InDesign CS2 outdoes CS here by offering an easy-to-identify overset marker in the **Story Editor** window.)

As you work in the **Story Editor**, the layout view of the story keeps pace with your edits. Once you've cut enough copy in the **Story Editor**, the overset icon in the layout view of the text frame disappears. *Perfecto!* Close the **Story Editor** window or press **⌘-Y** again to return to the layout.

The **Info** palette also comes in handy here. As long as the **Type** tool is active in the story—in either **Layout** or **Story Editor** mode—the **Info** palette shows a live readout of how much text, if any, is overset (see “Leftovers”).

Autoflow without Adding Pages

I want to autoflow a long text file into a series of pages I've already set up with column guides, but I don't want InDesign to add additional pages. Is this possible?

The little-known “semi-autoflow” function will do exactly that. Load your cursor with the text file, hover over the first empty column, and then hold down the shift and option keys when you click.

Keep the Descenders inside the Frame

If you set a text frame to vertically align to the bottom (via **Text Frame Options**), it aligns the *baseline* of the characters to the bottom—leaving their descenders hanging out in the breeze below the frame. Same thing happens when I choose **Object > Fitting > Fit Frame To Content**. Help.

Leftovers The **Info** palette tells you if, and by how much, text is overset by adding a plus sign (+) after its usual copy counts.

This is InDesign's normal behavior and takes some getting used to—especially if you're recovering from a ten-year QuarkXPress jag. That program uses a line's leading amount, not its baseline, for the bottom of a text box, so the descenders are always inside the frame. That may be useful if the text frame has a stroke around it.

To force an InDesign text frame to act like a QuarkXPress text box in this regard, apply Text Inset (located in Object: Text Frame Options) to the bottom of the text frame. That will keep your descenders neatly tucked into the frame.

Use the Keyboard to Jump to Text-Formatting Fields

One of the things I do most often in InDesign—choose a typeface from the Control palette drop-down menu—has no keyboard shortcut.

Oh yes it does. Press ⌘-6 to select the first field in the Control palette. If the palette is currently showing Character formats—as it likely is if you're editing text in a frame—you'll be highlighting the Font field.

Type the first few characters of the font's name, or use the up and down arrow keys to browse through the active fonts (or combine both approaches). Press tab to jump to the next field, Font Style. Finally, press the return key to put the focus back on your text frame, and continue typing (in your new typeface, of course).

To toggle between the Paragraph formatting and the Character formatting commands in the Control palette, press ⌘-option-7 . When Paragraph mode is active, ⌘-6 selects its first field, which is Left Indent.

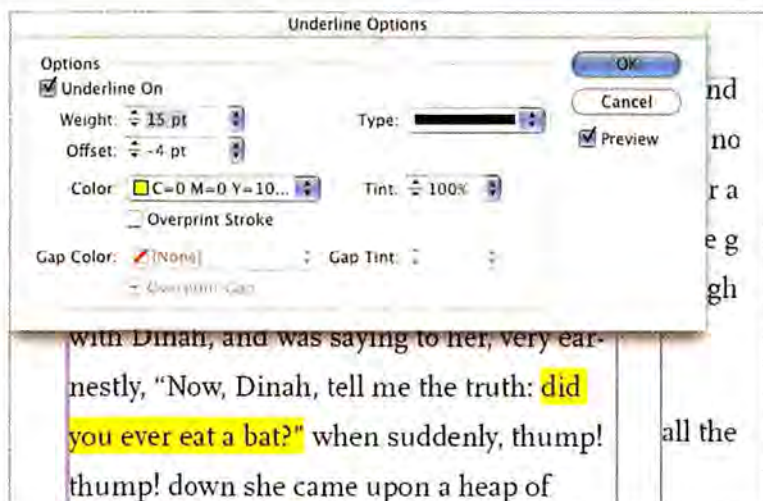
By the way, you can use these shortcuts even if you've selected a frame (or multiple frames) with the Selection tool. After it's selected, just tap the T key (to switch to the Type tool) so the Control palette shows Character or Paragraph fields. Your frame will still be selected, and any changes you make to the formatting fields will be applied to *all* the text in the selected frame(s). *Trés cool!*

Here's a second way to skin the cat, which you might find a little faster. Press ⌘-T , and the Character palette will open with the Typeface field highlighted. Choose a face and style from the keyboard as described earlier. To close the Character palette, press ⌘-T again.

Come Back to the Baseline, My Commas

For some reason, all the commas and numerals in my text are floating way above the baseline, even though the Baseline Offset field is set to zero.

Odds are you selected *all* the text and turned on the Fractions feature for your OpenType font. Or you may be accessing the Fractions feature through a style sheet. Either way, you can fix the problem by



turning off the Fractions option for the text in the OpenType submenu (found in the Control or Character palette menu). Your commas and numerals will return to earth.

From now on, when you want to format a fraction using the OpenType feature, select *just* the unformatted fraction and apply the feature either from the Character palette menu or from a character style.

Shade a Paragraph, Shade a Line

It boggles the mind why InDesign can't apply a screened background behind a paragraph, or place a box around it, or whatever. Microsoft Word has been able to do these things for eons. Putting a shape behind the text doesn't help, because I have to keep adjusting its position as I edit the text.

Select the text in the paragraph—but not the final invisible carriage-return character—and convert it into a one-cell table (Table: Convert Text To Table). You can then stroke or fill the table as you'd like. The effect will flow along with the rest of the text.

You can put a screened background behind *any* text selection, by the way, by applying the Underline character format to it and then customizing the underline (see "Highlight It").

Give Right-Aligned Tabs a Leader

I love the right-indent tab (shift-tab). It's like a tab stop placed at the paragraph's right margin, and when the margin changes (such as when the text frame gets wider), the tab adjusts automatically. But there's one problem: I can't figure out how to get a tab leader (such as dots) to fill the tab space.

Unfortunately, InDesign CS can't apply tab leaders to right-indent tabs. But InDesign CS2 can. Its right-indent tab always uses the tab leader from the last tab stop in the paragraph. Just add a tab stop with a leader character, and the leader appears in the space created by the shift-tab. □

DAVID BLATNER is the editorial director of InDesign Magazine. You can find him at www.moo.com. ANNE-MARIE CONCEPCIÓN is a well-known trainer and consultant. She publishes the DesignGeek newsletter at www.senecadesign.com.

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Highlight It If you want to place a color bar behind certain words, apply an underline and then modify its options.

Macs Abroad

Taking your technology on the road is hard enough. So you might think that taking it overseas is even harder. But it doesn't have to be. With a little bit of preparation, going online in Kuala Lumpur can be just about as easy as doing so in Des Moines.

Pick Your Pack

Unless you consider Hawaiian shirts and fluorescent fanny packs travel necessities, think twice before taking your fanciest laptop bag overseas. That svelte leather satchel with perfect PowerBook-size proportions screams "Tourist!" in some parts of the world, making you a target for pickpockets and petty thieves.

Discreet neoprene sleeves, such as WaterField Designs' SleeveCases (prices start at \$38; macworld.com/0564), are great alternatives. They let you slip your PowerBook or iBook into a less conspicuous container, such as a backpack or a messenger bag, while still giving your laptop the protection it requires.

And don't forget to pack your iPod. You can copy and paste your itinerary and sightseeing notes into its Notes folder, and it can serve as your backup drive.

Foreign Powers

You know that many countries don't use the same electric current as the United States. That's why it's so handy that Apple's entire portable line is dual-voltage-ready: the square AC adapter that ships with every iBook, PowerBook, and iPod can handle the 220-volt electricity used in Europe and Asia, as well as the 110-volt current found in North America. So all you need to pack is an inexpensive adapter to plug into oddly shaped electrical sockets.

Adapter plugs cost a few dollars each, and you can purchase them at your local luggage shop. For a particularly stylish set, check out Apple's World Travel

Adapter Kit (\$39; store.apple.com). It includes six different AC adapters, with blades and plugs for every continent. The glossy white adapters click right into the power brick. Unfortunately, this prevents you from using the AC adapter's longer power cord—a pity, because convenient power outlets can be hard to come by in less-developed locales.

Not every vendor is as worldly as Apple. If you're packing a digital camera, a PDA, or a camcorder, look for a sticker reading "Input: AC 110-240 volts" before you plug it in.

Foreign Phones

If you plan to use a dial-up connection to check your e-mail messages from a hotel, pack a long phone cord. RJ-11 phone connectors are increasingly the norm in modern buildings and urban hotels worldwide.

Travelers who veer off the beaten path or beyond business-class accommodations might come across funky-looking phone jacks. For these, you'll need another small plug adapter. The thrifty solution is to borrow parts from other telecom equipment wherever you are. Look closely at phones and other telecommunications devices. Many have plug adapters with North American-style plugs on one end; you can simply borrow the adapter for the duration of your online session.

If that approach is too haphazard for you, visit a travel outfitter's Web site before your trip. At BuyTravelConverter.com, for example, you'll find a panoply of phone plugs and power adapters, and its product listings are organized by country.

