ATPM

About This Particular Macintosh: About the **personal** computing experience.™

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Welcome to the October issue of *About This Particular Macintosh!* Summer is done, and fall has begun. Trees are changing color, and this month we look at how Apple has changed its iPod product line. Apple's goal is to keep seeing green despite the seasonal change in weather.

A September to Remember

In early September, Apple announced a new line of iPod products. Led by the new iPod touch, Apple is focusing on the video features of its new digital music and movie players. The iPod touch is essentially an Apple iPhone without the phone, while at the other end of the product spectrum the lowly shuffle debuted in new colors. But it's the iPod nano that stole the late-summer show. Sporting a larger and better color screen, the iPod nano is the new product Apple hopes will keep the company in the green through the fall and Christmas shopping seasons.

Cut the Price, Raise the Intrigue

Almost as an aside in the press event to introduce the new iPods, Apple CEO Steve Jobs announced Apple was eliminating the 4 GB iPhone and cutting the price on the 8 GB iPhone by $200. This led the press to spend far more time speculating on the reasons for the price cut on the iPhone than reporting on the new iPods. Although the iPhone is currently the most popular smartphone sold in the States, competition and falling component prices may have necessitated the price cut. Realizing the significant price cut was a customer relations disaster with consumers who purchased iPhones at their original prices, Apple offered those customers a $100 Apple store credit to assuage their anger.

The 8 GB iPhone is now offered at $399, and the company announced within a week of the price change that the iPhone had already sold more than one million units. Analyst reports indicate iPhone demand reached a new frenzy following the price adjustment. No matter the fall colors, the increasing demand for the iPhone at a much more competitive price will keep competitors in the smartphone market green with envy.

Bonjour

Also the name of Apple's networking technology, bonjour may become a common refrain when the company begins its European iPhone rollout on November 9th. The European Union's consumer economy is similar in size to that of the United States, and the much-anticipated iPhone arrival on the shores of Europe in time for Christmas may double the iPhone's current pace of sales. Hello! may be said in different ways and languages throughout Europe, but the iPhone's success and popularity are expected to remain the same.

Sunnyside Up

The fall season may mean less sunlight, but Apple's share price found new daylight in September, reaching a new all-time high of $155 as the month was coming to a close. With a market capitalization of over $130 billion, Apple has surpassed the market capitalization of Hewlett-Packard, the world's leader in PC sales. Wall Street analysts have a lot of confidence that the early success of the iPhone, the introduction of the iPod touch, and the new iPod nano will keep the company's revenue and earnings train on the proverbial fast track for the next few years.

Leopard in the Wild

Although Amazon.com is accepting pre-orders on Leopard (Mac OS X 10.5), at press time an official release date has not been announced. Apple has formally stated that the much-anticipated upgrade to Mac OS X will ship this month. So far the only sightings of the upgrade have been from the wild—developer reports on the latest pre-release builds.

A release date announcement from Apple is imminent, and Leopard's importance to the Macintosh platform cannot be understated. This is the first 64-bit release of Mac OS X for the Intel platform. There are anecdotal reports of pent-up demand for Macintosh computers from enthusiasts who have delayed purchases pending the release of Leopard.

Since the iPhone commercials first appeared on TV last February, the Macintosh has not received a great deal of press attention. The question to be answered is whether or not Leopard's release will spark wild interest in the Mac and further accelerate the pace of the Mac's market share gains. In other words, what will happen when Leopard is finally let out of its cage?

Spend a Music Buck at Starbucks

Starbucks and Apple are teaming together to provide iTunes Wi-Fi Music Store access at Starbucks locations around the country. The deal will make Starbucks locations Wi-Fi distribution points for music sales, while adding to the customer-focused services provided at each of its locations. For Apple it makes purchasing music easier for customers with Wi-Fi enabled devices, and for Starbucks it extends the company's foray into the retail music business.

Lean, Mean, Computing Machines

The pending release of Leopard may bring renewed press focus on the Mac. Apple has completed its Intel transition, and the next updates to the Macintosh product lines will further extend the Mac's reach into the enterprise space. No longer perceived as underpowered or even less compatible, the Mac is gaining market share at a torrid rate. The Mac Pros have moved beyond the confines of desktop computing, and the MacBook and MacBook Pro are the desired laptops of college students around the country. Watch for some surprise announcements about Macintosh product upgrades as Leopard nears its release and the holiday shopping season begins.

Our October issue includes:

Bloggable: Harden your SIM
If you couldn't stand the onslaught of blogosphere banter about the iPhone lately, you can catch up on the quick in this month's *Bloggable.*

MacMuser: Need For Speed
Mark Tennent reviews networking speeds all the way back to AppleTalk and reminds us that every Mac since the turn of the century has the ability to share files with local computers at speeds nearly four times faster than Ethernet.

MacMuser: Now and Then Voyager
"Eventually, around 2020, power levels [in Voyager 1 and 2] will be too low to support any of the scientific instruments, and the Voyagers will turn off. Unless, that is, one falls into a black hole, meets a race of hyper-intelligent machines who fix it, truncate its name, and send it home."

Photoshop For the Curious: I Love Layers
Lee Bennett is doing penance for not previously devoting a month's column to talk about Layers.

Segments: What's Your Mac's Subjective Speed?
How quickly a computer performs a task may have more to do with your perception than actual benchmark numbers.

How To: Adding a Cooling Fan to the Mac Cube's Video Card
High-power video cards can run hot, which lowers their life span significantly. Protect the performance and your investment by installing a cooling fan, such as the one added to this Mac Cube's XFX GeForce 6200 card.

Desktop Pictures: Tim Allen
Reader and pro photographer Tim Allen (no, not that Tim Allen) offers a variety of images which, in spite of his love of Photoshop, have astonishingly received no alteration except for cropping and, in some cases, conversion to grayscale.

Cartoon: Cortland
The Usual Suspects it ain't, but to paraphrase Bill and Ted, "Strange things are afoot at Wieser Graphics" in this month's *Cortland.*

Review: Claro
A premium-priced case for serious video watchers and the people who bought clear telephones in the 1990s.

Review: Crossword Forge 5.2.2
Make simple classroom crossword puzzles for print or the Web.

Review: iPhone
Christopher Turner looks at Apple's latest game-changing device, and is pretty impressed by what he says is "the best mobile phone I've ever used."

Review: iWatermark 3.0.11
Though there are a variety of ways to manually watermark your images with copyright information, iWatermark is less labor intensive and provides more options.

Review: PodFolio
This classy black leather case is a bargain that works very well but needs a beefier belt clip.

Review: TuneStik
As DLO's latest entrant in the FM transmitter market of iPod accessories, the TuneStik has a lot to live up to, and, unfortunately, falls far short of the mark.

Review: Velocity Matrix Laptop Backpack
This is a spacious bag that seems deceptively compact; you may very well be able to pull more than just a rabbit out of this backpack.

E-Mail

Creating Seamless Tiles

Instead of Shear, you can also use the Offset filter (Other ▷ Offset...), which allows you to shift the horizontal and vertical at the same time. You will first need to crop your image to the tile area only.

—Joe Minenna

> Hey, you're absolutely right! This is why I'm glad to have reader feedback—pointing me toward newer Filters in Photoshop that I haven't used.
>
> So then, the new procedure to replace using the Shear command, then rotating 90 degrees, Shearing again, then rotating back, is to instead just use the Filter ▷ Other ▷ Offset... filter. Simply set the values for exactly half of your document size. If your pattern is 600 pixels wide and 200 pixels tall, set the horizontal for 300 and the vertical for 100.
> *—Lee Bennett*

Stikkit

I am totally addicted to Stikkit as well: the fact that entry is plain text and nothing but plain text (though, thanks to Markdown syntax, the output can be formatted) is to me the best thing about it.

I also agree that the biggest limitation is the inability to browse stikkits. My suggestion to the developers has been to implement Forward and Back buttons in order to browse through stikkits that share a given tag. That would be a start anyway.

However, it should be said that for the past few months Stikkit's developers have been pretty much totally unresponsive. They used to comment regularly on the forums and answer questions, but the last time any of them posted was about six weeks ago, and that was just to explain that there had been some server downtime. I have only sent a couple of e-mails to the help address, but they have gone unanswered, and there have been (as far as I know) no updates or bug fixes in quite some time.

So as fabulous as Stikkit is, it's hard not to suspect that it's an abandoned project. If so, I hope someone picks it up and continues development, because it's a major advance in personal organization software. A desktop version would be a great thing too, in my view.

—Alan Jacobs

EyeTV 250

Aaaargh! I have an EyeTV 250, and it's a fantastic piece of equipment. After recording, I can export to iDVD, or iMovie HD, or QuickTime. All good so far. Then when I try to

burn a DVD in iDVD, or export from iMovie HD to a video camera, the picture becomes unbearable. Basically, everything is fine, as long as it stays on my Mac. This is very limiting for me, and I'm pulling my hair out! I've tried everything. Is there some copy-protection device in the unit or something?

—Dan Kendrick

Are You Out There, Steve? It's Me, Wes

I was a serious iPhone skeptic as well, but when I was finally convinced that it was going to happen I started buying AAPL stock—but interestingly not an iPhone, (no money left after buying stock—must be the expert investor in me. . .). Anyway, now that the iPhone buying is becoming a kind of steady hum in the market place, the truth is I'm still not going to buy one; actually, I was never that enamored with the phone part of the thing but am/was very interested in everything else it had to offer. (The fact that I can't get AT&T service where I live might have a little to do with my lack of interest in the cell phone.)

So now here comes the iPod touch, a true video iPod—*finally!*—and now I'm definitely salivating and chomping at the bit. Am I going to buy one? Uh, actually no. . .There's this weird thing happening with the feature sets on both the iPhone and the iPod touch that I find slightly disgusting, and in my mind it just all adds up to a bunch of little conspiracies that revolve around things like contracts with AT&T, and no Flash support for the browsers, no e-mail for the iPod touch, and the list goes on a little longer. Tell me, how can you offer a Wi-Fi device and not include e-mail and calendar sharing? For the record, I don't believe for one moment that it was any short-sightedness on the part of Apple's design gurus; it's just the way that it's gotta be for now, and for reasons we may or may not ever really know—but it's still weird.

Long story short, I'm thrilled that Apple is doing well, but I'm still not going to buy either one of these extremely cool devices until we can get all of our eggs in one basket—really—give me a break.

—Mr. Peabody

Running Classic Software on an Intel Mac

Been searching for weeks for some way to run my old software on this MacBook. *Thanks!* You explained this better than any of the dozen or so other Web pages I've visited. It's still all Greek to me at the moment, and I'd rather pay someone to set this up then to consume all of this information necessary for me to do it myself. I got stuck with one of those iBooks that had the bad logic board! Apple kept repairing it, and it kept breaking! Now I need to get Fireworks, Flash, Dreamweaver, and several other programs running again! Apple should have created something to support this!

—Ed Richardson

Some Perspectives on WWDC

I really appreciate the perspective that you offer in your article, it comes as confirmation of some suspicions I've had and also enlightenment about the state of the art.

I came away with mixed feelings about the developmental life-force that *was* Apple, and the more solid, more predictable, more obvious thing that Apple has become from the perspective of those of us on the receiving end of these technologies. It seems that survival had to play a big role in what Apple has become, and spurred on in no small part by the fact that in one decade a single software company pretty much took over the world—or at least the important parts of it.

I find it kind of interesting to think about what Apple might become if they ever succeed in getting a significant foothold in the market place—I wonder if that kind of empowerment, combined with the necessary resources, might push them back into a kind of renaissance, developmentally. I like to think there would be a marked difference in a world co-dominated by Apple as compared to what Microsoft has done with their singular dominance.

Oh well, I guess all we can do about that now is wonder—dare we dream.

—Mr. Peabody

PowerBook G4

I have a PowerBook G4, bought around 2004. It has worked fine since the day I got it, and I love it to bits. . .

My foot got caught around the power lead at the weekend, and when I got up it pulled the laptop off the table and onto the floor.

Ahhh!

It would appear to have fallen on the corner where the power lead plugs in, leaving the casing slightly dented. Around 50% of the cable (on the adaptor) appears to be frayed, close to where it plugs into the laptop. The laptop is in sleep mode and no longer turns on (the button on the battery just makes one of the LED's flash) so I'm thinking I just need a new power adaptor?

When I plug the adaptor into the laptop, it doesn't glow up green or orange—would this suggest a problem with the adaptor or the socket that it plugs into?

—DJ

> It sounds like you need to find an Apple Authorized Service Provider (if you don't have an Apple Store in your area) to take a look at it. It could be any number of issues, from the adapter, to the power plug on the motherboard, to the power management unit. You can try resetting the PMU.
>   *—Christopher Turner*

Tactile Pro

I recently purchased one of the "black" Tactile Pro 2 keyboards to use on my PC. The key feel is the same as before, good. The problem with the cheap keyboard feet has not been resolved from version 1. (Matias never did send me that replacement foot that they said they would.)

Why can't anyone just make a good keyboard? All the sales *gimmicks* are ruining these keyboards.

Case in point: the Tactile 2 *has no Caps Lock key*. Unbelievable? Well, I'm not making this up. The caps lock key has been replaced by an "optimizer" key, which activates an extra set of functions that pretty much duplicate commands already available to a normal keyboard. Even the multiple cut and paste is not so useful now that most applications have a function that does that.

End result: now I have to hit two keys (Optimize + /) to activate the Caps Lock where before I only hit one. This is not a step in the right direction, as far as I'm concerned.

Most recently, I have been using a Das Keyboard. The keys are mechanical, but with a slightly lighter touch. I think it is superior to the Tactile. There is still a distinct feel to the keys. There is nowhere near as much noise as the Tactile, and the keyboard case is the standard wedge shape that requires no cheap plastic feet to angle it up. Solid black plastic, so no seeing the dustbunnies through the case.

But, you protest, it is *blank!* Again, a stupid gimmick. I solved the problem with a set of adhesive decals that are available on the Web for converting keyboards from one language to another (or to Dvorak). Now I have my keys with letters and numbers, and the excellent feel of the Das Keyboard.

The Tactile Pro 2 keys are so cluttered, they almost need a set of decals to hide all of the extra crap.

Somebody please just make a solid, mechanical key keyboard—with no stupid gimmicks! No blank keys. No changed keys. No extra useless crap on the keys.

Pretty please?

—Ivan Cat

We'd love to hear your thoughts about our publication. We always welcome your comments, criticisms, suggestions, and praise. Or, if you have an opinion or announcement about the Macintosh platform in general, that's OK too. Send your e-mail to editor@atpm.com. All mail becomes the property of ATPM *and may be edited for publication.*

Harden your SIM

When my little brother spent a semester abroad in Scotland, during his junior year of college, I was reintroduced to the wonderful European world of handsets sold freely without regard for provider. We Americans don't always appreciate how nice it would be to go off and just purchase a phone, plug in whatever SIM you want, and go. (There are still locked phones in Europe, but they're the exception rather than the norm.)

I'm starting to wonder if Europeans appreciate that freedom. Apple announced that O2 is going to carry the iPhone exclusively, and from the buzz I'm hearing, this is a very hotly anticipated release. A lot of Britons are going to find themselves switching to O2, I suspect, in order to get the iPhone.

But the larger question is, will they avoid switching carriers at all?

On August 24, Ryan Block at *Engadget* reported that iPhoneSIMFree.com was claiming they'd unlocked the iPhone. John Gruber doesn't exactly believe Block, who has some credibility issues. I have no reason not to believe Block, but—like with the old fool-me-once Maynor and Ellch dog-and-pony show—I found myself wondering whether it would be easily replicable. I haven't heard a peep from anyone about the "installer," other than some mostly anonymous commenters on *Engadget* and an extra-rocky attempt chronicled by Jesus Diaz at *Gizmodo*. Unless you're easily parted with $50, I might stay away for the time being.

As it happens there *is* a completely free, hardware-based and mostly guaranteed way to unlock your iPhone. A 17-year-old from New Jersey, George Hotz, cracked his iPhone with 500 hours of soldering and software hacking, as reported by *CNBC*. (*Those* guys, I trust.) If soldering's not your forté, though, or you're nervous about ruining a $400 device the size of the palm of your hand with a little butter-fingers action, you may not want to try to follow Hotz's step-by-step instructions.

And on September 12, a free and relatively easy solution—if you're a tech geek—became available. It appears easier than Hotz's solution and, although probably harder than *iPhoneSIMFree's*, you don't have to worry about someone not delivering the goods. Dave Shea at *Mezzoblue* has all the details; suffice it to say he says:

> If you're an American iPhone owner, you probably still remember what June 29th felt like. To a lesser degree, that was what today felt like for the rest of the world.

Now comes the interesting question: will unlocking, more common in Europe than the US, benefit O2 as much as it appears to have benefited AT&T?

I don't have an answer. What do you think?

All the Other iPhone News You Can Stand

- When the price of the iPhone went down by $200 this month, a lot of people who waited in line for days to get one screamed and wailed that they'd been left out. Now, my sympathy is limited, since I don't even *have* an iPhone, but Apple was blind-sided by the outcry. Leander Kahney of *Wired's* Cult of Mac blog has an astute analysis:

  > The secret of the iPhone's success is that it isn't designed for the kind of early adopters who first bought it—and then whipped into a frenzy when the price dropped…The big problem was in not anticipating the howling of the early adopters—the kind of hyperloyal customers who tend to buy anything and everything Apple releases.

  Robert X. Cringely writes:

  > Why did he cut the price? I have no inside information here, but it seems pretty obvious to me: Apple introduced the iPhone at $599 to milk the early adopters and somewhat limit demand then dropped the price to $399 (the *real* price) to stimulate demand now that the product is a critical success and relatively bug-free. At least 500,000 iPhones went out at the old price, which means Apple made $100 million in extra profit.

  Then we have two highly unorthodox takes on the entire situation, at least from a techie's perspective: marketing and economics. Carl Howe of Blackfriars Marketing writes:

  > By bundling "free" and generic phones with cell phone service, mobile carriers have devalued both the brand values of the handset makers and their own services…What Apple has done is inverted the value proposition.

  And Steven Levitt of Freakonomics notes that starting with a high price and working your way down is textbook economics. "[W]hy did this strategy blow up in Apple's face?" he asks. "What economists (and Apple too, I guess) ignore is that consumers hate it when companies follow practices that look like they are designed to maximize profits."

- Craig Hunter and Craig Hockenberry have two completely different takes on developing applications for the iPhone. Hunter's concern is the limitation of developing Web-based applications for the iPhone, since Safari's interface intercepts direct input that would go straight to the host application if it were a native application. He says:

[I]t has become clear to me that the Web application path is very limiting, mostly because Apple has not actively expanded our capabilities much beyond creating generic Web apps…If we really want to come up with great Web apps for the iPhone, they need to look better than Web pages in Safari, and Apple should be the one leading the charge.

Hockenberry, on the other hand, has written the figurative book on Web development for the iPhone. His two-part guide for *A List Apart*, called "Put Your Content in My Pocket" (parts one and two), is the definitive guide so far to how to make your applications iPhone-friendly. "Millions of visitors accessing your content on a small display with very high resolution," he writes. "You're going to want to take a look at your current site design to make sure that it looks good and works well on this new device and its Mobile Safari browser."

- Part of the big announcements this month had to do with mobile ringtones on the iPhone. I haven't figured out yet *why* people want most of these ringtones (and I'm not alone), but the ol' Gruber has a great article on the silliness of treating ringtones any differently from regular songs:

    This false notion that ringtones are something in and of themselves is an anachronism, an artifact dating back to the time when mobile phones existed in their own ecosystem, wholly separate from the PC or the Internet…A fair, free "just use the songs you already own as ringtones" policy wouldn't generate revenue directly, but it could be used as a powerful marketing bludgeon. Consumers know what ringtones are, and they know that mobile providers want them to pay through the nose for them.

    Fake Steve took the time to agree with Gruber, and I agree, too. Maybe Real Steve could agree and make our lives easier?

- Mike Elgan, of *PC World* magazine, wrote an interesting opinion piece asking whether Apple has become the new Microsoft. "Apple not only 'bundles' iTunes with multiple products, it forces you to use it. At least with Internet Explorer, you could always just download a competitor and ignore IE," he writes. This inspired a lot of heartburn—perhaps he's just the new Dave Winer—and I have a hard time understanding what he's saying. You certainly can go without iTunes, although you can't use an iPod without iTunes, but that's not a monopoly lock-in, I don't think, since virtually every MP3 player I've ever used has some kind of proprietary synchronization interface. Anyway, John C. Dvorak had a nice response in the middle of a good, old-fashioned fisking: "Mike, you're so full of shit here that it beggars the imagination."

- *MacThoughtCrime* follows up on last month's spate of Numbers reviews with a very good review of the application's functionality, from top to bottom. His conclusion? "[T]hat's just about the best thing you can say about an application. It gets out of the way, and lets you do your thing."

- Peter Merholz got his hands on an original Macintosh manual. Not only is it astonishingly awesome, but it has a weird fixation on white men dressed in preppy upper-class clothes. (Apparently my parents' description of the Reagan era was more spot-on than I knew.) Anyway, it contains, among other things, what may be the first visual description of the metaphor of scrolling.

- Steven Poole wrote a long essay about why he doesn't use Microsoft Word anymore. These days, he uses Scrivener, having transitioned there via WriteRoom, both of which store their data in a completely transparent format. He observes that Word, which hit its zenith in 1991 (at about the same time as WordPerfect 5.1, which I believe may be the best piece of productivity software ever written), has grown more and more bloated over the years, almost to the point of excess. "I was still somehow brainwashed, though, as perhaps many people still are today, into believing that Word was the 'serious' word-processor: the professional tool for anyone who did heavy lifting with language," he wrote. "Microsoft Word still uses the metaphor of the page, the computer screen that imitates a blank, bounded sheet of physical paper. For me, this is outdated and unimaginative. It has become a barrier rather than a window." It's very astute.

  On the other hand, I renew my objection to his, and many journalists', insistence on word count as one of those marquee features of a word processor. I'm sorry, guys, but I've just about reached my breaking point. See, you're journalists, but most people who use word processors are writing one-page memos to circulate around the company, or a 10-page essay for school. Why would they care how many words there are? Fixed space counts are really rare outside the world of journalism.

- *Lockergnome's* Chris Pirillo and the *New York Times'* Randall Stross are at opposite ends of the debate over the Macintosh, it seems to me. Pirillo, early in September, wrote about his amazement at the way that OS X just plain old works, and the future he sees for the Mac looks bright:

  > The hardware and software were designed to go hand in hand with Apple—whereas, the traditional PC's greatest strength and weakness is in its level of configurability flexibility…People don't necessarily want to buy brands anymore—they want to buy interoperability.

  But Stross' headline really says it all: "A Window of Opportunity for Macs, Soon to Close." Now, that's classic Headlinese in some ways, but Stross believes that Apple's opportunity is the seemingly endless foibles that Vista has—and that they'll soon be resolved:

  > However, the opportunity for Apple that has been opened by Vista's introduction is temporary. Mr. Kay, of Endpoint, described a Microsoft operating system and its thousands of certified supporting hardware vendors and the two million device drivers as forming an enormous flywheel.
  > "It takes a lot of energy to spin it up," he said, "but once it gets going, it's virtually unstoppable."

And that's the news that was.

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Need For Speed

All we need now is the Aston Martin. Then we'll have nearly half of the top ten in YouGov's survey of the coolest 500 brands. Apple brands appear throughout the list with three in the top 20. The rest are things we've used for years such as Google, Amazon, and eBay. We've even appeared in Tate Modern (in at number fifteen) when we created Simon Patterson's JP233 in CSO Blue, now in the Tate Collection.

Is There Anybody There?

Something else we've been doing for years is connecting Macs together. It has always been easy since Apple included the AppleTalk printer network in its original 1980s Macs, even though it was never intended to transfer large files which, in those days, was done via floppy disk. Applications such as FileMaker databases could be linked, network games appeared, and speed-up and compression routines made the network run faster. Then along came 10Base-T, followed by 10/100 Ethernet—both of which transformed our work practices.

In the days before CD writers, instead of leaving Macs running overnight to transfer a few measly hundred megabytes over the serial network, Ethernet accomplished the same in an hour or so—which became minutes as Ethernet speeds rose. Since around the time it abandoned floppy disks, Apple has shipped Macs capable of gigabit Ethernet. The problem being that the price of gigabit routers stayed near £1,000 when 10/100 routers sank to £50. There are still no SOHO gigabit/DSL combinations (as far as I know)—until now.

Extremely Fast

The latest update to Apple's £119 AirPort Extreme base station gave it gigabit Ethernet as well as IEEE 802.11n (draft). Tests show wired LAN to run at a steady 800 to 900 Mbps with Wi-Fi at 50 to 90 Mbps. The latter is likely to improve as the 802.11n standard is finally settled.

On the Other Hand

An alternative high-speed wired network has been built into all Macs since the turn of the century and made available via Mac OS X. Running at four times the speed of 10/100 Ethernet, the FireWire ports can be used to create a peer-to-peer, 400 Mbps network. Adding a hub for number 40 or so makes a star network for a small workgroup or to share FireWire devices. We use our thin iPod FireWire leads to go Mac-to-Mac if we ever need to transfer hundreds of gigabytes of data. Just plug them into each Mac, daisy-chaining from one to another, and the Macs automatically do the rest of the configuration. The throughput speeds are the same as writing to a hard disk connected to the Mac. But to be honest, most of the time 10/100 Ethernet is all we need.

MacMuser
by Mark Tennent, mtennent@atpm.com

Now and Then Voyager

It was 30 years ago when Voyager 1 started on its mission. Not quite seeking out new life-forms and splitting infinitives, but there's still time. Voyager's speed is now roughly 34,000 mph or about 307 million miles per year—so great, even the Stig would be impressed.

Voyager 1 and 2 were designed originally to fly past every planet in the solar system. Even after the program was scaled back, they only missed Pluto, still classed as a planet in the 1970s. In the 1990s, Voyager 1 zoomed past Pioneer 10, at the time the furthest man-made object. Today, Voyager 1 continues to collect data on a digital tape recorder which it transmits to Earth every six months.

Powerful But Powerless

The computing power controlling each Voyager consists of three 6.4 MHz RCA 1802 CPUs. Although military strength, they are about as fast as the average home computer of the early 1980s. The CPUs have managed the scientific instruments, navigated past all the planets, dealt with control and sequencing, fault detection and correction.

Originally they had ample electrical supply from the on-board plutonium-powered generators, but time has taken its toll, electric output is depleting, and thermocouples are degrading. Eventually, around 2020, power levels will be too low to support any of the scientific instruments, and the Voyagers will turn off.

Unless, that is, one falls into a black hole, meets a race of hyper-intelligent machines who fix it, truncate its name, and send it home.

Coincidentally. . .

It was 30 years ago that I got married. Since then I've not sought out a new life-form in case my head gets split infinitely as the frying pan crashes down on it. The Stig would definitely be unimpressed by the speed I can reach, and I plan to keep going after 2020 as well.

But at least my computing power has come on a bit. Back then the best I had was still four years away—a 48K, 8-bit Spectrum, also tape powered. Nowadays, Spectrum emulators on our current machines make Jet Set Willy so fast as to be virtually un-playable, but at least Elite becomes less of a tedious trip.

However, a recent job involving a gazillion images made me realize it's time for a new computer. The question is which to get, Windows, Linux, Solaris, or Mac?

Stupid question—there's only one worth having which will run them all. All I need are the readies and hope that Apple doesn't bring out a newer, faster, cheaper Mac a day after I take delivery of mine.

Photoshop For the Curious

by Lee Bennett, lbennett@atpm.com

I Love Layers

Reader Don Bruno posted a comment to last month's column saying:

> One area I feel weak in is layers. Somehow I just don't get it and it's so important. Reviewing your past lessons, I don't see one on that topic…do you intend to do one?

I can't believe I didn't previously give more attention to this *vital* function of Photoshop. Layers are so embedded in my thinking, that it's easy for me to not realize that others might not understand them. So, for those individuals, let's get started with a short story.

An Anecdote About Layers

Imagine it's now centuries ago, and you're standing next to one of the great artists of the Renaissance. There's a blank painting canvas in front of the artist. He lifts his brush and begins spreading a seemingly infinite number of hues across the surface. He's conversing with you about what he's thinking and, at some point, muses about exactly where he should position a tree in the background of his painting.

Since you are a time traveler, you tell the artist to wait just a moment. You zip back to present day and acquire a large sheet of clear cellophane. You then return to the artist's side and present him with this amazing, nearly invisible canvas. He marvels and places the cellophane over his art, then paints his tree. "I think that tree should've been a little more to the right," he says. But before he has the chance to paint over the tree to restore the background, you simply lift the cellophane, move it a little to the right, and lay it back down.

Now, this is a fanciful tale, to be sure. But such is precisely the concept of the Layers feature in Photoshop. But, like nearly every other computer task that mimics or has origins based on real life situations, using Photoshop Layers is even better than a simple piece of cellophane over a canvas.

Modern Layers

Using cellophane over a canvas and using Layers in Photoshop are identical in some ways, but radically better in others. Instead of physical painting tools and pigments on cellophane, you have access to all the things Photoshop can do. Cellophane isn't perfectly clear, and using several of them will begin to haze over the original canvas, but Photoshop gives you perfectly transparent Layers (up to 100 of them, the last time I checked). You don't even

have to use a solid background canvas since your Photoshop document can be made of only the various transparent Layers.
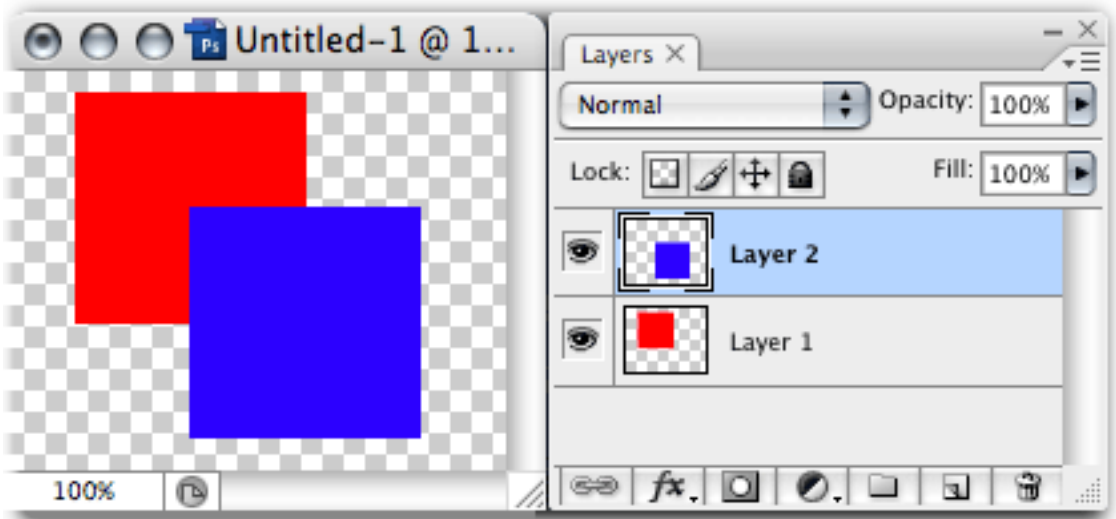

A basic Photoshop document with two Layers.