Note that the digital phone systems in some hotels and offices rely on high-voltage PBX lines, which will sizzle your notebook's modem. Digital line testers such as Magellan's TeleTester Pro (\$25; macworld.com/0565) will quickly assess the condition of the line.

Under Warranty Overseas

Fortunately, the warranty on Apple's portables is valid worldwide and includes global repair coverage. Carrying a copy of your AppleCare papers will minimize any fuss if you demand walk-in service from one of Apple's international dealers, and carrying some proof of purchase couldn't hurt.

continues

Preflight Downloads

Before you walk out the door, download and test-drive these shareware utilities built for globe-trotters.

Traveler's Clock (\$5; www.xmission.com/~illum/): Illume Software's clock screen saver is designed for hotel sleepers. It displays a large, low-light clock that's visible from across a room, it includes a white-noise generator that masks the sounds of nearby ice machines and traffic, and it lets you choose your favorite tune as a rockin' wake-up call.

Time Palette (\$30; www.timepalette.com): Xeric Design's global time tool will save you from ever having to yell "What time is it there?" on a long-distance call. Along with shaded day-and-night maps and a sunrise-sunset almanac, Time Palette's database stores the legislative oddities of many countries' differing rules for daylight saving time.

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 - PowerBook G4 'Titanium' 15"
 - PowerBook G3 Wallstreet/Lombard/
FireWire (aka Pismo)
 - iBook G3/G4

Ask your favorite Apple Peripherals Reseller
or visit www.NewerTech.com.

Don't Wait Your modem thinks all dial tones sound like the one in the United States, but that's not the case. To prevent confusion, tell it not to wait for a dial tone before trying to establish a dial-up connection overseas.



If you're going abroad for a while, bring CD copies of your system software and mission-critical apps (and their registration numbers). Having these on hand will save you days of headache if you need to reinstall software in the field. (If you buy software overseas, you risk all sorts of support, language, and upgrade-licensing issues after you've returned home.)

Keep in Touch

Once you've reached your destination, you've got a number of options for getting connected: Internet cafés, Wi-Fi hotspots, hotel broadband connections, and dial-up connections.

Café Society Internet cafés have followed tourists to every corner of the earth. Whether you're weaving through the streets of Saigon or strolling down the Champs-Élysées, odds are you'll find Internet access right around the corner. (If in doubt, ask a local teenager for directions.)

While some Internet cafés let you plug in your own Mac, you'll usually have to use their computers. To send e-mail messages from a public computer, you'll need to remember the URL for your provider's Web-mail service (if you're a .Mac customer, for example, it's webmail.mac.com). Be prepared to hunt and peck, since keyboards can be very different in some countries.

Wi-Fi hotspots have the advantage of letting you use your own Mac (see "How to Use Hotspots," macworld.com/0607). U.S.-based commercial hotspot services including T-Mobile HotSpot and Boingo are expanding into Europe and Asia, usually in familiar places such as Starbucks outlets. Before you leave, you can set up a time-limited account with one of these services—but check its Web site first to make sure it has locations where you're headed.

In-Room Internet Chain hotels have jumped on the high-speed bandwagon, usually charging a flat rate for a full day of in-room Ethernet access. Prices vary, but if the continental breakfast costs \$40, the DSL probably won't be a bargain either. Hotel DSL also brings its own minor annoyances, particularly when it comes to connecting to SMTP mail servers. (See "Hit the Road, Mac," macworld.com/0608, for tips on using hotel broadband.)

By combining hotel DSL with a voice-over-IP phone service such as Skype, you can surf the Net and gab away for hours on end for one flat rate. If you're a budget traveler, you'll find some great offerings—including complimentary Wi-Fi—in Europe's very competitive hostels.

There's Always Dial-Up While it may sound passé, you can always fall back on a dial-up connection. If you have an Internet account back home, you might be surprised to discover that your big-name ISP has local access numbers almost anywhere you may wander.

EarthLink, for example, offers international roaming, to both its dial-up and its broadband users, in more than 70 countries. Customers must enable the service by signing in (at myaccount.earthlink.net) and going to Service Details: Optional Service. For instance, in Italy, EarthLink provides more than 650 local dial-up numbers. When you use one of these international numbers, you'll be billed an access fee of 15 cents per minute.

But don't forget that you'll also have to pay phone charges for your dial-up sessions. Hotels usually charge inflated prices for any phone service, even local calls. Hitting the minibar is probably cheap by comparison.

One final tip: The pitch of the dial tone varies from country to country. (In Italy, it wavers like a busy signal; in Japan, the volume is quite soft.) For that reason, you should disable the Wait For Dial Tone Before Dialing option (in the Network preference pane's Modem tab).

It's a Mac World, After All

Even though it requires a bit more preparation than traveling inside the United States, taking your high-tech gear overseas is much easier than it used to be. Thanks to the worldwide spread of Internet cafés and hotel broadband, and Apple's travel-friendly design, you can feel right at home wherever you go. ☐

JASON COOK is currently studying for an MBA at the University of Cambridge.

Internet Access Numbers	
Access Number Search:	U.S. International 800 Access
Access numbers available in the U.S. include Puerto Rico, U.S. Virgin Islands, and Canada. For all other countries, access numbers are available in any other number. Access numbers are available in the U.S. for Canada. For all other countries, access numbers are available in any other number. Access numbers are available in the U.S. for Canada. For all other countries, access numbers are available in any other number.	
Search Results 661 matches found (Showing 1 to 61)	
Phone Number	City, State
014 469 0900	ACQUI TERME, ITA
042 058 0900	ADRIA, ITA
042 060 0900	ADRIA PORTO VIRO, ITA
092 268 0900	AGRIGENTO, ITA
092 271 0900	AGRIGENTO ALESSANDRIA DELLA ROCCA, ITA
092 264 0900	AGRIGENTO CANICATTI, ITA
092 274 0900	AGRIGENTO CASTELTERMINI, ITA
092 293 0900	AGRIGENTO LICATA, ITA
092 278 0900	AGRIGENTO PALMA DI MONTECHIARO, ITA
017 349 0900	ALBA, ITA
018 271 0900	ALBENGA, ITA

Calling Overseas If you don't want to pay for hotel broadband services, consider dial-up. Major ISPs such as EarthLink offer dial-up access—Italy alone has hundreds of local-access numbers—for a nominal fee. Just watch out for hotel phone charges.



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Macworld
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PocketMac

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Command Spotlight

You know it's there—why can't Spotlight find it? The Tiger feature that promises to be your own personal Google does have its limitations, especially when searching your Mac's most out-of-the-way corners. For greater control over the way Spotlight works, take a trip to Terminal. Its new `mdfind`, `mdls`, `mdimport`, and `mdutil` commands help you find files, control exactly what Spotlight indexes, and search by metadata.

Find Files from Terminal

Like a regular Spotlight search, the `mdfind` command lets you quickly find files on your Mac according to keywords—and it adds an extra twist or two. For example, if you run the command `mdfind Walden`, you'll find any files that contain the word *Walden* in their names, content, or other metadata.

Get Specific If you know that a file is in a certain directory, or you want to search only files in that directory, use the `-onlyin directory name` option to narrow down the search—for example, `mdfind walden -onlyin /Users/thoreau/Documents`.

Tip: Drag the folder you want to search to the command-line prompt to add its path name quickly.

Try Live Searches Another option lets you run a *live* search, which updates results as users add files. This is particularly useful if you're waiting for people to put files in your Drop Box, or if you run a server and want to see when files containing certain content or metadata appear in a shared folder. Since Spotlight is constantly indexing your files, you can see when it adds new files that match certain criteria.

For example, if I type `mdfind -live Walden`, the command will alert me each time it discovers an additional matching file. A message will appear at the bottom of the Terminal window—for instance, `Query`

`update: 20 matches`. The command will continue to update this number until I stop it by pressing control-C. If you want to see the *names* of all the files, then you must run the command again.

Have We Met? If `mdfind`'s abilities sound familiar to you, then you're probably acquainted with the `locate` command. However, there are some differences between the two. The `locate` command searches all the nooks and crannies of your Mac but looks just for file names. Also, it updates only when you run the weekly Unix maintenance routine or use the command `/usr/libexec/locate.updatedb`.

On the other hand, `mdfind` updates its results automatically every time you create or add a new file, but it doesn't search everywhere on your Mac. You can combine the powers of `mdfind` and `locate` using another of Spotlight's command-line additions—the `mdimport` command.

Force Spotlight to Index Files

By default, Spotlight ignores many directories, such as your Classic System Folder. Sure, that makes results easier to comb through if you never need to look for OS 9 fonts; but if you do need to search these directories, it can be a real pain.

Use the `mdimport` command to add files to your Spotlight indexes. When you do, you'll be able to search for much more than the default selection of files and folders. (When you add to your indexes this way, Spotlight won't continue to index the new files automatically. You'll have to run the command again.)

The `mdimport` command forces Spotlight to index a folder. When you run the command, you'll index all the contents of the directory and its subdirectories. The basic command structure looks like this: `mdimport -f directory name`.