Without knowing anything about Layers, you may have assumed that I first painted a red square, then painted a blue square on top of it. Having overlapped the blue square over the red, you might believe that the red pixels that were beneath the blue ones are now gone—erased by the blue pixels. If I had only used a single Layer, you'd have been right. But since I placed each square on its own Layer, I still have the complete red square. It's just as if I had painted the red square on the original canvas and the blue square on the cellophane.

You see in the Layers palette that Layer 2, which contains the blue square, is positioned above Layer 1 with the red square. The Layers palette behaves exactly as you'd expect— Layers at the top of the list appear above all that come below it. So let's see what happens if I reverse the order of the Layers. I can do this by simply dragging the Layers around to reorder them.
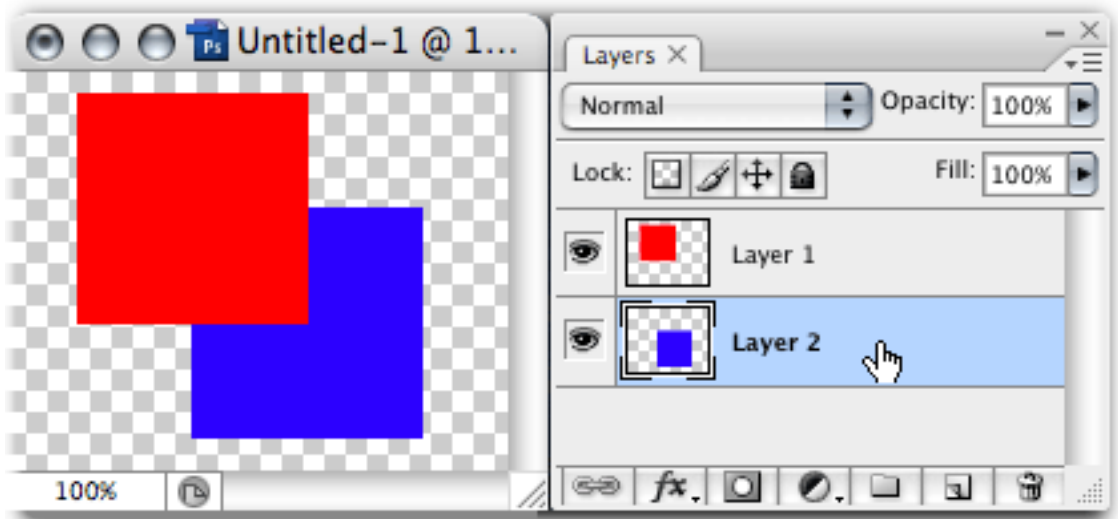
We've now put the red square's Layer on top.

Just as was described in my anecdote, you can effortlessly slide a Layer around to reposition elements that are on that Layer. But completely unlike cellophane over a canvas, you can adjust each Layer's opacity and how it appears to blend with the object beneath, even though the object beneath *has not changed.* Let's see how this works. Suppose I want the red square to overlap on the top right instead of the top left. You'll first want to select the Move tool from the Tool palette. (If you're unfamiliar with the available tools in Photoshop, then you didn't read the first article from this series that was published back in December.)

At this stage, it's important to note which Layer or Layers are highlighted. When you are working with multiple Layers, you must always be mindful of the Layer on which you're working—and yes, you can Shift-select multiple Layers.

With the red square's Layer and the Move tool selected, simply drag the square wherever you want it to be.
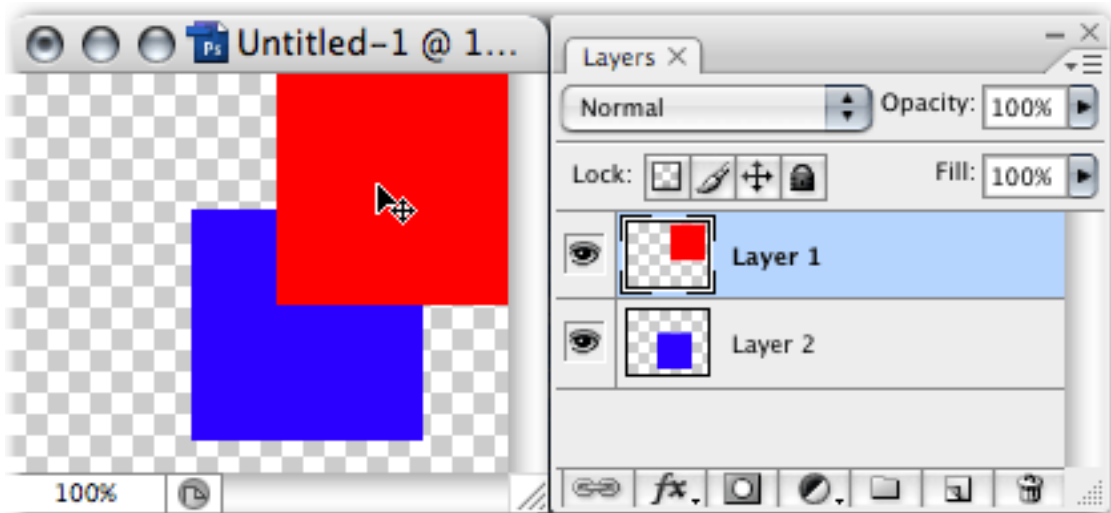
You can freely slide Layers around wherever you like. And don't worry if some of your objects go outside of the canvas boundaries. As long as you don't forget them, you can still click the Move tool inside the canvas and drag them back in. Photoshop remembers them!

Breaking Down the Layers Palette

I mentioned also that you can make a Layer nondestructively blend in different ways with other Layers that are beneath. We'll get back to that a little later. For now, let's take a closer look at the Layers palette itself. As in past *Photoshop For the Curious* columns, there will be some items we won't spend much time on since you probably won't need them at a basic level.

We've already learned that each Layer is represented as its own line item in the palette. You can quickly turn Layers on and off just by clicking the small eye icon to the left of each Layer's thumbnail. For those who like to be organized, you can double-click the name of the Layer to rename it. Be sure to double-click the name and not the Layer's thumbnail, since that would produce a different result which we'll cover in a moment.

Add, Remove, and Duplicate Layers

Next, let's look at the row of icons at the bottom of the palette, starting with the two most straightforward functions on the right side. The trash can icon yields no surprises. Clicking it will delete a Layer that's selected. Alternatively, you can drag a Layer to this icon. The New Layer icon to the left is equally straightforward. Clicking it will create a new, empty Layer that will appear above the one that is selected. You can hold Command while clicking this icon to have the new Layer appear below the one selected. Also, if you drag an existing Layer to this icon, Photoshop will create an exact duplicate of that Layer.
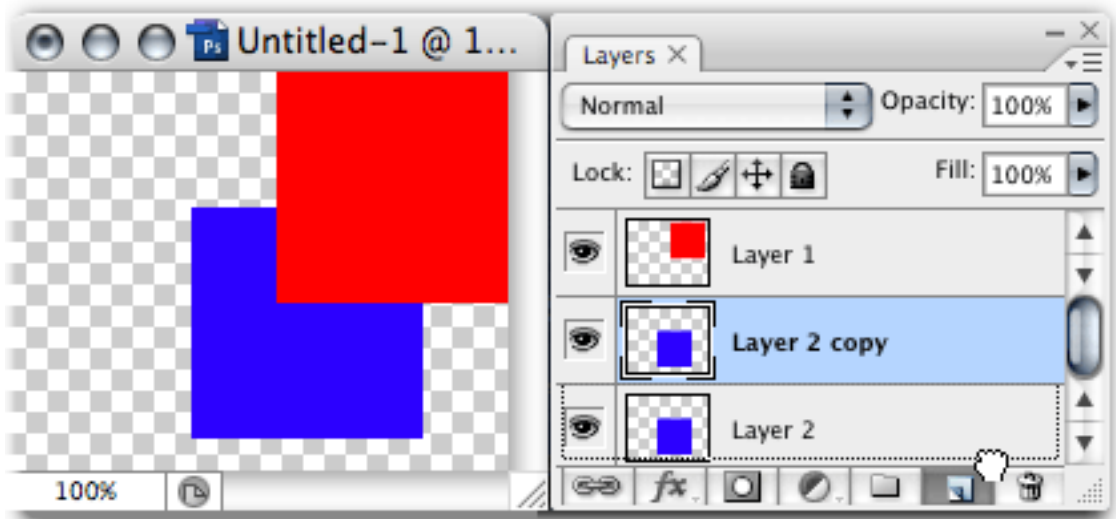
Dragging a Layer to the New Layer icon will duplicate it.

Layer Groups

The next icon to the left with the folder icon will add a new Layer Group to the palette. A Layer Group allows you to place several Layers inside to aid with organization. Note that all the Layers inside a Layer Group will retain their relative positions above and below other Layers.

In other words, an individual Layer that is above a Layer Group in the Layers palette will appear above everything inside the Layer Group. But, if you drag the Layer Group above that other Layer, everything inside the Layer Group will instead appear above that Layer which is not part of the Group. Just like regular Layers, Layer Groups can be renamed by double-clicking the name.

The next three icons are for creating special effects with your Layers.

Adjustment Layers

You'll remember from my column in May that there are a number of adjustments available from the Image ▷ Adjustments menu, such as Hue/Saturation and Brightness/Contrast. If you've used these, you know that their effects are permanently applied when you click the OK button (Undos notwithstanding). Suppose you could apply Adjustments nondestructively!

The icon with a half black, half white circle is for Fill and Adjustment Layers. An Adjustment Layer avails all those different Adjustments, but assigns them to a Layer so that you don't permanently adjust the image.
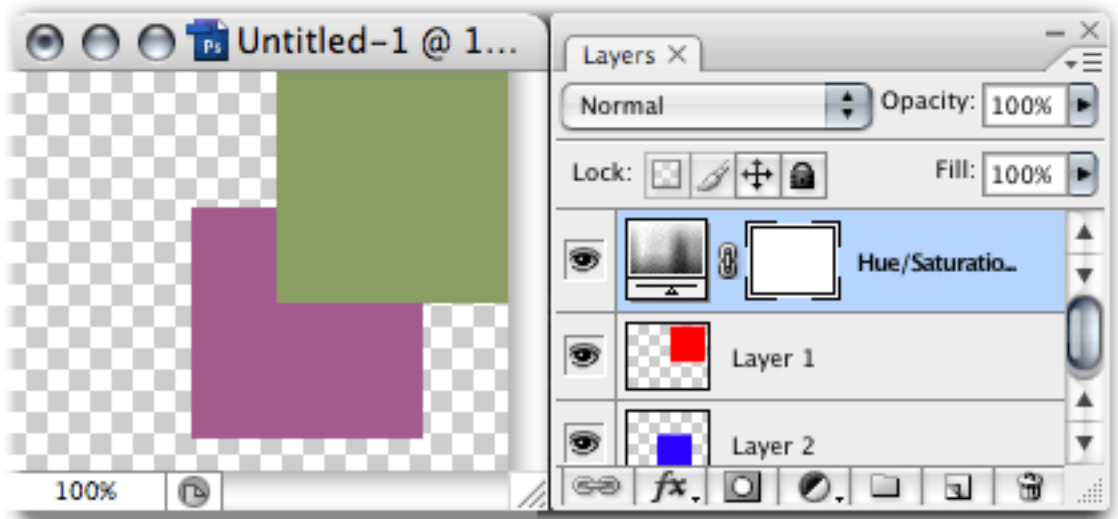
An Adjustment Layer for Hue/Saturation.

As you see above, I've used the Hue/Saturation adjustment to change the colors and desaturate the squares. However, you'll notice that the original two Layer thumbnails still show red and blue squares. A new Layer appears above. If I double-click the adjustment icon (located in the position normally occupied by a Layer's thumbnail), the Hue/Saturation adjustment window returns with the last settings that I used.

It's wonderful to have the nondestructive adjustments available, but suppose you only want to make a change to a single Layer. By default, an Adjustment Layer will affect every Layer below it, and none of the Layers above. However, there's a one-click way to attach an Adjustment Layer to only the Layer immediately beneath. Simply hold the Option key and click the divider in-between the Adjustment Layer and the single Layer. The Adjustment Layer will indent to the right and now only affect the one Layer below.
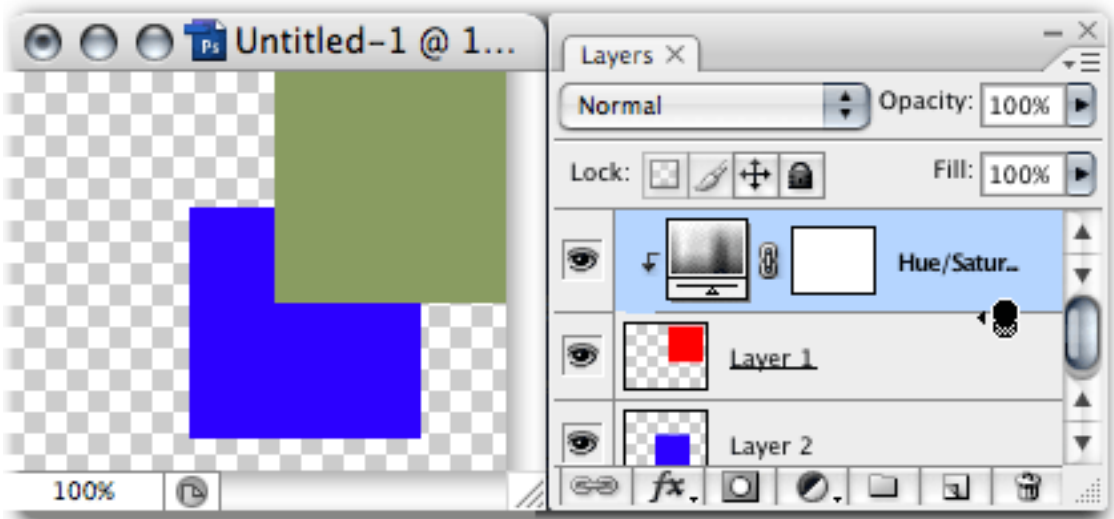
The same Hue/Saturation Adjustment Layer is now only affecting the red square.

Fill Layers
In addition to Adjustment Layers, you can also select one of the first three options in the Fill/Adjustments pulldown to create a Fill Layer. A Fill Layer can either contain a solid color, a gradient, or a pattern.
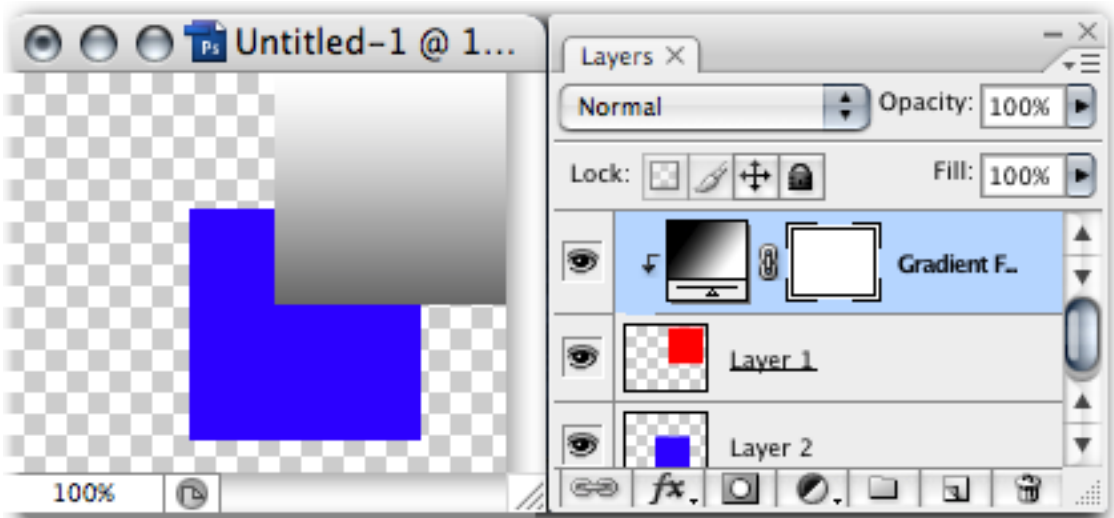
In this image, I've selected a gradient as a Fill Layer. At first, since the Fill Layer was at the top, it completely filled the entire canvas with the gradient. But by attaching it to the red square's Layer, the fill is only visible within any pixels which live on that Layer.

Masks
The next icon to the left is for Masks. Next month's column will cover Masks in greater detail. So, for now, I'll just say that Masks allow you to remove the visibility of parts (or

all!) of a Layer without erasing any pixels. This means you can restore visibility of those parts at will, and you can even use varying levels of translucency in your Mask.

In some of these screenshots, you may have also noticed a second thumbnail on a Layer located to the right of the primary thumbnail. These represent the Mask that you've applied. Masks are always grayscale, so the Mask thumbnails will only show black, white, or shades of gray. Any objects behind white areas of the Mask will show through. Black will obscure or hide any objects beneath.

Come back next month for more about Masks.

Layer Styles

The icon with a small *fx* is your access to Layer Styles. (Note that this icon changed in Photoshop CS3. The CS2 icon was a black circle with a light *f* inside.) We explored Layer Styles in July, and I was in error to not write this column about Layers first. By all means, head on over to to that article to learn more about Layer Styles.
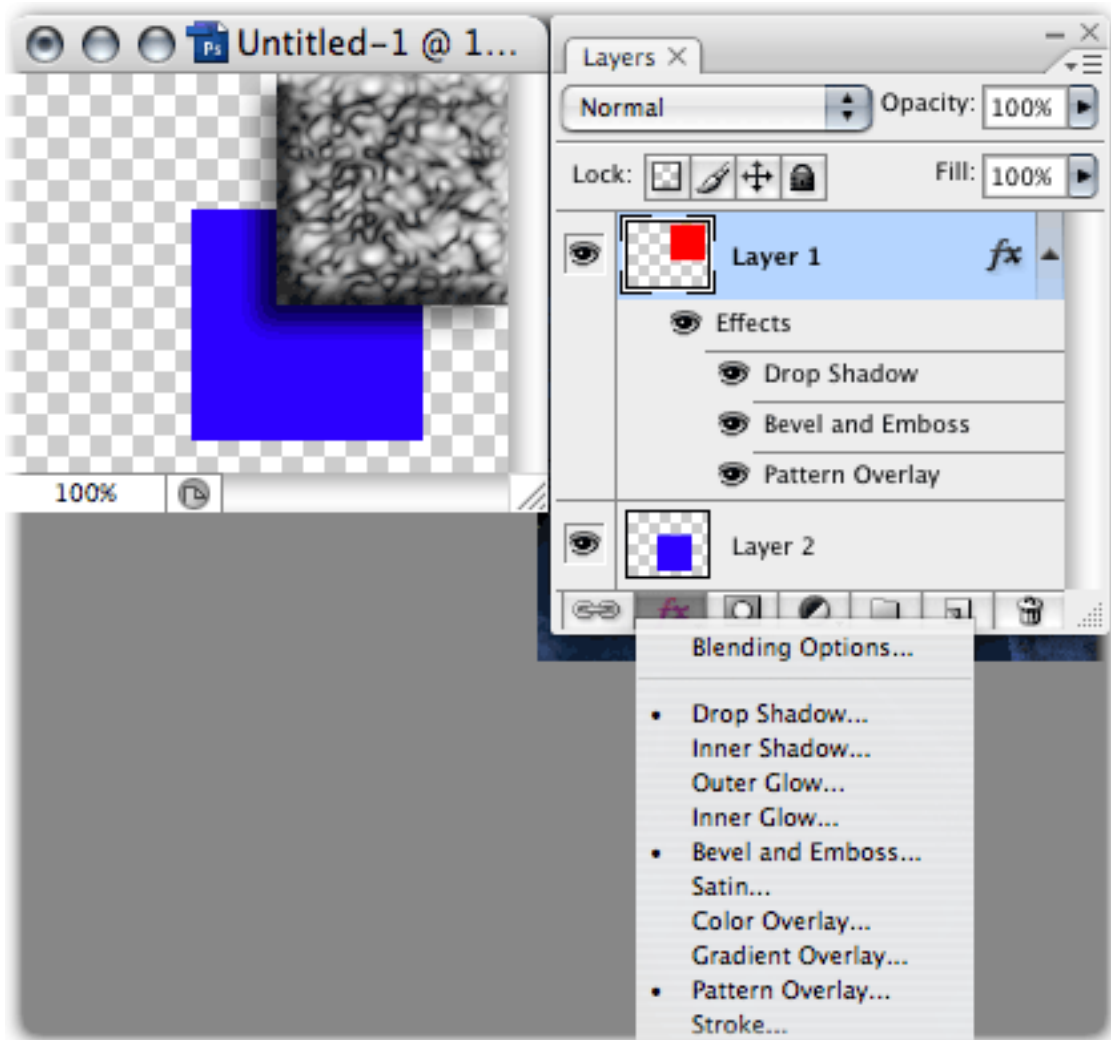
Several Layer Styles have been applied to the red square's Layer.

Remember I said earlier in this article that, to rename a Layer, you should be sure to double-click on its name and not the thumbnail? If you double-click the thumbnail, the Layer Styles window will appear with the Blending Options visible. You can then choose different Layer Styles from there. As for Blending Options, these effects are somewhat more advanced. Feel free to mess around with the settings to see what happens, but we'll skip the elaboration on Blending Options for now.

Linking Layers
The last icon will create a link between any Layers that are selected. Suppose you have a complex Photoshop document with 50 Layers, and there are 18 which you know you always want to to be in the same relative position to each other. Naturally, you could Shift-click each of those Layers every time you wanted to move them, but if you went to work on something else and wanted to move those 18 Layers again, you'd have to Shift-click every single one of them again.

Instead, after you've selected them all the first time, press the Link button. You'll see the same icon appear on the right side of each Layer. Now, you only have to select any one of the Layers that are linked. When you use the Move tool to reposition the object, all the linked Layers will follow.

Additionally, if you use the transform tools found in the Edit ▷ Transform menu, the transformations will also be applied to all linked Layers.
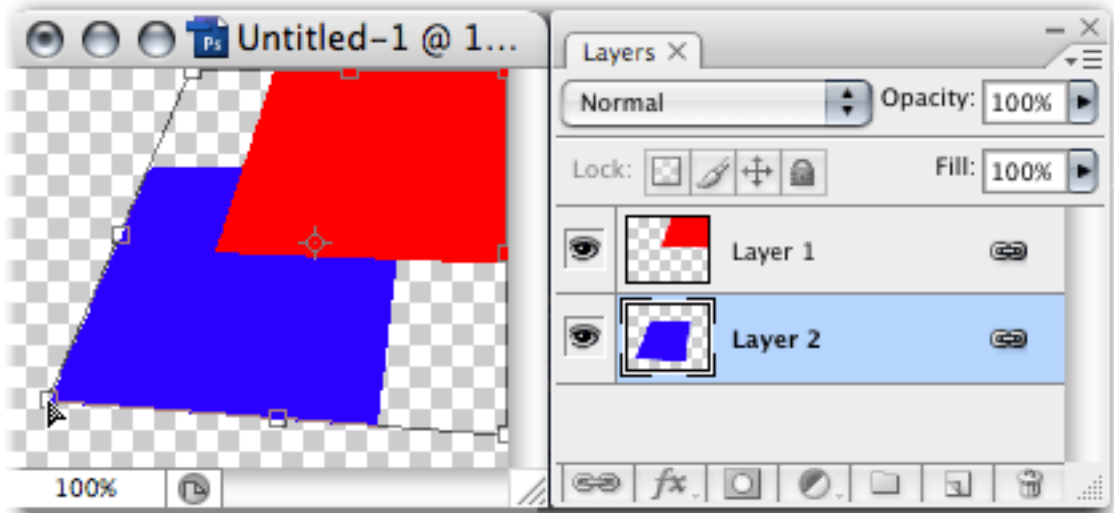

Since Layers 1 and 2 are linked, even though only Layer 2 is selected, the Distort transformation command is affecting both Layers.

Now let's look at the upper portion of the Layers palette.

Blending Modes

The pop-up menu that is set to Normal by default assigns a Blending Mode to a Layer. Blending Modes can create a large variety of interesting, as well as outrageous, effects by changing how a Layer appears to blend with those below. Most of these modes are fairly descriptive just by their names. Others, not so much. Fortunately, you don't necessarily have to completely understand the mathematics behind what each Blending Mode does. As with anything else we've covered with Layers, they're all nondestructive. So try them, and set it back to Normal if you don't like what you see.
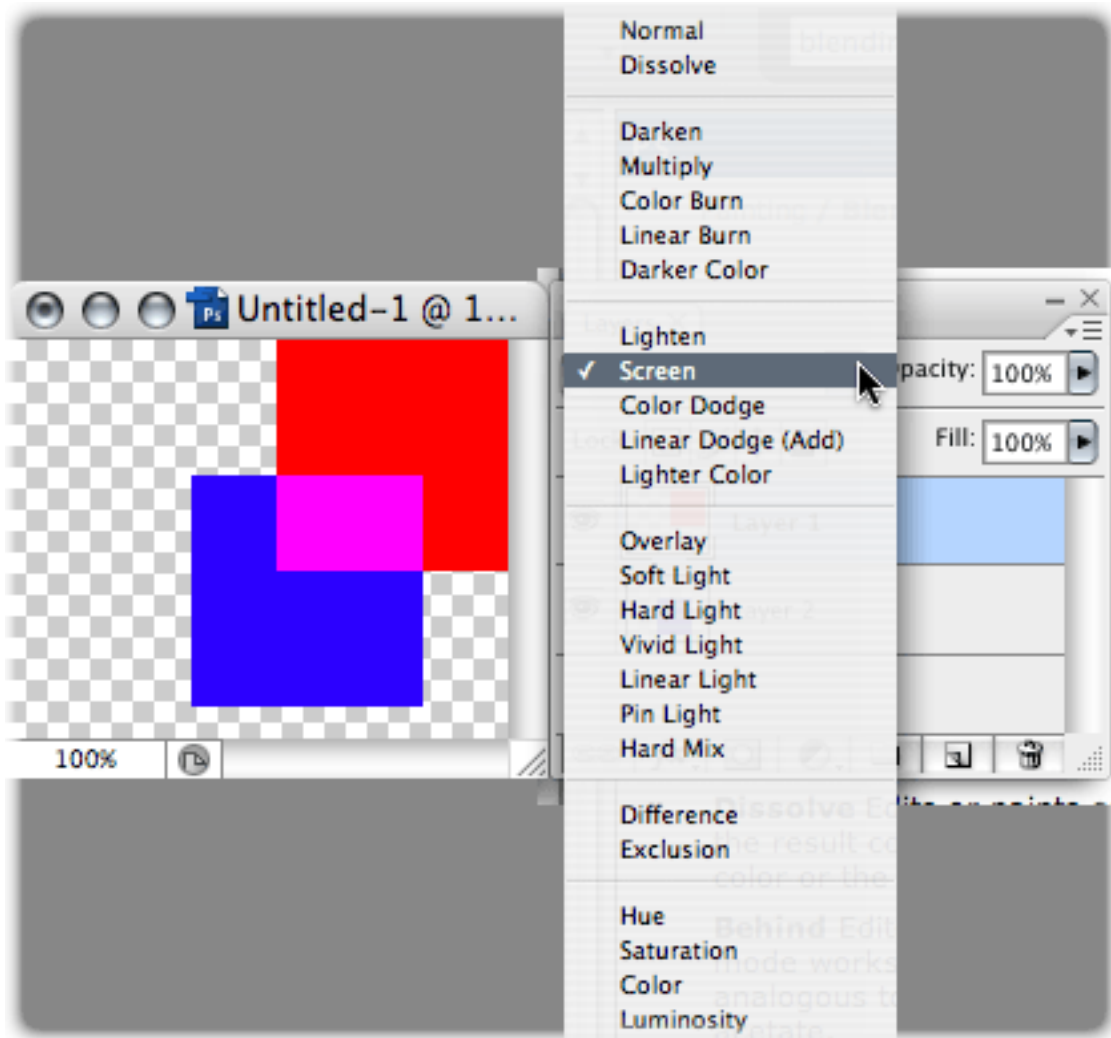
The red square is still above the blue square, but the Screen Blending Mode creates a different appearance where the two overlap.

If you'd like to tackle a technical explanation of what each mode does, head to the Help menu and choose Photoshop Help. Search for Blending Modes, then select the first hit, "About Blending Modes." On the resulting page is a link for a "List of Blending Modes."

Opacity and Fill

There's not much mystery to the Opacity setting. Changing a Layer's opacity assigns any degree of translucency. 100% is completely opaque, and 0% is completely transparent.

The Fill slider behaves exactly as the Opacity slider, but with one difference: if effects such as Layer Styles are applied, changing the Fill setting will only change the opacity of the original object on the Layer and leave the effects alone.
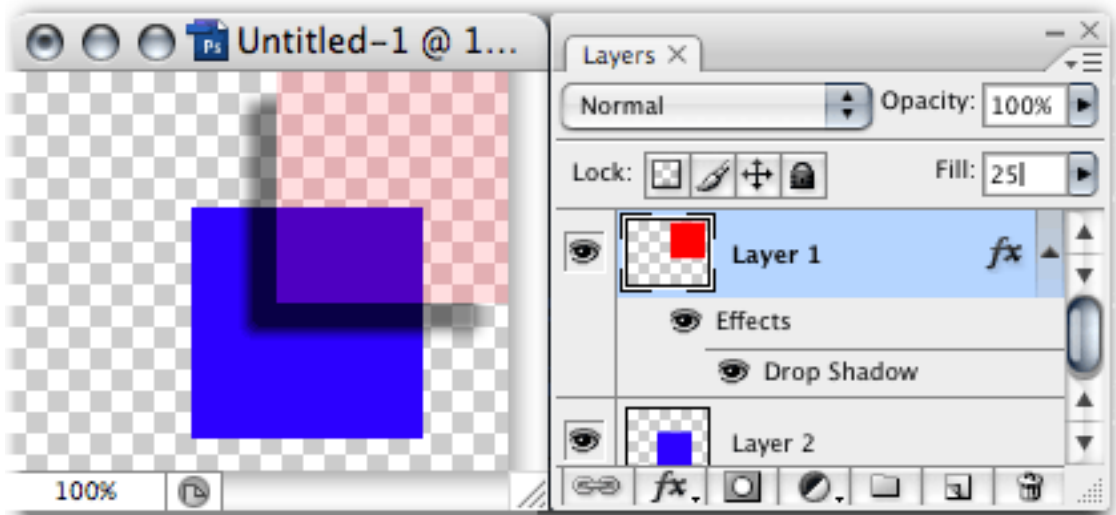
The Fill slider has been reduced to 25%, causing the red square to become translucent, but the drop shadow's opacity is only affected by the Opacity slider which, here, is still at 100%.

Speaking of opacity, here's a good point at which to reveal why there's a checkerboard pattern behind the images. Since you obviously can't see something that is completely transparent, Photoshop needs some way to indicate areas that are transparent. The checkerboard is how this is accomplished. If your document had no Layers, you would only see a single item in the Layers palette named Background, and it would be italicized to indicate that no part of it can be made transparent. In the screenshot above, you can see that the checkerboard behind the red square is still visible, but tinted because the square isn't fully transparent. Seeing the checkerboard pattern through another object like this indicates a that the object is translucent.