So if you want to index your Classic System Folder, you'd type `mdimport -f /"System Folder"` (assuming that the System Folder is at the root level of your startup volume).

If you want to index other folders, or if Spotlight is not finding certain files, use the same command



GEEK FAVORITES

Happy Hacking

If an apple a day keeps the doctor away, what might a daily Mac hack do for you? Find out by visiting **Hack A Day** (www.hackaday.com), a collection of geek tricks, do-it-yourself projects, and mods gathered from around the Web. The site has a special section dedicated to Macs, and other areas for iPods, cell phones, wireless, TiVo's, and more.—SCHOLLE SAWYER MCFARLAND



with the appropriate paths to index or reindex specific directories or volumes. Note: Spotlight doesn't index text files that lack the `.txt` extension. That means you won't be able to improve its ability to find, for example, configuration (`.config`) files and preference (`.plist`) files.

Stop Spotlight Indexing

If you peruse the Spotlight preference pane, you'll see that you can *prevent* Spotlight from indexing certain volumes or folders. Click on the Privacy tab and add the areas you don't want indexed to the list. That's handy if you don't want your Mac grinding away every time you connect your backup drive to archive files, or if you don't want it to provide duplicate search results (the same files on both your main drive and your backup) when the backup is connected.

The `mdutil` command gives Mac administrators similar powers. (You must preface it with `sudo`, which tells Terminal to run it as the *superuser* after you authenticate with your administrator password.) Using this command, you can specify which volumes to index and you can also make Spotlight reindex volumes by erasing the current indexes.

The On-Off Switch To turn indexing on or off for a volume, run `sudo mdutil -i on volume name` or `sudo mdutil -i off volume name`, respectively. For example, if you want to turn off indexing for a volume called Backup, the command would be `sudo mdutil -i off /Volumes/Backup`.

To delete the index for a volume, run the command `sudo mdutil -E volume name`. If indexing is on for the volume, Spotlight will reindex it immediately. If indexing is off, it will remain so (until you turn it on again). That means you'll reclaim the disk space that the index used.

Meet Your Metadata

Spotlight doesn't just index file names and file content. It also indexes *metadata*, which is data about data. Metadata might include the last save date or author of a Microsoft Word document; the artists, composers, albums, and genres of digital music files; or, in the case of an e-mailed file, the sender's e-mail address. Every file contains an astonishing list of metadata.

The problem is that you probably don't know what kinds of metadata you've got in your index. The `mdls` command can help. It lets you see what type of metadata Spotlight has indexed for any file. Running the command, in the format `mdls file name.txt`, shows the metadata for a text file (see "Buried Treasure"). You can see some simple information, such as the following:

```
kMDItemKind = "Plain text document"
kMDItemLastUsedDate = 2004-07-02 18:19:07
+0200
```

The first line shows the document type, and the second line is the last date someone changed the file. You'll see different metadata for different files. A file

```
Walden:~ kirk$ mdls Walden.txt
Walden.txt
kMDItemAttributeChangeDate = 2005-04-30 14:02:35 +0200
kMDItemContentCreationDate = 2004-05-19 13:24:24 +0200
kMDItemContentModificationDate = 2004-07-02 18:19:07 +0200
kMDItemContentType = "public.plain-text"
kMDItemContentTypeTree = (
    "public.plain-text",
    "public.text",
    "public.data",
    "public.item",
    "public.content"
)
kMDItemDisplayName = "Walden.txt"
kMDItemFSContentChangeDate = 2004-07-02 18:19:07 +0200
kMDItemFSCreationDate = 2004-05-19 13:24:24 +0200
kMDItemFSCreatorCode = 0
kMDItemFSFinderFlags = 0
kMDItemFSInvisible = 0
kMDItemFSLabel = 0
kMDItemFSName = "Walden.txt"
kMDItemFSNodeCount = 0
kMDItemFSOwnerGroupID = 20
kMDItemFSOwnerUserID = 501
kMDItemFSSize = 580975
kMDItemFSTypeCode = 0
kMDItemID = 31241577
kMDItemKind = "Plain text document"
kMDItemLastUsedDate = 2004-07-02 18:19:07 +0200
kMDItemUsedDates = (2004-07-02 18:19:07 +0200)
Walden:~ kirk$
```

you downloaded from a Web site will have a URL. Music files will have tag information. A digital photo will have everything from the camera's make to whether your flash was on. Once you know the odd terms (*kMDItemKind* isn't exactly colloquial), you can search for any of these metadata types.

Say you want to find a file that a friend sent you by e-mail, but you can't remember its name or what it contained. This is a piece of cake: search for the sender's e-mail address. Run the `mdls` command on an e-mail message to find out how to search for such metadata. (You can just drag a file to the prompt to enter its path and name.) The attributes it returns are the arguments you can use.

Once you've got the right arguments, you're ready to search. For example, to find a file received via Apple's Mail (Spotlight doesn't index Entourage databases or e-mail from some other programs), you'd use the `mdfind` command like this:

```
mdfind "kMDItemAuthorEmailAddresses ==
'*macworld.com'"
```

This command searches for any file received from a macworld.com e-mail address. Pay close attention to the use of quotation marks, asterisks, capital letters, and the double equal sign (`==`). Type `man mdfind` for more on this command's syntax.

All the Attributes If you'd like to see *all* the attributes you can search by, use the `mdimport` command. Type `mdimport -A` in Terminal, and you'll see a long list of more than 100 attributes, as well as a short description of each one.

Needling the Haystacks

With Tiger's Spotlight commands at your disposal, you now have totally new ways to search for the most obscure files on your Mac. Best of all, you can combine these commands with the many other Terminal commands you already know. □

KIRK McELHEARN is a coauthor of *Mastering Mac OS X, Tiger Edition* (Sybex, 2005). His blog, Kirkville (www.mcelhearn.com), features articles about Mac OS X, the iPod, iTunes, and much more.

Buried Treasure

Spotlight indexes an incredible array of metadata for each of your files. Use the `mdls` command to find out what metadata a file type (in this case, a text document) includes. Once you know these attributes, you can perform detailed searches.

Mac OS X Hints

The Insiders' Tips You Won't Get from Apple

Create Subgroups in Address Book

In both Panther (OS X 10.3) and Tiger (OS X 10.4), Address Book supports *nested* groups. That is, you can create a group and then place that group within another group. This is a great way to combine lists of people whom you occasionally need to contact en masse.

For instance, assume that you have two existing groups—Family for your relatives, and Friends for, well, your friends. If you sometimes invite all these people to parties, then with each invitation, you'd have to put both group names into your new Mail message's To field. You can save time by creating a third group in Address Book.

Click on the plus sign (+) under the Group column and name your new group "Friends and Family." Now drag both groups, Family and Friends, into the new group. To reach the whole gang, you can now simply address a new message to "Friends and Family."

In Panther, subgroups are basically like aliases in the Finder—when you delete one from a group, its original entry remains. Tiger, however, gives you choices: it lets you either remove the subgroup from the group or delete the subgroup *altogether*, so be careful.

Search Smart in Mail

In Apple's Mail, search options seem needlessly limited—you can search either all mailboxes or the current mailbox, but nothing in between. Here's a quick way to search exactly where you'd like.

Start by selecting the mailboxes you want to check: ⌘-click to pick noncontiguous mailboxes, or shift-click to pick contiguous ones. If you're running Panther, click on the magnifying glass next to the search box. When you do, you'll see that the top section of the pop-up menu now reads Search Selected Mailboxes. In Tiger, there's no pop-up menu. Instead, if you run a search after selecting multiple mailboxes, Mail will search only those mailboxes.

Avoid Account Mix-ups in Mail

If you use Mail to check more than one e-mail account—your work and your personal accounts, say—chances are you've sent messages from the wrong account by accident. Mail is actually trying to help you when it causes this annoying mistake. Normally it notices which mailbox is currently selected, and it uses this as your default sending account when you create a message. The mishaps begin if you work with your inbox selected so you can see all your mailboxes in one consolidated view. In that case, Mail uses whatever *message* is selected to determine the sending account.

You can, of course, select the correct account from the Account pop-up menu whenever you create a new message. You can save a bit of time, though, by making sure you've selected the proper account or message before you start a new message.

Get Creative with Pages' Table Cells

When you're working with tables in Apple's new word processor, Pages, you can resize cells by dragging—

continues



UNIX TIP OF THE MONTH

Save Time Navigating Directories

If you spend much time in Terminal, you probably know how much of a pain it can be to switch directories. For instance, if you want to do something in your user folder's Pictures folder, you type `cd ~/Library/Pictures`. If you finish what you're doing, close Terminal, and then want to go back, you have to type the path all over again.

Terminal does have some useful shortcuts. You can use the up arrow to access recently used commands, you can create an alias pointing to often-used directories, and you can use tab autocompletion to finish what you're typing (for more details, see macworld.com/0526). You can also use a bash shell variable called CDPATH.