Locking Layers

There are four buttons next to the Lock label. These will, to varying degrees, prevent changes to a Layer. The padlock on the right completely locks the Layer. When active, you can do nothing to change the it.

The three remaining buttons are partial locks. The first, on the left, locks only transparent pixels. If you were to use the Brush tool to paint color on a Layer with transparent pixels locked, the Brush would only affect areas that already had pixels before you locked transparency.
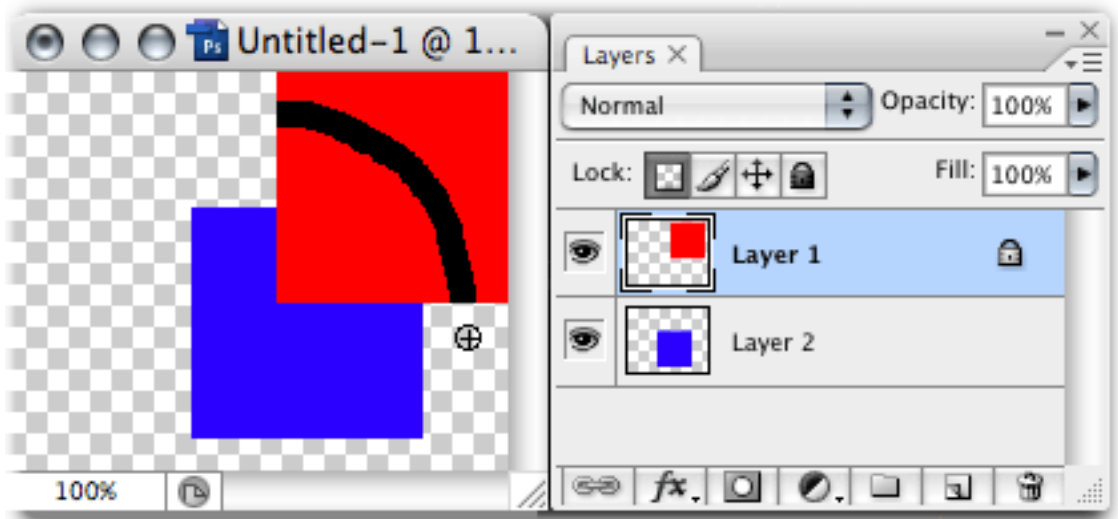
I drew a black circle freehand all around the canvas on the same Layer as the red square. But because transparent pixels were locked, the black line only appeared where the square was visible.
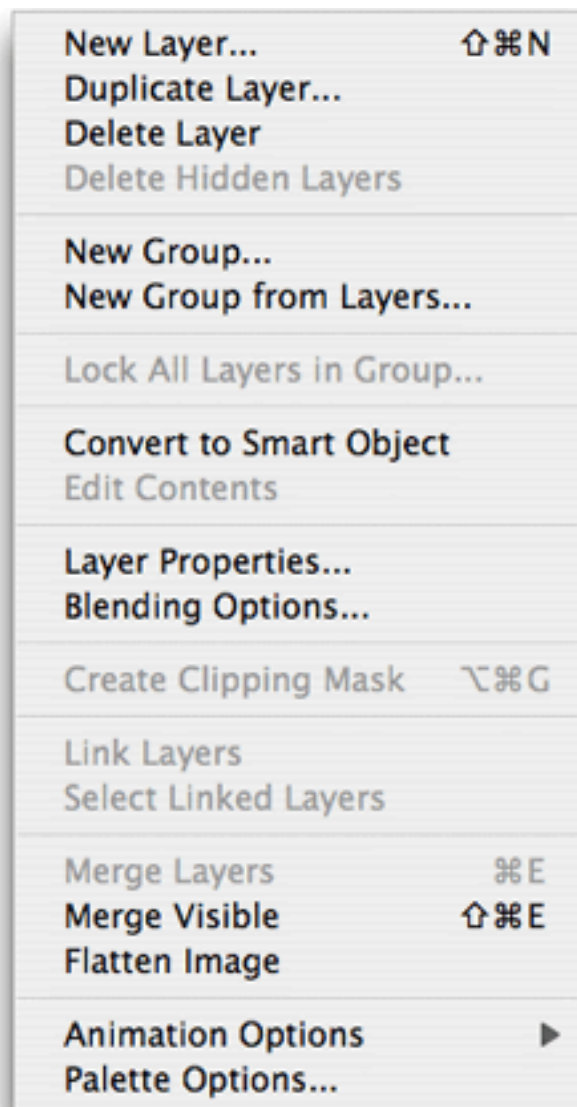
The next button with the paint brush is the image lock. It prevents any pixels on the Layer from being changed with a painting tool. It does, however, allow changes by other means such as the Transform tools.

The crosshair with arrows is the opposite of the image lock button. When active, you can paint on the Layer, but you cannot use the Move tool or Transform tools.

Note that the transparency lock and image lock buttons are always enabled for Shape Layers and Type Layers (we used Shape and Type Layers in June's column for making speech and thoug This is not a bug. The partially locked nature is inherent with Shape and Type Layers.

Layers Palette Menu

In the Layer palette menu (the pop-up located just above the Opacity setting), you'll find more options for working with your Layers. Some of the items are duplicates of the buttons and controls we've covered above.

New Layer...	⇧⌘N
Duplicate Layer...	
Delete Layer	
Delete Hidden Layers	
New Group...	
New Group from Layers...	
Lock All Layers in Group...	
Convert to Smart Object	
Edit Contents	
Layer Properties...	
Blending Options...	
Create Clipping Mask	⌥⌘G
Link Layers	
Select Linked Layers	
Merge Layers	⌘E
Merge Visible	⇧⌘E
Flatten Image	
Animation Options	▶
Palette Options...	

The Layers palette menu.

Some of these are simple, and I'll go quick through them. The first three items replicate the first two buttons we covered that are located at the bottom of the Layers palette. A fourth option lets you delete every Layer that is hidden (the eye icon checked off). You might want to do this on a copy of a document you wish to send to someone and only allow them to have certain Layers.

The New Group... item is identical to the previously covered button. There's also the New Group from Layers... command, which will automatically move all selected Layers into the new Group. This command automatically activates the New Group properties window (which you can also activate when clicking the New Group button by holding the Option key). We learn here that, in addition to pre-naming the Group, you can assign a color

to the Group, assign an overall Blend Mode (Pass Through disables an overall mode and allows the modes of individual Layers inside the group to work as normal), and change the overall opacity of the entire group.

Lock All Layers in Group... shouldn't need explanation. The command does the same as if you hit the full Layer lock button on each Layer inside.

Convert to Smart Object and Edit Contents are part of a feature that allows placement of another image which is saved elsewhere (or within the Photoshop document you're working on if you convert one or more Layers to a Smart Object) and can be edited without changing/destroying the original image.

Layer Properties... is also accessible by Option-double-clicking a Layer's thumbnail. It provides an alternate means of renaming the Layer plus offers an option to assign a color to Layers for organization purposes.

Blending Options... is identical to double-clicking a Layer's thumbnail, as described earlier.

Create Clipping Mask is part of the Masking features we'll cover next month. This particular item creates a Mask from a vector shape and is always grayed out when standard bitmap pixel Layers are selected.

Link Layers is identical to the Link button at the bottom of the palette. If you have one of a set of linked Layers selected, the Select Linked Layers command will highlight all of them as if you had manually Shift-clicked each one.

Merge Layers combines all selected Layers into one, retaining any transparency that was common to all of them. Merge Visible does the same, but instead of acting on selected Layers, it merges every Layer that is visible—with the eye icon turned on. Flatten Image is the same as Merge Visible, but will eradicate all remaining transparency by changing it to white. You'll be left with the aforementioned *Background* Layer in the Layers palette. Hidden Layers will also be removed.

We'll not be covering Animation Options any time soon. Palette Options... simply offers some choices like the size of the Layer thumbnails (or none at all), whether the thumbnails represent the entire canvas or just the area on that Layer that contains pixels, and some other advanced options.

Layers Contextual Menu
The last aspect of the Layers palette we'll look at is the contextual menu that appears when you right-click (or Control-click) a Layer.
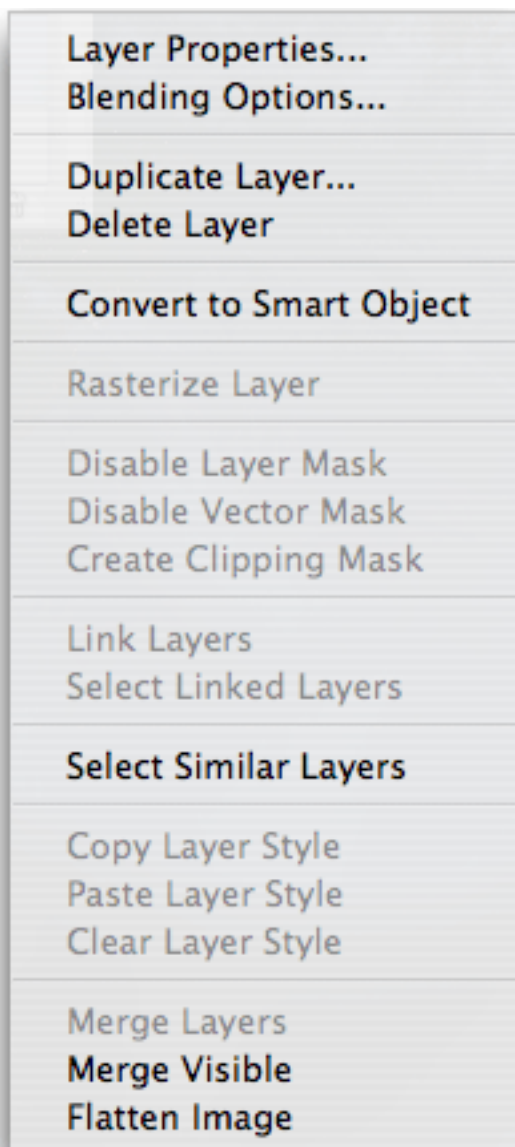
The Layers contextual menu.

Most items I'll skip since they are duplicates from the Layers palette menu.

Rasterize Layer will convert vector art to bitmap art (pixels). It also rasterizes Text Layers into pixels.

We'll cover the next three items for Masks next month.

At the moment, I have not learned what criteria Photoshop uses for the Select Similar Layers command. All I can say is that for the example image I've been using in this month's column—two colored squares—the command *does* select the other unselected Layer.

The three items for Layer Styles can be very handy. Rather than repeatedly setting up the values for multiple Layers to which you want to apply the same effects, you can use the Copy Layer Style command, then paste it to one or more other Layers. This can be useful if you've created a drop shadow you like and want to quickly replicate it on other Layers. And yes, you can Shift-click multiple Layers and then use the Paste Layer Style command to affect them all at once. Finally, the Clear Layer Style will quickly eradicate Layer Style assignments for all selected Layers.

Homework Assignment

Sliding Layers around with the Move tool is too easy an assignment. Instead, I want you to work with the Blending Modes. Familiarize yourself with what they look like. Remember to use a variety of colors and opacities with each mode. Also make note of what happens to various Layer Style effects when different Blend Modes are applied to a Layer.

Topics For Upcoming Months

- Mask-erades

- Fun With the Automate Menu

  - Photomerge

- Fun With Filters

- File Format Fever

If you have a topic suggestion, please share it. I'm definitely interested in expanding this list with topics that are of interest to you.

What's Your Mac's Subjective Speed?

It's been an interesting several months since I last sat at the keyboard to hammer out an article for ATPM. Most of my time was spent doing the ordinary tasks we do every day— some were computer-related, and some were not. Since basic word processing doesn't tax the system very much, the fact that I only had 512 MB of memory wasn't often an issue. I did put off some graphic-intensive work because I knew it would slow things down more than I was willing to tolerate. Otherwise, things were pretty good in my corner of the Mac universe.

Right now you are probably screaming that I needed more memory no matter how happy I was, and you would be right. Mac OS X performs better when it has more than the minimum amount of memory. Besides, I didn't like putting off some memory-intensive tasks simply because I knew they were going to slow the system down and produce the "spinning beach ball of eternal waiting."

When I finally upgraded the memory on my G5 to 2 GB, I noticed a difference almost immediately. Word processing wasn't any faster, but switching among multiple programs was usually noticeably faster. Having multiple programs open had always been possible; now it was also practical. Then I had a brilliant idea: "Why not write an article that illustrates the speed benefits of having extra memory?" I could even include "real world" examples rather than the benchmark scores that are so often misunderstood.

So Where's the Brilliant Article?

Now that I had a brilliant idea, it was time for some testing. I gathered some speed data for routine tasks such as copying a single large file, copying multiple files, applying a filter to a large graphic, and manipulating word processing files. The problem here is that with the possible exception of applying filters to a graphic file, most of these tasks can be heavily influenced by other factors such as the speed of your hard disk. With the extra memory installed, for example, a large word processing document with several graphics opened one second faster than a smaller document with the same graphics.

Some graphics-related tasks did complete faster with the extra memory installed. For that test I used Preview to apply a sepia effect to an uncompressed 300 MB scanned photograph. I scanned that photo several years ago when I didn't know what I know now about scanning resolution. Boy, do I wish Lee's Photoshop series had been available then. My original thought was that every current Mac has Preview, so readers could duplicate this test. Unfortunately, this test is not very practical—how many people routinely apply filters to 300 MB graphics files?

Ultimately, I decided that the tests I had the equipment to run wouldn't isolate the effects of memory. In modern multitasking operating systems there are just too many variables to consider. It would have been difficult at best, for example, to rule out the effect of the hard drive since OS X does such a seamless job of caching and managing virtual memory.

Why Not Use Benchmarking Software?

By now some of you are probably wondering why I didn't just use software specifically designed to benchmark my system's performance. That's a legitimate question. In fact, I used to do that regularly. When a new Mac model was introduced I wanted to know how my system fared against the new gear. Since I was running an LC II at the time, it usually didn't fare very well. Those experiences have somewhat colored the way I think about benchmarking software. The remainder of my comments should not be construed as negative comments about any specific benchmarking program.

Older benchmarking programs did their magic by taking a series of tasks and isolating them as much as possible. These tasks were then run on whatever system was chosen as the "reference system." Users could then run the same tasks on their systems and compare performance to the reference system. The problem with this approach is that the more significantly your system differed from the reference system, the harder it was to determine where the bottlenecks were occurring.

There was an additional problem with this method. Some of the results did not translate easily into the real world. Does a three or four millisecond difference in seek time translate into a noticeable performance improvement in the "real world"? If you attempted to answer that question by running real world applications, then other variables were introduced. Are the two systems using the same operating system and version of the "real world" program? Does the test procedure reflect the way that you work? I am sure there are other variables I haven't even touched upon when you reach that point.

What About Modern Benchmarking Software?

Those concerns came to my mind in an era of single processor computers that measured speed in megahertz rather than gigahertz. What about more modern benchmarking software? Why not just use that?

I actually have CINEBENCH on my system, and have run it exactly once. I'll probably use it more often just because I like playing with that kind of software. Why not just use that to benchmark my system? A bit of explanation is in order here.

As modern computers have become more powerful, the benchmarking tasks have, out of necessity, become more complex as well. CINEBENCH renders a photo realistic 3D scene and compares your computer's performance under varying conditions. I understand why these tasks were chosen. The objective is to stress the system in order to see which components are causing a bottleneck. I am not sure, though, that this is representative of my typical tasks. That may be true for many other users as well.

The problem I have with this arrangement is that I am not sure how well this translates to some of my typical daily tasks. It's my belief that benchmarking information is only truly useful to you if it was gathered in ways that match your typical tasks and working style. If most of what you do is word processing, you are probably not terribly concerned with how well your graphics card renders 3D scenes. Even if "real world" tasks are the standard, do the tasks match how you work? In the days when most people launched one program at a time and closed that program before beginning the next tasks, launch time was often used as a real world benchmark. It's not such a good benchmark now, since many users launch programs and leave them open until they either leave the computer for the day or shut down.

In my case there is an additional problem. The Intel Macs have been out for a while now. I expect my G5 to be a bit slower than most, and perhaps all, of the current Intel Macs. That's not a big issue for me. I'd like to have an Intel Mac, but I have always kept a Mac well beyond the point where it was considered top of the line. I also keep reminding myself that I am not racing against other users with similar systems. Although comparing my numbers to similar systems might indicate which components need to be upgraded, by that point I am usually ready to upgrade my entire system rather than individual components.

Upgrading Based Upon Subjective Speed

In thinking back upon most of my Mac purchases, benchmark data has never really been an issue. Budget constraints have always argued against purchasing the fastest consumer system out there. Hard drive purchases have more often been made on the basis of a need for additional storage space rather than a need for additional speed for that component. I've usually upgraded memory because I needed additional memory to run specific pieces of software. This has led me to the conclusion that many Mac users make their upgrade decisions based upon "subjective speed."

I suppose I really should define what I mean. It's really quite simple: "How much longer does a given task take than you are willing to wait?" The larger the gap is between your expectations and your system's performance, the more likely it is that you will explore the prospect of upgrading all or part of the system. The upgrade process will only be completed when the subjective performance gap is large enough to outweigh the total cost of the upgrade—including additional software upgrades and other costs. In my case, the total cost of upgrading to an Intel Mac has to include the cost of upgrading some of my software from PowerPC to Intel.

If you keep your systems as long as I tend to keep mine and you upgrade based upon subjective speed, benchmark programs are of limited value. By the time you look at upgrading it's probably time to upgrade the entire system rather than individual components. Benchmarking programs can be helpful in these circumstances, but I would bet that most users rely as much or more on recommendations from their fellow Mac users.

While you ponder your Mac's subjective speed, I'll start work on next month's column. I'll probably look at setting up presets for Internet radio stations you listen to frequently in iTunes.

Adding a Cooling Fan to the Mac Cube's Video Card

Back in ATPM 13.05, I upgraded my venerable Mac Cube with an XFX GeForce 6200 video card. Its high performance and dual-monitor support proved a significant boost to my desktop work. Losing it would be a big step back, but that's almost what happened last month. For the reader without time, a quick summary: one fan good, two fans better.

Too Hot? Too Cool? Just Right?

After the May installation of my new video card, I occasionally ran Bresink Software-Systeme's Temperature Monitor to keep tabs on my system. The already-upgraded CPU and new GPU generated significant heat, and I wanted to keep an eye on things—even a ten-degree Celsius jump can radically reduce your system life.

My Cube's base 80mm fan, similar to the Panaflow mentioned in May's article, pushes air around the entire case. Indeed, I thought it would be plenty for the long-term. Wrong! A few months in, the Boston summer reached 95 degrees, quietly raising my office's baseline temperature and setting the table for later problems.

In mid-August, the Cube's video riser board gave off a disconcerting snap, crackle, and pop. Quick inspection showed a scorched capacitor that only replacement could fix. Though that sounds really bad, I actually lucked out. That particular component only costs $10 on eBay from a parts reseller and sits right on top, easy to find. The heat *could've* shorted something much more valuable, and it would've been time for a new Mac. A crash course on cooling told me the truth-I needed another fan just to handle the video card and its high-energy GPU.

Picking a Fan

Thanks to CubeOwner, it's not hard to find the right part. The Titan TTC-CV3AB fits nicely onto the XFX GeForce 6200, gets power from the computer's IDE cable, and runs quietly. Buying the fan should cost less than $20, and it includes a small tube of thermal paste to improve heat conductivity.

Installation

Take out the video card and remove its heat sink.
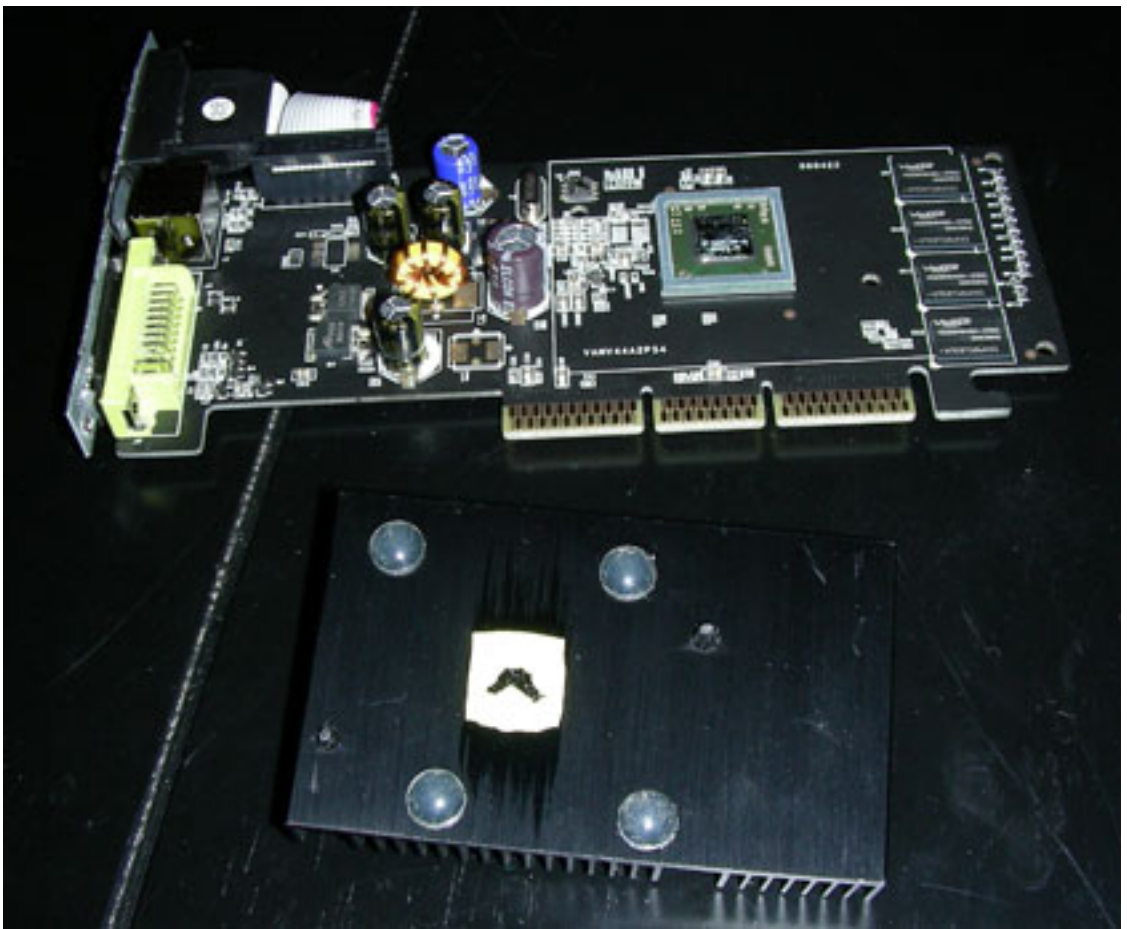
Doesn't look like much, right?

The manufacturer just stuck my sink and card together without any connection, a real waste of cooling capacity. Fortunately, this is easily rectified by spreading a thin layer of paste on the card's GPU chip. The paste should go only on the chip itself, not the surrounding area. After that, just match up the fan's mounting holes, position the screws, and join the two together.
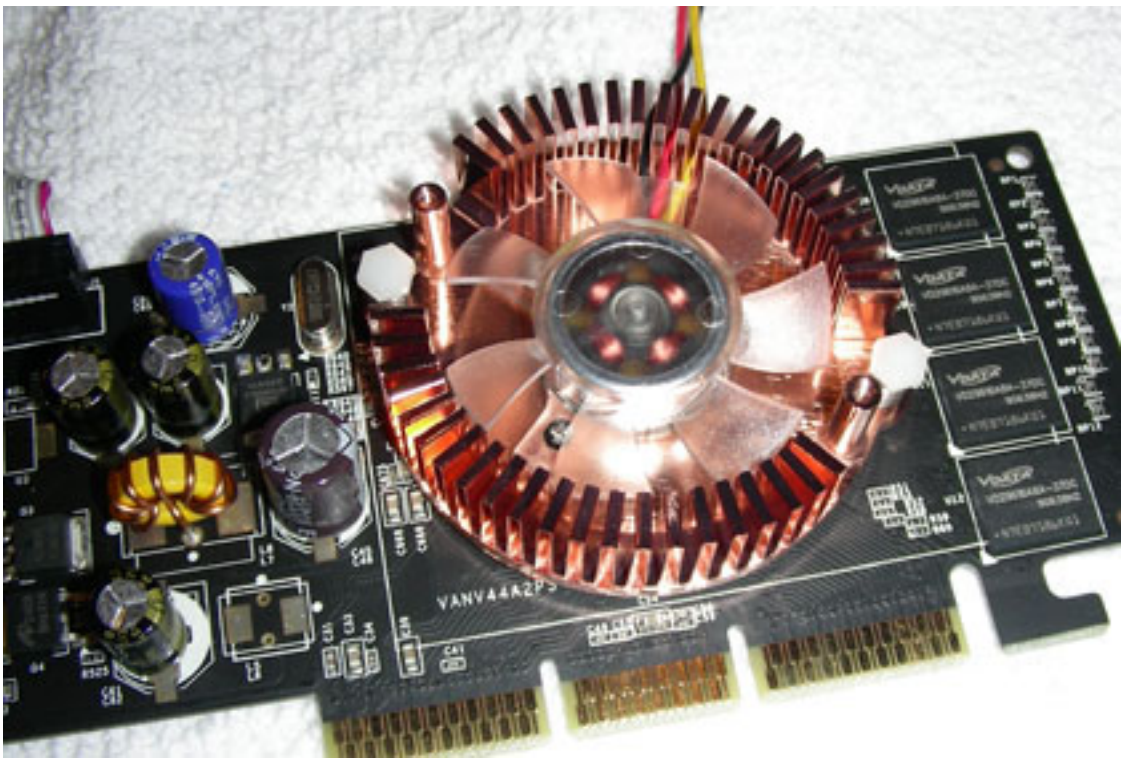
I hope you're not also replacing the riser board like me. Either way, the video card returns to its normal place, which leaves the fan power cable. This cord connects to the IDE power cable.
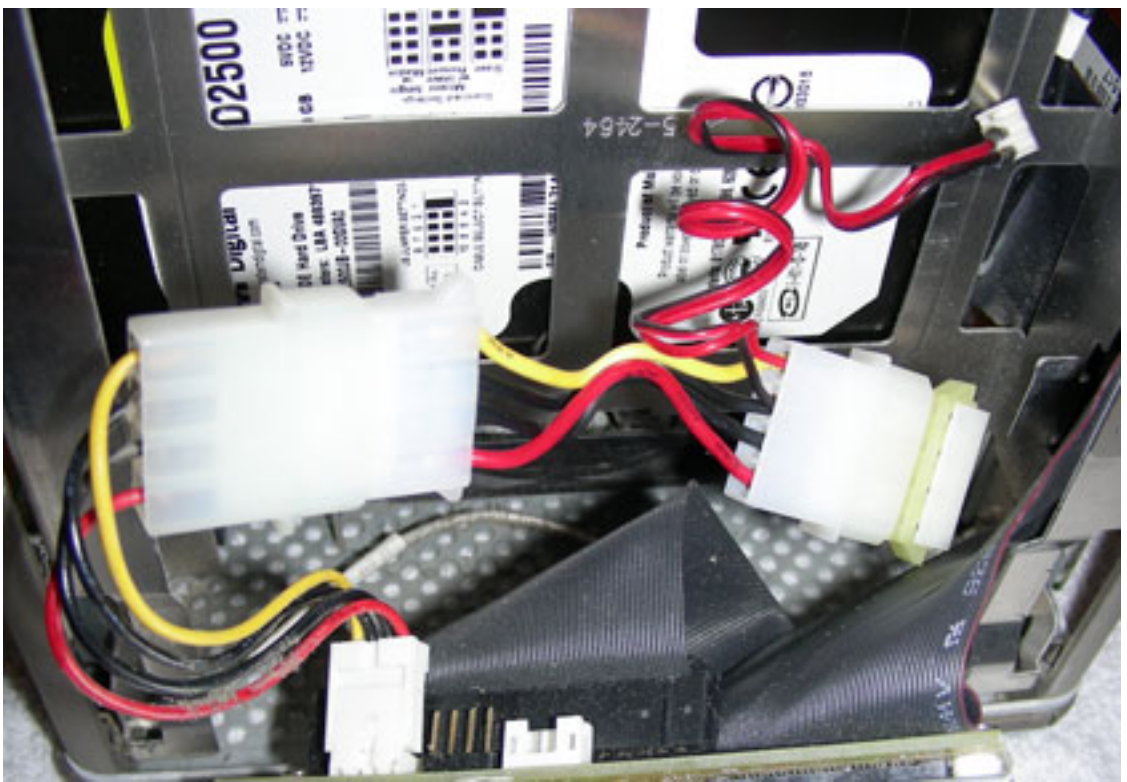
Once connected, let the IDE cables sit between the hard disk and optical drive. Note how the red-and-yellow cable runs along the gap next to the central heat sink to avoid being pinched when I close the Cube's case.
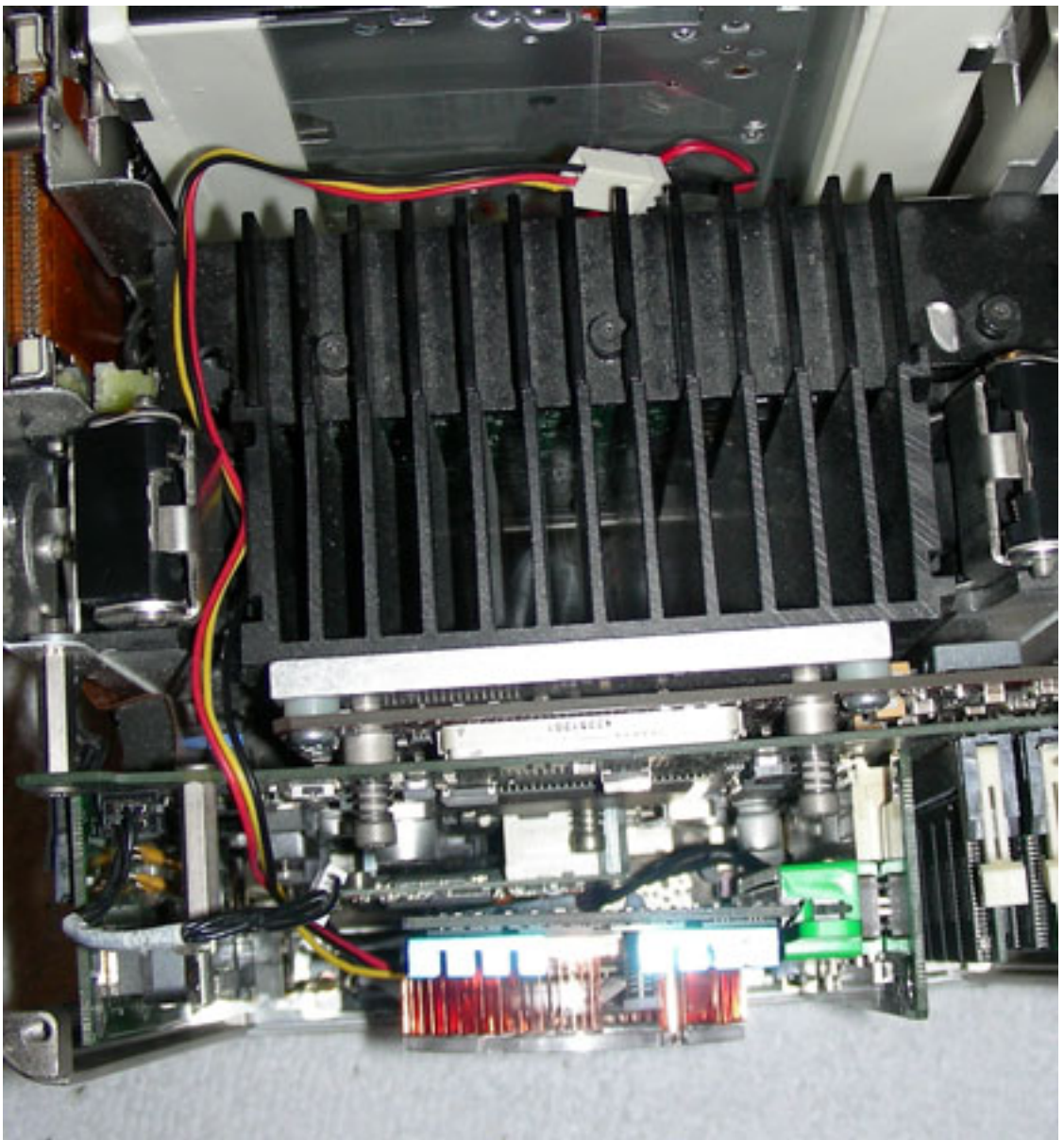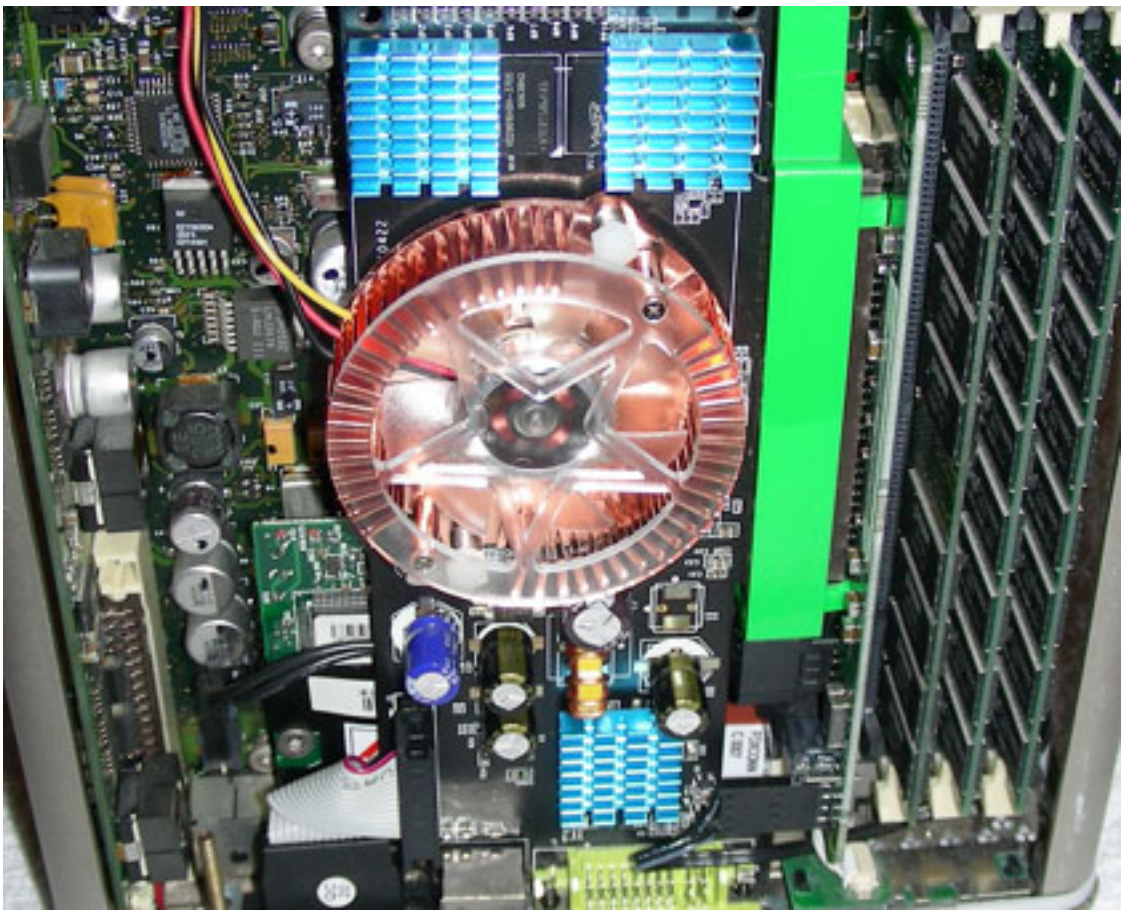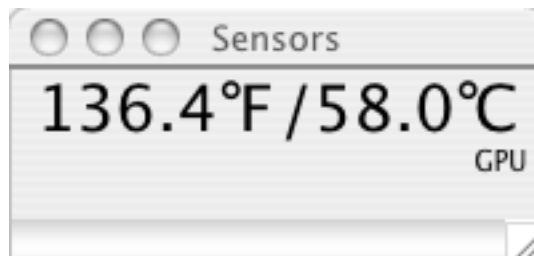
The new fan stands out in copper against the other black-and-green components.