Think of CDPATH as a directory-switching cheat sheet. It provides a list of directories in which the `cd` command will look for the directory you specify. (The command will look only within the specified directories, not the subdirectories thereof.) You give the command a list of directories, separated by colons. For example, if you often switch to both your Home folder and your Library folder, type this:

```
CDPATH=".:~/Library"
```

The first dot means "within the current directory." The tilde (~) is the shortcut for your Home folder, and ~/Library will look within your Library folder for matches.

Type the command and press enter. Now you can search for directories in those places without retyping the entire path again and again. For instance, type `cd Preferences` and press enter. Terminal responds with the name of the directory into which it's switching:

```
cd Preferences
/Users/robg/Library/Preferences
```

If you'd like this command to become a regular part of your Terminal environment, add it to your `.bash_profile` file, which lives in your Home directory. Type `pico ~/.bash_profile` and enter the CDPATH command you'd like to use. (You can add as many directory paths as you want; just separate each path with a colon.) To save your work, press control-O and then press enter. Press control-X to exit pico. The next time you open a Terminal window, you'll be able to use your newly created shortcuts.

Do you have your copy of Playlist?



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Show Me the

Movies By entering the name of a landmark in the Find Near field of Sherlock's Movies tool, you can find films playing nearby, even if you don't know precisely where you are.



ging either the horizontal or the vertical dividing bar. Just click on the divider and then drag it.

Here's a trick to open up some more creative cell sizing: try holding down the option key before you click on a divider. Instead of selecting the entire divider, Pages will highlight only the portion of the divider associated with the nearest cell. You can now drag and reposition this portion of the divider. No longer are you constrained to tables in which every cell in a column or row must be the same width or height; you can have a large image in a cell that's directly above a narrower cell, for instance. This allows you to get very creative with the look of your tables.

Note that this technique won't work on all cells. A row must be of a certain minimum height before you can move portions of the horizontal divider (you may have to increase the whole row's height first). Also, some borders may not be movable, depending on how they're positioned relative to other lines. Still, by using option-drag, you can create some very free-form tables.

Slim Down iPhoto's Window

iPhoto 5's new bottom toolbar is a great time-saver—if you've got a big screen and you run iPhoto in a large window. But if you shrink the iPhoto window so you can multitask in other applications, the toolbar icons that don't fit vanish to a subtly marked pop-up menu.

If you prefer a smaller iPhoto window but still want to see all the toolbar icons, two tricks can help. Your first option is to hide the Source column. Locate the small dot on the bar that divides it from the photo-viewing area. Then drag the dot to the left. The Source column will vanish, providing more toolbar space.

Another option is to remove the icons you rarely (or never) use. Some icons can't be disabled, but you can see the ones that can (and others you may not have discovered) by selecting Share: Show In Toolbar. If you don't have a .Mac account, for instance, make sure the HomePage and .Mac Slides options are disabled.



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Don't ever e-mail images from iPhoto? Toss that option. When you're done, you may find that you have room to add an additional button, such as Send To iDVD, and still see the full toolbar on screen.

Find Movies Anywhere with Sherlock

Sure, the latest *Star Wars* release is old news, and the next *Harry Potter* movie is still on the horizon, but if you'd like to spend \$9 or so on a couple of hours of wide-screen entertainment, Sherlock's Movies tool is quite handy for finding theaters and show times in your area. By default, the Find Near field uses the address from your card in Address Book. If you've entered your address there, the Movies tool will display a list of locally playing movies without your having to do a thing.

But what if you're traveling with your laptop? You know what city you're in (I hope), but you may not know the lay of the land. Sherlock's Find Near search has a couple of features that can help. First, you can search by landmarks—not everything is in there, but many big names are. A search for *Space Needle*, for instance, shows you movies in Seattle; *Disneyland* nets you the Anaheim, California, area; and *Epcot* will get you a list of theaters near Disney World's Epcot in Orlando, Florida (see "Show Me the Movies").



CHECK IT OUT



Peekaboo Calendars

Apple's calendar application, iCal, lets you set up as many calendars as you'd like. This is a great way to organize your tasks. You can create separate calendars for home, work, travel, and so on, as you need them. However, if you view the calendars all together, the picture can get pretty cluttered with events.

Of course, you can disable any calendar by deselecting it in the Calendars column. But here are some tricks that will make disabling and enabling multiple calendars somewhat easier.

To hide all calendars, ⌘-click on any currently visible calendar's check box. If you ⌘-click on any hidden calendar, you will bring all currently hidden calendars into view. Finally, if you ⌘-option-click on any calendar, you will show just that calendar while hiding all others. This is probably the most useful shortcut, as it allows you to see the specific calendar you're focusing on at the moment.

The real power of the Find Near field comes from its ability to work with zip codes—just enter the one you're in, and you'll see a list of all the local theaters. Between the zip code and landmark searches, there's no reason not to go to the movies tonight—unless, of course, there's nothing worth seeing. □

Senior Editor ROB GRIFFITHS is the author of *Mac OS X Power Hound*, *Panther Edition* (O'Reilly, 2004), and runs the Mac OS X Hints Web site (www.macosxhints.com).

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Trimmer iPhoto Library

Is there any way to make Apple's iPhoto save changes to an *original* photo, short of moving the altered photo completely out of the program and importing it again? For example, when I reduce red-eye, I end up with the original photo and the altered one. Sometimes this is a waste of hard-drive space.

Eric Anderson

I agree that this feature is both a blessing and a curse. Granted, you can always gain access to your unaltered original: just select the edited picture and choose Photos: Revert To Original. But iPhoto makes the magic happen by squirreling away two copies of the photo—the original and the edited version.

To free up hard-disk space, consider Martin Fuhrer's free iPhoto Diet (macworld.com/0513). This utility slenderizes your photo library by eliminating duplicate photos, removing backups of rotated or modified photos, stripping out your photos' thumbnail icons, and locating and disposing of photos never added to an album.

Audio Clip Control

I consider myself a veteran user of iMovie, but I'm vexed by the latest incarnation, iMovie HD. Before, I was always able to trim audio clips in the timeline viewer simply by hovering the pointer over either end of the audio clip. In the current version, all this does is move the clip. What gives?

John Smith

Apple has changed the behavior of audio clips. If iMovie HD's Show Clip Volume Levels option is enabled (View: Show Clip Volume Levels), clicking on an audio file in the timeline allows you only to adjust the clip's volume or move the file—you can't trim it. Turn this option off, and you're welcome to trim to your heart's content. For this reason, it's a good idea to memorize the ⌘-shift-L keyboard shortcut, which switches this option on and off. (You can also access this command by control-clicking on an audio clip and choosing the command from the contextual menu [see "Audio Adjustment"].)

Audio Adjustment

If you turn off iMovie HD's Show Clip Volume Levels option, you can trim your audio clips.



Put HTML in Your Outbox

I want to send HTML e-mail messages that look like Web pages. So far, the only way I have found to do this is by creating the page in Macromedia Dreamweaver, uploading everything to a server (for access to the graphics), and then inserting the Dreamweaver file into Microsoft Outlook on a PC. But is there any mail program on the Mac that can send complex HTML? I've tried Apple Mail and Microsoft Entourage (v. X), but both just seem to attach an HTML file.

Steve McGillivray

You have a friend in Rob Buckley, who created the free Send Complex HTML with Inline Files 2004 AppleScript (macworld.com/0514). This script allows you to embed complex HTML files in messages created with Entourage v. X or 2004. It works this way:

After placing the script in the Entourage Script Menu Items folder (*/your user folder/Documents/Microsoft User Data/Entourage Script Menu Items*), create a new e-mail message in Entourage and address it. If you like, add a subject (if you don't add a subject, the script will place the title of the HTML page in the Subject field). Choose the script from Entourage's AppleScript menu and, in the resulting Choose A File dialog box, select the HTML file you want to send. Click on Choose, and Entourage lets you either send the message now or send it later. (If elements in the file are missing—one of the page's graphics, for example—the script will return an error message.) If everything goes according to plan, the script will then embed the appropriate HTML code into the message.

Spam Scam

I regularly get "Undelivered mail returned to sender" messages in my e-mail inbox. According to the information in the message, someone else is hiding his or her identity by using my e-mail address to send pornography out over the Internet. I'm offended that someone is using my address for this purpose. Is there any way to resolve this issue?

Jim Klausen

Not really. For people unfamiliar with such a scenario, I'll explain: spammers have *spoofed* Jim's e-mail address, meaning that verminlike souls have stolen his address and are pretending that it's theirs. On occasion, an ISP blocks these pernicious messages and bounces them back to the alleged "sender"—a perfectly silly practice that wastes bandwidth and punishes innocent parties who had nothing to do with the original messages.



TIP OF THE MONTH

If you receive multiple bounced messages from a particular ISP, you might contact it and suggest that it stop bouncing messages, as the practice is both futile and annoying. To protect yourself against this annoyance, employ a spam filter and teach it to recognize these messages as junk.