This picture shows the fan with its clear plastic cover. You can leave that piece off if you prefer. Some Cube owners report that the case didn't close properly with it installed.

Checking the Result

The proof is in the pudding and the temperature measurement.

With the fan running smoothly in the Cube's interior, things look much better at 58 degrees C (136° F). Some people on the CubeOwner cooling forums report around 15 degrees C

above room temperature, which I can't quite achieve. It's possible a better thermal paste or improved room airflow would help further.

Summary

This article reinforces the maxim that a stitch in time saves nine. It doesn't cost much in time and effort to add more computer cooling, something especially useful in a compact system like the Cube. The installation does take patience and skill, however, so let a professional handle the work if it looks too tricky. It's no good messing things up when you're just trying to protect your Mac against future problems!

If you find success with other Mac cooling projects, feel free to mention them in your comments. This just scratches the surface of controlling heat inside a computer system.

Desktop Pictures

We need new desktop pictures each month. [Write](#) to us!

This Month's Desktop Pictures

This month's photos were taken by ATPM reader [Tim Allen](#), who writes:

All the photos were taken with a Canon EOS 350D D-SLR, mostly with a Canon 28–135mm IS USM lens but some with the Canon 18–55mm kit lens and some with a Sigma 50mm macro. Despite my love of Photoshop, none of these images have been retouched; all I have done is crop some of them slightly, and converted some to mono. I much prefer to get the shot right in camera if I can.

[View Photos](#)

Car Park at Night Bluewater Shopping Centre in Kent. Just after Christmas in the early evening, I think everyone had run out of money! My son thinks it looks like a scene from *Star Wars*.

Chains I have a 50mm macro lens, and I thought this keychain made an interesting subject.

Engraved From a cemetry, a simple shot where depth of field makes a big difference.

Field Taken near where I live in Kent, this is about as wide as my 28-135mm lens goes, and makes me want a wider lens in the future.

Leaf on Sky From a National Trust garden; the sky was fantastic that day.

Moss Again, the depth of field makes the shot here.

Ragged Flower From my parents garden—although this plant was in a bad way the colours and shapes looked nice.

Shadows and Shapes From a WWII memorial in Kenley. I loved the shadows.

Steps of Despair This was taken near London Bridge and was one of those lucky, perfectly timed shots to capture his body language. I'm proud to say this won "Nikon picture of the month" in *Practical Photography* magazine this month, which won me a Nikon compact camera.

Village View This overlooks the village where I live; it was average in color but become very pleasing in mono.

Water Drops A cliched shot but it came out well, again with the macro lens.

Water's Edge Again, taken near London Bridge, a close-up of a water feature. I like the angles and glossiness of the water.

Previous Months' Desktop Pictures

Pictures from previous months are listed in the desktop pictures archives.

Downloading All the Pictures at Once

Some browsers can download an entire set of desktop pictures at once.

iCab Use the Download command to download "Get all files in same path."

OmniWeb Choose "Save Linked ▷ Images. . . " from the File menu.

Safari Use this Automator workflow.

Contributing Your Own Desktop Pictures

If you have a picture, whether a small series or just one fabulous or funny shot, feel free to send it to editor@atpm.com and we'll consider publishing it in next month's issue. Have a regular print but no scanner? Don't worry. E-mail us, and we tell you where to send it so we can scan it for you. Note that we cannot return the original print, so send us a copy.

Placing Desktop Pictures

Mac OS X 10.3.x and 10.4.x

Choose "System Preferences. . . " from the Apple menu, click the "Desktop & Screen Saver" button, then choose the Desktop tab. In the left-side menu, select the desktop pictures folder you want to use.

You can also use the pictures with Mac OS X's built-in screen saver. Select the Screen Saver tab which is also in the "Desktop & Screen Saver" System Preferences pane. If you put the ATPM pictures in your Pictures folder, click on the Pictures Folder in the list of screen savers. Otherwise, click Choose Folder to tell the screen saver which pictures to use.

Mac OS X 10.1.x and 10.2.x

Choose "System Preferences. . . " from the Apple menu and click the Desktop button. With the pop-up menu, select the desktop pictures folder you want to use.

You can also use the pictures with Mac OS X's built-in screen saver. Choose "System Preferences. . . " from the Apple menu. Click the Screen Saver (10.1.x) or Screen Effects

(10.2.x) button. Then click on Custom Slide Show in the list of screen savers. If you put the ATPM pictures in your Pictures folder, you're all set. Otherwise, click Configure to tell the screen saver which pictures to use.

Mac OS X 10.0.x

Switch to the Finder. Choose "Preferences..." from the "Finder" menu. Click on the "Select Picture..." button on the right. In the Open Panel, select the desktop picture you want to use. The panel defaults to your ~/Library/Desktop Pictures folder. Close the "Finder Preferences" window when you are done.
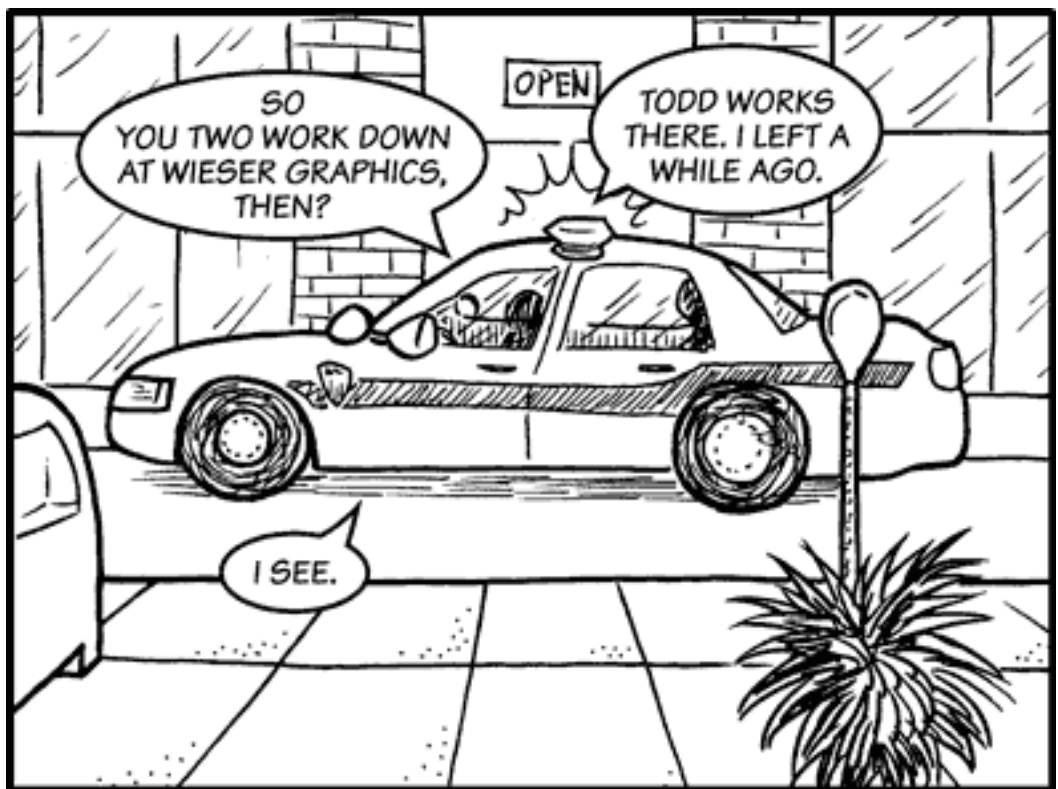
Cortland

by Matt Johnson, mjohnson@atpm.com

59

60

Claro

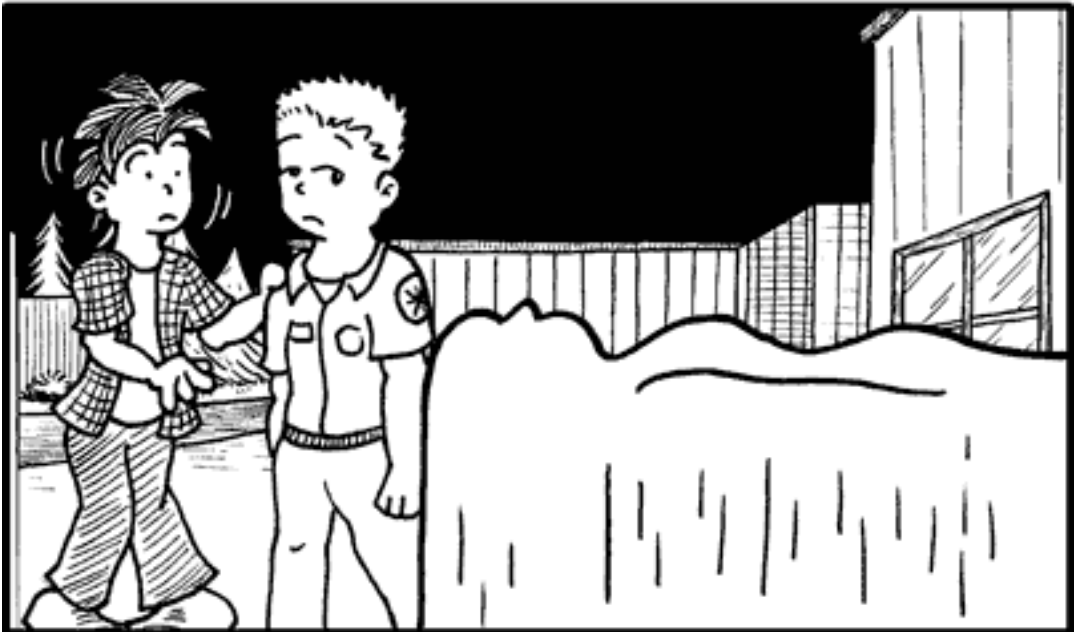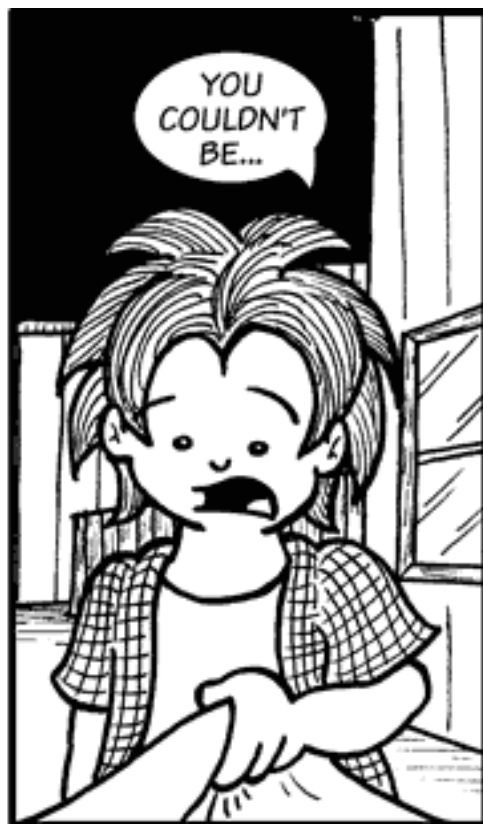**Developer:** iSkin
Price: $40-45 depending on color
Requirements: iPod video 60/80 GB (a separate model exists for the 30 GB iPod video model).
Trial: None

iSkin, king of All Things Silicone in the iPod and Mac accessory market, has branched out into a new material: acrylic. They've put it to good use in the attractive and transparent iSkin Claro, a hard case for iPod video models that allows for an optimal video viewing experience while still providing a high degree of protection for the iPod.