Liberating Location

I have a PowerBook G4, which I use frequently at home and work. Because my Internet connections are different at the two locations, I have configured my Network preferences with Home and Work settings. Can I make the default printers change automatically when I switch?

Daryl Thornton

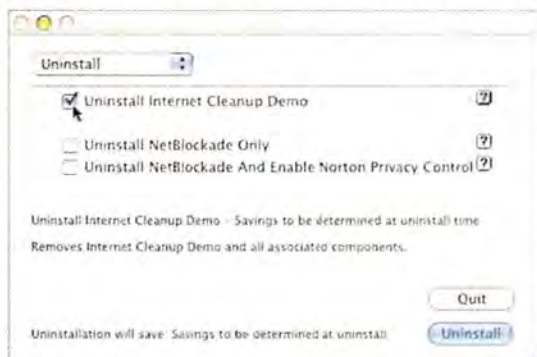
What you're looking for is something like OS 9's Location Manager—a utility whose functionality OS X doesn't duplicate. Thankfully, you'll find many of the old Location Manager's capabilities in Alex Keresztes and Greg Novick's Location X 2.0 (\$20; macworld.com/0515). (At press time, it wasn't compatible with Tiger.)

OS X's Network preference pane allows you to create locations that include network settings such as the default network port, IP address, and proxy settings, but Location X takes this a step further. It lets you assign a default printer, an SMTP server, a time zone, a QuickTime connection speed, Energy Saver preferences, Mail and Entourage preferences, and a Web browser's home page that differ depending on where you are.

Just fire up the program, create a new location, and add the options you'd like to assign to it—Energy Saver and Default Printer, for example. Then quit the application. When you're ready to change your location settings, launch Location X, select the desired location, and click on the Make Active button.

Recalling Uninstall

I downloaded a demonstration version of Network SpyAlert and decided not to buy it. I trashed every file associated with this application I could find, except for a file named NetworkSpyAlert.kext. This file will not allow me to move it to



Cleaner Cleanup Nagged by warnings and alerts from programs you thought you had deleted long ago? Instead of trashing an application by hand, use the installer's uninstall option.

Flexible iPod Files

You can use an iPod shuffle to hold data files from your Mac by going to iTunes: Preferences, clicking on iPod, and activating the Enable Disk Use option. Unfortunately, because the iPod shuffle is formatted as a FAT32 volume (to make it work on both Macs and Windows PCs), it will not transfer Mac files with certain characters in their names when you try to copy those files to the iPod shuffle. The list of characters includes slashes (/ and \), question marks (?), angle brackets (< and >), colons (:), asterisks (*), and quotation marks (").

To fix this limitation, use Disk Utility (in your Applications/Utilities folder) to create a new disk image (Images: New: Blank Image). In the New Blank Image dialog box, specify a disk-image size that will fit on your iPod shuffle (leave some room for music), and choose the read-write option from the pop-up menu. Copy the image onto the iPod shuffle and then double-click on the image. It will appear in the Finder as a generic white removable-disk icon. Copy any Mac files with Mac-legal file names onto that disk image. To disconnect the iPod shuffle safely from the Mac, first eject the disk image and then eject the shuffle.

Note that the files you copy onto a Mac disk image will not be available to a PC using that device. If you need to use the iPod shuffle or another Flash-based storage device to share files between a Mac and a PC, leave those files on the main partition and not inside the Mac disk image.

Jonathan Woolson

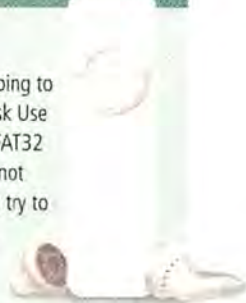
the Trash. When I drag it there, this message appears: "The operation could not be completed because this item is owned by root." How can I get rid of this alert box permanently?

Dan Yett

We Mac users are accustomed to simply dragging unwanted applications to the Trash. However, certain programs, such as Allume Systems' Internet Cleanup (\$30; www.allume.com) and its demo, perform their magic with the help of special files stored away from the main application. For this reason, it's not a bad idea to run the installer of an application you no longer want, to see whether it has an uninstall option. Internet Cleanup's installer does have that option, accessible from the pop-up menu in its installation screen (see "Cleaner Cleanup").

If you've taken matters into your own hands by trashing an application, and you discover that its remnants pester you, try reinstalling the application and then running the uninstaller. Barring that, you can seek out files that may be causing the problem. In your case, you can find .kext files by following this path: /System/Library/Extensions. If the .kext file you're trying to remove won't budge, open Terminal (/Applications/Utilities), type `sudo rm -R` followed by a space, and then drag the stubborn file into the Terminal window. Press return and enter your administrator password if necessary. The file will vaporize. □

Contributing Editor CHRISTOPHER BREEN is the editor in chief of Playlist-mag.com and the author of *Secrets of the iPod and iTunes*, fifth edition (Peachpit Press, 2005).



Send your tips to mac911@macworld.com. If we publish yours, you'll receive this dandy mug. All published submissions become the sole property of Macworld.

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Photoshop Fling™ 3 & MacMania™ IV

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Speakers

Chris Breen
Jack Davis
Bruce Fraser
Janet Hill
Andy Ihnatko
Leo Laporte
Bob LeVitus
Deke McClelland
Bert Monroy
Sal Soghoian
Jason Snell
Mark Swain
Steve Wozniak



Photoshop Fling: Essentials

Photoshop Fling 3 / MacMania 4

During our cruise-conference, there will be four (4) three-day "tracks" offered at the same time:

- Photoshop Fling: Essentials & Effects
- Photoshop Fling: Photography & Workflow
- MacMania: New User
- MacMania: Power User

Attendees may freely move between the tracks, at any time. For example, while Photoshop Fling and the Digital Photography Workshop are independent of MacMania, classes here may be counted toward your MacMania session total. Similarly, Photoshop Fling conference attendees may attend any of the MacMania seminars—at no charge.

Therefore, all attendees may choose any combination of full-day, half-day, or quarter-day seminars—from either MacMania or Photoshop Fling—for a total of three (3) days' worth of sessions.

The conference fee is \$795 and includes all courses, course materials, five evenings of entertainment, and the Bon Voyage Cocktail Party.

Adobe Photoshop CS2 One-on-One

Sunday the 4th, 8:30am – Noon

Speaker: **Deke McClelland**

Photoshop is a vast and complex program. It does certain things very, very well, and it does others very, very strangely. Using the program effectively is a matter of knowing which tools work best and when best to use them. Attend this introductory class and learn how to use the right features in the right order and save yourself a lot of heartache.

- What Photoshop can do
- Workspace and navigation
- Basic color management
- Highlights, shadows, and midtones
- Adjusting brightness levels
- Fixing a color cast
- Hue and saturation
- Colorizing a grayscale image
- Image size and resolution
- Rotate, crop, and perspective

Filters and Masks

Sunday the 4th, 1:30pm – 5pm

Speaker: **Deke McClelland**

Newly enhanced in CS2, corrective filters rank among the program's oldest and finest capabilities. Besides permitting you to sharpen the contrast of an image, blur away the defects, and remove digital noise and JPEG artifacts, they can help you hone in on exactly those details that need help the most. Combined with Photoshop's Masking function, filters make it possible to separate even the most complex foreground subject from its background and composite that image into a new setting. Sound amazing? You have no idea.

- Filtering basics
- The new filters in Photoshop CS2

- Unsharp Mask and High Pass
- Removing motion blur with Smart Sharpen
- The wonders of Remove Noise
- Gaussian Blur and Median
- Creating an Edge Mask
- Using the Color Range command
- Extracting image elements
- Blue screen and sky
- Full-on Masking

The Bold and the New in Photoshop CS2

Thursday the 9th, 8:30am – Noon

Speaker: **Deke McClelland**

Photoshop CS2 is the most ambitious, exciting, and downright seminal update to Adobe's flagship image editor in the past five years. Vanishing Point, envelope-style image warping, floating-point exposure, and the stand-alone Bridge all qualify as flat-out great. Then there's my favorite feature, smart objects, which let you do three things you could never do before: First, you can apply non-destructive transformations. Second, you can replicate a layer and edit all copies simultaneously. And third, you can adjust the composition of imported camera raw and Illustrator layers long after importing them. If flexibility and power appeal to you, join Deke and learn how to make them yours.

- The new Adobe Bridge
- The revolutionary Vanishing Point plug-in
- Combining multiple exposures into a single HDR image
- Applying free-form distortions with warp and envelope
- Making a smart object
- Non-destructive transformations
- Creating alias layers, all linked to a single original
- Placing camera raw and Illustrator artwork
- Modifying placed layers well into the future

& Effects

The Wow Factor:

One-Click Solutions in Photoshop

Thursday the 9th, 1:30pm – 5pm

Speaker: **Jack Davis**

Quick and easy ways to use Photoshop's built-in presets (and hundreds of complimentary Wow presets that will be provided in class) to create special effects on-time and on-budget.

- The phenomenal power, flexibility, and speed of Layers Styles
- How to create dimensional effects like chrome, rock, and glass (and beyond)—instantly and without filters
- One-click framing and tinting techniques to tie disparate photographs together—separately or as a collage
- Quick template-based collaging for weddings, groups, or editorials
- Single image collages and ghosted backgrounds

Creating Special Effects with Photoshop

Friday the 10th, 8:30am – 5pm

Speaker: **Bert Monroy**

Creating realistic textures, the effects of lights and shadows, and the ability to make an image jump off the page will be covered in this session. Filters? There are many of them in Photoshop. What happens when you use them for other than their intended purpose? What happens when you put a few of them together? You will create images that are more realistic than a camera could ever achieve.

The ability to bend things on a curve has been one of the most asked-for features, yet it has always been there. Bert will demonstrate the use of the Displace Filter to make controlled, fluid distortions. The Liquify Filter will also be explored for distortion effects. Distorting with the Transform function will be explored for perspective matching and the creation of realistic reflections.

- Working with Filters
- Using the Liquify command
- Light and shadows
- Reflections
- Integrating Photoshop into other programs
 - After Effects
 - 3D software

The Evolution of Digital Art

Speaker: **Bert Monroy**

Bert Monroy embraced the Mac as an artistic medium with the introduction of the Mac 128 in 1984. In this evening talk, open to all, Bert will take you on a journey through the evolutionary transformation of the Mac from its beginnings with MacPaint to its current status as the preferred tool of graphic artist throughout the world.

A history lesson mixed with useful production techniques will leave you not only entertained but a little more attuned to the potential that lies within our favorite little box.

You will learn:

- How the first computerized comic book was produced
- How the Mac has revolutionized the graphic arts industry
- How the Mac is used in the motion picture industry
- Much, much more

You will leave this talk, not only with some new found skills, but with the inspiration to explore new avenues you never before considered.



Photoshop Fling: Photography & Workflow

Expert Color Management

Sunday the 4th, 8:30am – Noon

Speaker: **Bruce Fraser**

Learn everything you ever wanted to know but were afraid to ask about color management. We'll start with a look at the basic science that underpins color management—don't worry, the session is guaranteed equation-free—because doing so helps you understand not only how color management works, but also why it sometimes fails to do so.

Next, we'll look at profiles, and their relationship to the devices they represent, with a view to developing sound troubleshooting skills.

Last but not least, we'll delve deep into Photoshop's color management features, mine the mysteries of working spaces, and look at what it takes to build and maintain a complete capture-to-output workflow.

Real World Camera Raw

Sunday the 4th, 1:30pm – 5pm

Speaker: **Bruce Fraser**

With the advent of Camera Raw 3.0, I look at Photoshop as a plug-in for Camera Raw, rather than the other way around. In this session, you'll learn the many benefits of shooting raw. Then you'll learn to exploit the vast amount of information raw files contain by making use of Adobe Camera Raw's powerful features, so that when your images land in Photoshop, you'll have very little to do to them except press Save and choose a file format.

Possibly the greatest challenge that digital shooters face is the sheer amount of data they generate. You'll learn that the key to avoiding drowning in data is to master metadata and make it your friend. You'll learn how to build a complete digital raw workflow using Bridge, Camera Raw, and Photoshop using automation wherever possible so that you still have time to shoot, and to have a life.

Essential Photo Optimizing—Getting it Right

Thursday the 9th, 8:30am – Noon

Speaker: **Jack Davis**

The experienced user knows there are a million tools in Photoshop to adjust your images for maximum impact, but which ones work best, work fastest, and are most "photographer friendly"? In this session you will learn all sorts of workflow-enhancing techniques including: 101 uses for Auto Levels, how to create non-destructive dodge and burn layers, advanced gray-scale conversions, eyedropper color correcting, stained teeth whitening, red-eye neutralizing, blotchy skin unifying, and the only way to use Photoshop's healing brush—all with an emphasis on quality, flexibility, and speed.

- Which editing tools are best to use when fixing images—and which ones to avoid
- Quick tone and color adjustments that leave your original image intact
- How to quickly fix under and over exposed images using Photoshop features like Shadow/Highlight
- Creating nondestructive, fast, and flexible repair layers for fixing, dodging and burning, and color correcting
- Simplified levels, curves, and sharpening techniques
- Advanced gray-scale conversions using Channel Mixer

Editing Images in Photoshop

Thursday the 9th, 1:30pm – 5pm

Speaker: **Bruce Fraser**

Photoshop has so many image editing options that it's often hard to know where to start, and once you've mastered a few tools, you tend to use them for everything (when all you have is a hammer, everything starts to look like a nail).

We'll start with basic adjustments like Levels, Curves, Hue/Saturation, and Shadow/Highlight, possibly turning up some hidden goodies you may have overlooked. Then we'll progress to how these basic adjustments can be modulated and controlled using layers, layer masks, and blending modes.

We'll look at strategy as well as tactics. Do I build a monster layered file that lets me keep all my options open, or do I use History instead? Last but not least, we'll delve into detail control—dustbusting, blemish removal, and sharpening.



Digital Photography Workshop

Speaker: **Jack Davis**

Learn the secrets of digital photography on our Mexican cruise. In this full-day class you'll quickly discover how to become a better photographer and tap the benefits of your digital camera. This Digital Photography workshop will give you the power to capture special moments and preserve precious memories—for snap shots to put in an album or oversized prints suitable for a gallery!

Learn how to:

- Tell beautiful, visual stories by capturing great digital photos
- Use natural light and flash the right way
- Use your camera's menus and functions to optimize what your camera can do
- Tap the value of a digital camera's features such as exposure compensation, scene modes, and when to shoot RAW

Part 1: Light, Camera, Action

Friday the 10th, 8:30am – Noon

Light is the primary subject of all of our photographs. In this illuminating, four-hour session we'll discuss the properties of light (and how it relates to space, depth, and focus) and how to use an understanding of light plus the various camera controls and features to produce technically-proficient photographs from the subtle to the dynamic.

- Understanding the properties of light
- Effective use of traditional camera controls
- Metering and exposure
- F stop/depth of field
- Shutter speed/motion control
- ISO
- Understanding digital camera menus
- Resolution
- File formats—RAW and JPEG demystified
- White balance
- Tone control
- Sharpening
- Putting it all together when shooting pictures

Part 2: Making Better Photographs

Friday the 10th, 1:30pm – 5pm

How do you put a little bit of soul into your pictures? Having control of your equipment is necessary, but only the first step. In Part 2 of this Workshop we will discuss how to move beyond technically well-executed documentation photography to exciting images that allow us to share, in an artful and memorable way, the experience of the moment we chose to record.

- Human vs. camera vision
- Perspective and point of view
- Camera position and lens choice
- Understanding the frame
- Organizing the visual elements
- Keep it simple and the use of negative space
- Design tools for "drawing" the photograph
- Clues to three-dimensionality
- Exploring the subject
- Photographing people
- Travel photography techniques
- Close-up photography techniques

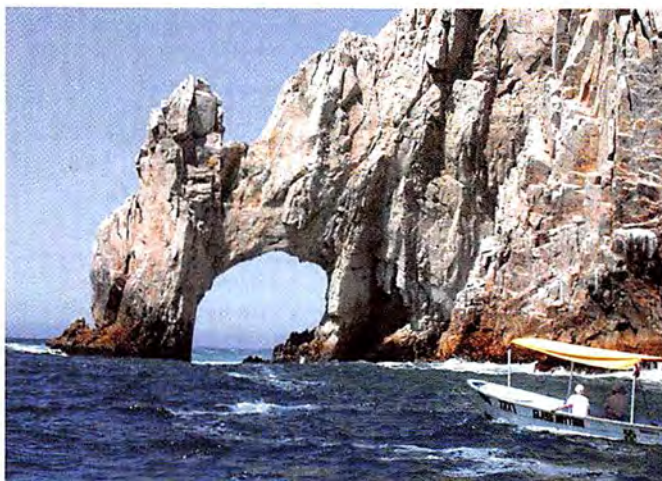


MacMania Ingenious Bar: The Near Genius IS IN!

(Every evening, 5pm to 6pm)

Apple stores may own the rights to the name "Genius Bar," but at sea our own near geniuses will be ready to help you get up and running on Macintosh at the MacMania Ingenious Bar. Leo Laporte, Cap'n Neil, and many of our onboard luminaries will gather to offer informal one-on-one assistance from 5pm to 6pm every evening in the Crow's Nest. If the MacMania seminars are leaving you feeling like a sub-genius, visit the Ingenious Bar for an instant upgrade. These sessions are also designed for spouses and family members who aren't yet Mac geeks but are ready to learn more in a friendly, nonjudgmental environment—so everyone is welcome.

The MacMania Ingenious Bar: no problem too small, no brains too big.



MacMania: New Users

The Ground Floor Guide to the Macintosh
Sunday the 4th, 8:30am – Noon

Speaker: **Andy Ihnatko**

"Honestly, I don't know the first thing about Macs."

Oh, really? Sure, it's easy to brag about how little you know about these things, but so few people are willing to put their money with their mouth is. Attend this session and silence all the nay-sayers. How basic is this session? Turning the Mac on and off is lesson two. Sure, by the end, you'll no longer be a novice...but you'll be able to thrill and amaze people with your tales of compressing a whole month's worth of trial-and-error learning into one single class.

The Dilettante's Guide To Tiger
Sunday the 4th, 1:30pm – 5pm

Speaker: **Andy Ihnatko**

There are American History books that spend 500 pages covering the whole thing from start to finish, and then there are the ones that cover just one thing in obsessive detail. The latter leaves you with ready answer to the question "So: the quill that Jefferson wrote the Declaration of Independence: what species of bird did it come from?" But the former approach leaves you with a broad understanding of absolutely everything, and the relationship between all of the various bits.

So the goal of this session is to make sure you know just exactly what Mac OS X is capable of, from user-level features that you'll use every day to aspects of Unix system administration that will make you glad that you're free to never ever ever touch that sort of stuff if you don't want to, not even with a ten-foot-pole strapped to a twelve-foot-pole.

Mac OS X Troubleshooting
Thursday the 9th, 8:30am – Noon

Speaker: **Christopher Breen**

The Mac and its accompanying operating system are impressive accomplishments but even Macs sometimes get the blues. Join Chris Breen as he shows you how to keep your Mac and OS X on the straight and narrow and, should it stray from that path, how to get it back on its feet with the least amount of fuss. Along with preventive and troubleshooting strategies, Chris will offer tips for dealing with such common annoyances as spam, Mac/Windows interaction, and printing problems.

Life is Good...iLife Makes it Better!
Thursday the 9th, 1:30pm – 5pm

Speaker: **Janet Hill**

If you are new to iLife, come see what happens when you take five best of breed multimedia applications—iTunes for managing music, iPhoto for digital photography, iMovie HD for editing digital video, GarageBand for creating your own music, and iDVD for creating your own DVDs—and integrate them so they work seamlessly. Suddenly it all connects!

Let your imagination soar: The iLife '05 software applications let you do fun, creative things with your pictures, music, and movies in ways that PC users can only dream about—then you share your joy with family and friends every which way from email and the internet to print and DVD. An you can do all these things and more, quite nicely, without thumbing through a manual.

A Day of iLife '05 Exploration
Friday the 10th, 8:30am – 5pm

Speaker: **Janet Hill**

Learn why this suite of tightly-integrated applications continues to lead the digital-media revolution.

You have been using iLife for a while but what can you really do with this program? With iLife '05 you can easily create stunning softcover books; import, organize, and edit RAW photos; and stun them with fully-customizable slideshows using iPhoto 5. Edit high-definition 16:9 video from the newest camcorders and create movies automatically with iMovie HD's new Magic iMovie feature. Drag and drop video clips, pictures, and music into the new animated drop zones found in iDVD 5 templates. Or create multi-track recordings in GarageBand 2. Of course, iTunes seamlessly integrates with iPhoto, iMovie HD, iDVD and GarageBand and syncs with every member of the iPod family. Come spend a day exploring the many intermediate features of iLife '05.

Hold on to your hat and don't miss this a-once-in-a-lifetime shootout featuring three of the most fanatical Mac maniacs in the universe—Leo, Bob, and Woz. Thrill as they demonstrate and praise their favorite and most-beloved shareware, freeware, and otherware. Then, once the smoke clears, grab a copy of any or all of these fabulous gems at the [GeekCruises website](#). Don't miss it!

PRICING AND BOOKING INFORMATION

Course Fees: \$795. Only passengers booked through Geek Cruises will be admitted.

Deposit: \$400 per person, due at time of booking.

Cabin Type	Cruise Rate
Standard Inside	\$ 799 (GS* available)
Better Inside	\$ 899 (GS* available)
Standard Outside	\$ 999 (GS* available)
Better Outside	\$1,099 (GS* available)
Outside w/ Balcony	\$1,299 (GS* available)
Mini Suites	\$1,399 (available)
Superior Suite	\$1,799 (available)
Full Suite	\$3,299 (available)

Cruise prices are subject to change

3rd and/or 4th Person Rate:

ages 19 and older, \$549; ages 2 – 18, \$499; under 2 years old, \$449.

Single Occupancy:

150% for inside and outside cabins and 200% for Outside with Balcony and above.

Port Charges and Taxes:

\$199 per person.

Full payment is due on November 1, 2005 (or, if you book after November 1, at the time of booking).

Foreign Shipping Fees and Additional Payment Information: There is a foreign shipping charge of \$60 (to cover the shipping of your cruise tickets, via FedEx) per foreign residence (\$35 per Canadian residence). There is a \$25 charge for returned checks.

Air Add-ons: Airfare from most major cities is available through the cruise line. You can call our office for this pricing. (These rates include transfers to/from the dock/airport plus transfers to/from your hotel if we've booked the hotel as well.) In most cases, however, you will find better airfares on your own. Online travel sites such as Expedia.com, or Travelocity.com are excellent resources.

Pre- and Post-cruise Hotel Stays:

Sightsee San Diego! The hotel (Westin Horton Plaza San Diego) will be close to the dock. If we book your hotel, transfers from the hotel to the dock are included.

	1 night	2 nights	3 nights
Shared double	\$150	\$275	\$400
Single	\$275	\$525	\$775
3rd/4th person	\$50	\$80	\$110

*Physically challenged available

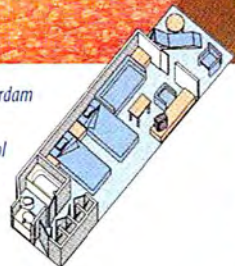
***Guaranteed Share (GS) Fares:** This plan is for passengers who are coming on a Geek Cruise by themselves and wish to share a cabin with another Geek Cruises passenger in an inside or outside cabin only. The prices are the same as the per person double occupancy rates. Share Passengers who smoke are not to do so in the cabin, unless okayed by fellow roommates. We try to match passengers with someone close in age, whenever possible. Note: Holland America will not accept any booking unless a fully completed Reservation Form is accompanied with a per-person deposit:

http://www.GeekCruises.com/booking/mm04_booking.htm



Standard outside double on the ms Oosterdam is approximately 177 square feet. Rooms will vary in size and furniture placement.

Mini-suites on the ms Oosterdam are big on luxury: private verandahs, whirlpool baths, VCRs, and mini bars.



DAY	PORT	ARRIVE	DEPART	CONFERENCE SESSIONS
Saturday, Feb 4	San Diego, Ca	—	5:00pm	7:15pm, Bon Voyage Cocktail Party
Sunday, Feb 5	At Sea	—	—	8:30am – 5:00pm & 6:00pm – 7:30pm
Monday, Feb 6	Cabo San Lucas, Mexico	7:00am	6:00pm	6:00pm – 7:30pm
Tuesday, Feb 7	Mazatlán, Mexico	8:00am	6:00pm	6:00pm – 7:30pm
Wednesday, Feb 8	Puerto Vallarta, Mexico	8:00am	10:00pm	—
Thursday, Feb 9	At Sea	—	—	8:30am – 5:00pm & 6:00pm – 7:30pm
Friday, Feb 10	At Sea	—	—	8:30am – 5:00pm & 6:00pm – 7:30pm
Saturday, Feb 11	San Diego, Ca	8:00am	—	—



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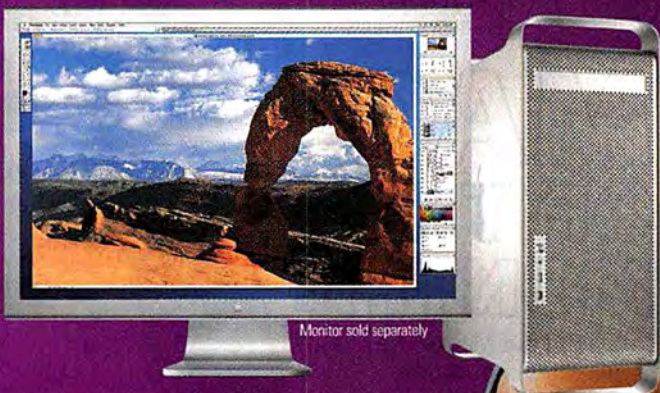
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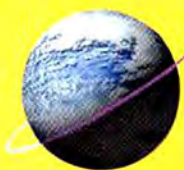
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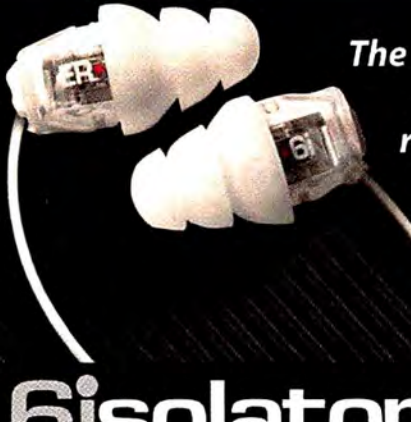


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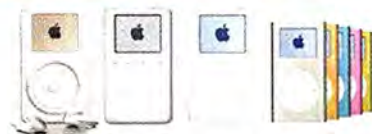
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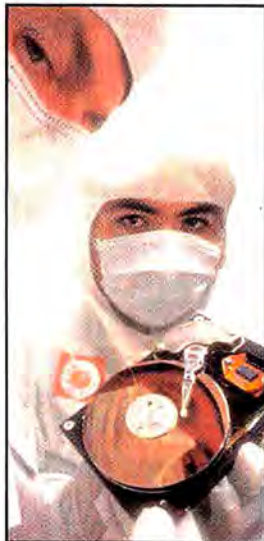
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FROM THE EDITORS OF MACWORLD



EIZO FLEXSCAN L997

It's hard to get too worked up about a new display, but I'm pretty excited that Eizo has brought its 21.3-inch FlexScan L997 LCD to the United States. This \$1,549 monitor has a fascinating set of features, including a 10-bit lookup table for smoothing gradients, and the ability to adjust cyan, magenta, and yellow, in addition to the standard red, green, and blue. The L997 also includes a gravity sensor for automatic pivot detection, and it can store as many as five user modes, each containing settings for particular situations—such as playing games, surfing the Web, or watching DVDs (www.eizo.com).—JAMES GALBRAITH

NewsMac Pro

I'm a big fan of RSS news readers, and I've been keeping my eye on ThinkMac Software's \$25 NewsMac Pro since its recent release. There are many good news readers out there, but NewsMac Pro has come up with an original way to display headline feeds from your favorite Web sites—one of its window's four panes includes tabs offering access to more information. The app also integrates Podcasting features and lets you sync stories with an iPod or Palm OS PDA, and it has a Smart Folder feature for organization—all with a very Mac-like interface (www.thinkmac.co.uk).—JIM DALRYMPLE



Better Backup Strategy

Recently, the hard drive on my 15-inch PowerBook decided to give up the ghost—taking all my files with it. I realized that I couldn't always count on the skilled IT staff 400 miles away in Macworld's San Francisco office to bail me out. So I'm picking up a 160GB LaCie FireWire drive for \$139 (www.lacie.com) and a copy of EMC Dantz's \$129 Retrospect 6.0 for Macintosh Desktop (www.dantz.com), and I'm downloading Joe Kissell's \$10 Take Control of Mac OS X Backups e-book for pointers on setting up my own backup system (there's an excerpt and information at macworld.com/0581).—PHILIP MICHAELS



MAC MINI HUBS

I love my Mac mini, but I wish it had more USB and FireWire ports. Thankfully, several companies have come to the rescue with form-fitting hubs and accessories. Belkin's (www.belkin.com) white hubs provide either four additional USB 2.0 ports (\$35) or four additional USB 2.0 and two FireWire 400 ports (\$50). Plasticsmith (www.plasticsmith.com) has taken its stylish mini Skirt, lengthened it, and added a seven-port USB 2.0 hub; the resulting mini Shack sells for \$60 (clear model) or \$70 (LED glo model). And MicroNet's new miniMate (shown here) adds two FireWire ports, three USB 2.0 ports, and a hard drive—in 80GB to 400GB capacities—for \$169 to \$559 (www.micronet.com).—DAN FRANKS

WHAT'S HOT

Brought to you by John Moltz of the Crazy Apple Rumors Site (www.crazyapplerrumors.com)

- 1 Apple announces a recall of certain laptop batteries, which the company said could overheat and catch on fire. *The batteries won't be replaced but will be returned to customers with tiny sprinklers installed.*
- 2 Apple reveals its plans to switch to Intel processors. *Weather reports from hell indicate chilly conditions—the eternally damned are advised to wear a coat.*
- 3 Steve Jobs says that the next version of iTunes will support Podcasting. *Disgruntled iPod users complain that they want less talk and more rock.*
- 4 Apple is issued a patent for a tablet device. *Early specs indicate that users must hold the unit upside down and shake it in order to redraw the screen.*



iControl While using GarageBand, I've noticed that I spend a lot of time just moving and clicking my mouse to change settings. So I was intrigued by M-Audio's \$180 iControl, a USB bus-powered control surface designed for GarageBand (although it will also work with the Logic application family). iControl provides easy access to individual track panning, volume, muting, soloing, and recording, as well as full transport and master volume controls (www.m-audio.com).—JONATHAN SEFF

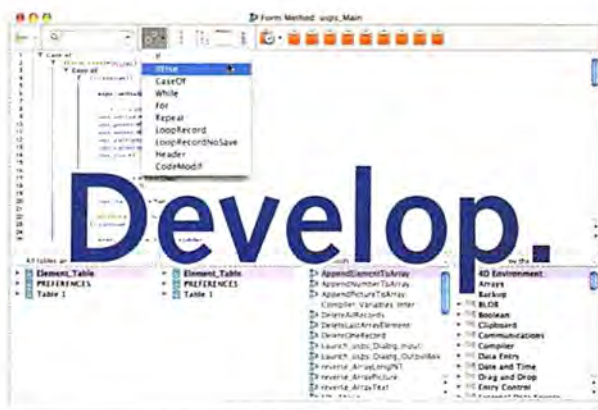


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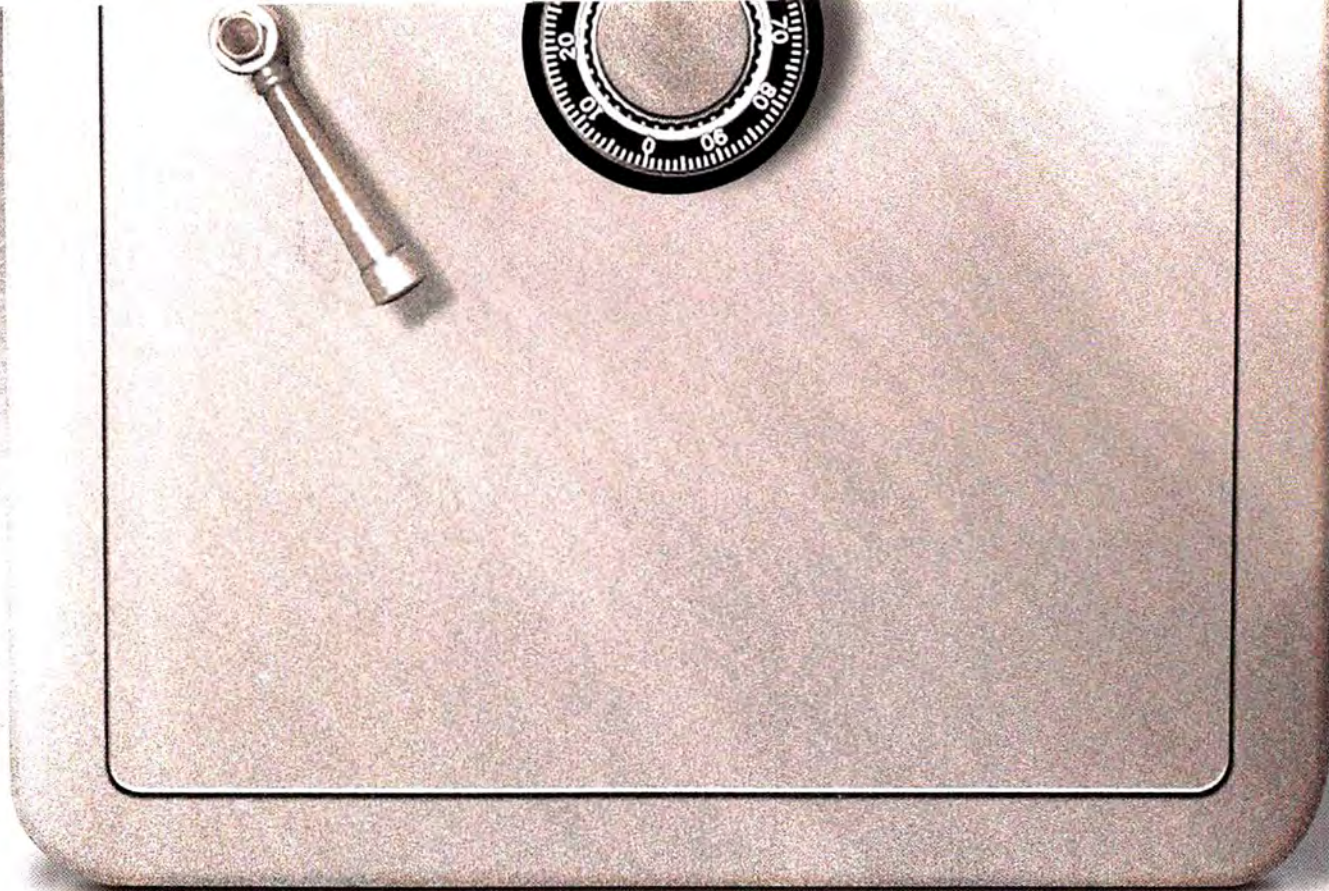
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