The three-piece iSkin Claro, plus one black iPod.

The basic design is similar to many other hard cases for the iPod, but with a twist. The Claro uses a silicone insert to protect the iPod from any tiny particles that might get between the case and the iPod. It is important, as iSkin points out in the manual, to ensure that the iPod and silicone insert are both scrupulously clean before putting the iPod into its new silicone skin, lest any abrasive particles lead to scratching of the iPod late.

Just drop the iPod into the case and slide the faceplate on.

The silicone liner makes a respectable case on its own, though it doesn't provide any screen protection and is fairly loose.

With the iPod in the skin, you simply drop it into the case and slide the cover on, sealing the iPod's screen behind an acrylic barrier while still allowing access to the scroll wheel through a thin silicone membrane. Many cases give you easy access to either the screen (visually) or the controls (manually) but at the expense of protection. The Claro provides the best of both worlds; you get protection for the screen, and controls with minimal effort and fuss.
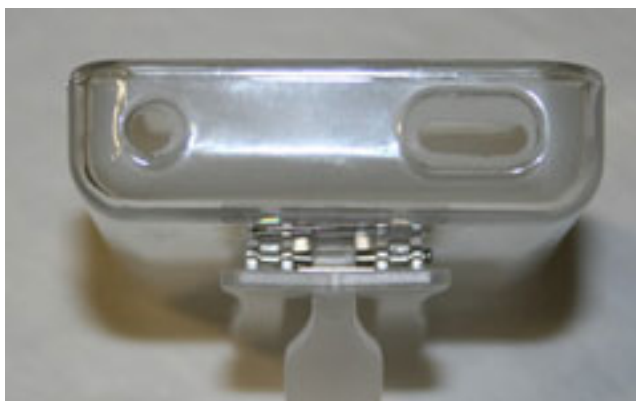
The silicone liner isn't perfectly cut. It's difficult to see, but the headphone jack cutout is slightly off-center, causing the headphone jack to hit the liner. This could potentially cause static or poor sound quality, but the silicone liner is fairly thin.

Alas, the Claro falls short of perfection. Larger headphone plugs are impossible to use thanks to the tiny hole in the case. iSkin will be happy to sell you a $10 extension adapter, however, which will enable the use of any size headphone plug.

As with many other iPod cases, you can charge and sync the iPod without removing it from the case, although Dock Connector accessories generally don't work unless they fit entirely in the cutout.

Dock Connector–based accessories simply do not work with the Claro. The acrylic is too thick and too inflexible to allow anything other than a cable to attach to the bottom of the iPod. To be fair, other iPod hard cases have this same problem, but I would be remiss if I didn't point out this limitation. Finally, the belt clip—which has a very nice "kickstand" feature that other cases would do well to emulate—feels rather flimsy, almost to the point that a long jog or pulling it the wrong way removing it from your belt might break it.

The iSkin Claro thoughtfully includes a "kickstand" that allows you to stand the case up on its own.

As iPod cases go, the Claro falls somewhat behind in the style department. There's an element reminiscent of stripper shoes in the all-clear design, although colored silicone inserts are available that lessen the degree of in-your-face transparency at an extra cost ($20 for three). There is also a "Special Edition" Claro available—at a $5 premium—that appears to be molded of black acrylic with a clear faceplate, a dramatically classier-looking design.

This is what the iSkin Claro looks like with no iPod in it.

The no-fuss access to the controls and ease of screen viewing really make this case stand out as a good choice for people who watch a lot of video on their iPods. I find that I prefer this case in my car because of the easy access to the controls, and the belt clip, while flawed, makes this a better case for running than either of the two leather cases I've previously used.

At $40, the Claro is a premium-priced case that isn't necessarily a premium performer in all aspects. If you use headphones with an oversized plug or dislike the jelly-shoes aesthetic, you'll want to look elsewhere. If you watch a lot of video and don't use many accessories, or just want an easy-access case that keeps the iPod well-protected in the car, this is an excellent choice.

Crossword Forge 5.2.2

Developer: Sol Robots
Price: $50 (download); $65 (CD)
**Requirements:** Mac OS X 10.1. Universal.
Trial: Feature-limited (can only print/export with answers).

When writing the review of Crossword Express, I learned much about the various types of crossword puzzles there are. At one end of the spectrum, there is the American newspaper type, in which the words must be at least three letters long. The puzzle shape must also be symmetrical. At the other end, there is the classroom type, in which each word can intersect only one other word. Crossword Forge 5.2.2 falls into the classroom-type category.

Crossword Forge (or Forge for short) is installed by copying the application from the disk image to the Applications folder. You need to register the software or else the puzzles you print or export will always have the answers.

Making a puzzle starts with entering pairs of clues and answers. You can enter the pairs manually or import them from a text file. There are various options such as typefaces, size, and style for the title, headers, and clues; the size of each block in pixels; and the height and width of the puzzle in blocks. Once you think you're satisfied with the various settings, click Make Puzzle and you have yourself a simple classroom-type crossword puzzle. An unlimited number of undos and redos allow for safe experimentation. And spell-checking helps you avoid embarrassing mistakes in your clues and answers.
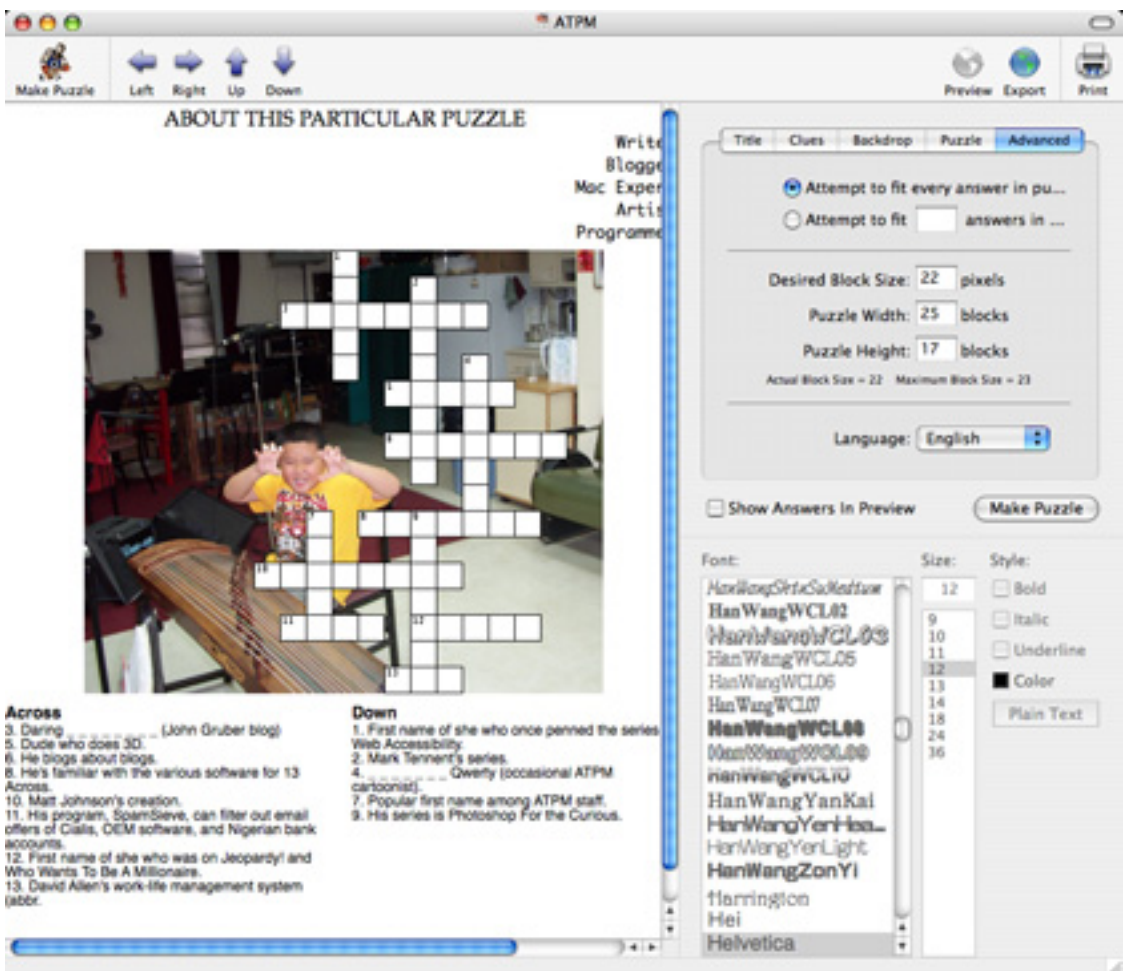
To make the puzzles visually more appealing (perhaps to kids) or just to drive home a theme, you can add a picture to the puzzle's background. The picture can be in many formats. By default it is centered, but it can also be stretched or scaled. There is no link to iPhoto to fetch a picture, but you just need one photo, so it is not much work to export the picture first from iPhoto. What I really wish Forge could do is to set an area of the backdrop off limits to the puzzle. If the picture is a scene, it may be fine to have the puzzle covering whatever area it needs. However, if the photo has a person in it, it is important to have the person's face shown. You can move the puzzle as a whole up, down, left, and right. You can also trim the picture to fit snugly behind the puzzle. However, sometimes there is only so much adjusting you can do, and there is no way to avoid covering up the person's face or, worse, the eyes.

Crossword Forge can also make word searches. The features for word searches are mostly the same as those for crosswords, but with word searches you have the option of telling Forge not to use certain words. It is supposed to help prevent having the words accidentally included in the word search. Use the "bad" words in the clues and answers and you will get a warning, but the application will gladly include the words and print/export them. At first I had a hard time finding out how to specify the "bad" words. I was expecting

a way to import them into the program or some appropriately labeled button or menu option. It turned out that the list is supposed to be entered via the Preferences window, in the Languages pane, in one long line. The documentation makes no mention of the "bad words" feature, and the screenshot for the Languages pane is a few versions older. Just by chance, I correctly assumed that the words are supposed to be entered on the one line, separated by spaces. For a program marketed to the classroom environment, Forge's documentation should be beefed up regarding these restricted words.
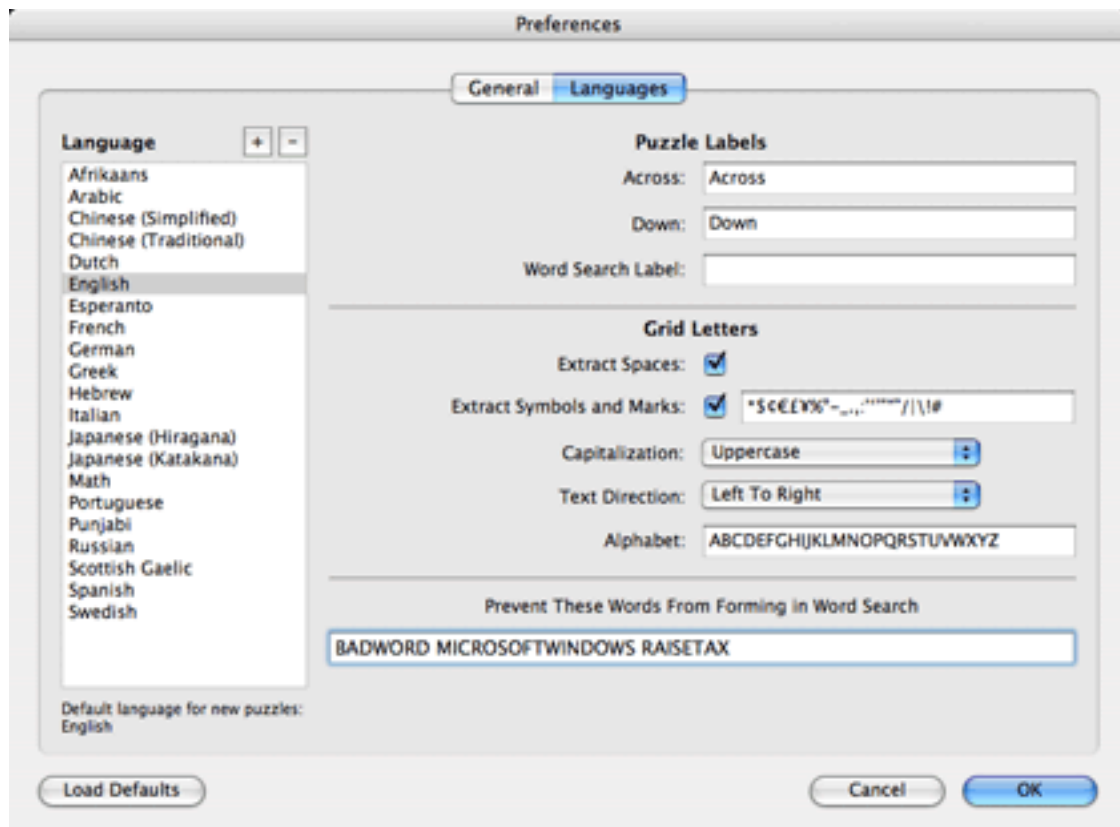
I favor the American newspaper style of crossword puzzles, so I am not much interested in classroom puzzles, although Crossword Forge makes it really easy to create them. However, I am very impressed with Forge's exporting capability. Besides text, PDF, and static HTML export, Forge can make a fully interactive Flash-enabled Web page. As someone who once tried to learn Flash and failed utterly, I really appreciate the power to generate a Web-based puzzle that allows the player to get hints and to check the answers entered. You even have the option of using an alphabet window to enter the words, supposedly if you play on a keyboard-less kiosk. I have made such a puzzle. There are instructions for working with the Web puzzle in .Mac and iWeb, but I am surprised that a seemingly wonderful program such as Forge does not have a hook to .Mac to publish the Web puzzle directly from within the program. That is one item at the top of my Forge wish list.

If your need to create crossword puzzles involves simple classroom types, Forge is a Very Nice application. It is easy to use, has lots of options for the various parts of the puzzle, and

works nicely with background photos. The Web export feature is very nicely implemented, complete with interaction choices such as hints and checking of letters and words, and the degree of helpfulness can be adjusted.

iPhone

Developer: Apple, Inc.
Price: $399
Requirements: Mac OS X 10.4.10 or Windows XP, USB 2, iTunes 7.3.
**Trial:** None

ATPM RATINGS
VERY NICE

Memorial Day week, 2006, found our family on vacation in New England.
We spent a day in Boston, doing all the touristy things, capping it off with a ride around the harbor. It was on the ferry that I left behind my favorite cap of the moment, the Life is Good Oval Chill Cap on Moss. Some time later, I began looking into replacing the cap, but the Life is Good folks seemed to never have in stock the cap in the Moss color I liked.

Flash forward to July 2007, and a concerted effort on my part to locate a cap locally. The Life is Good Web site was telling me they weren't shipping the cap in Moss (although they are *now*), but they were in Olive, a greener, brighter color I would be just as happy with. Only the online store was again out of stock, hence the local search. Frustrated, I pulled out my iPhone and launched Safari.
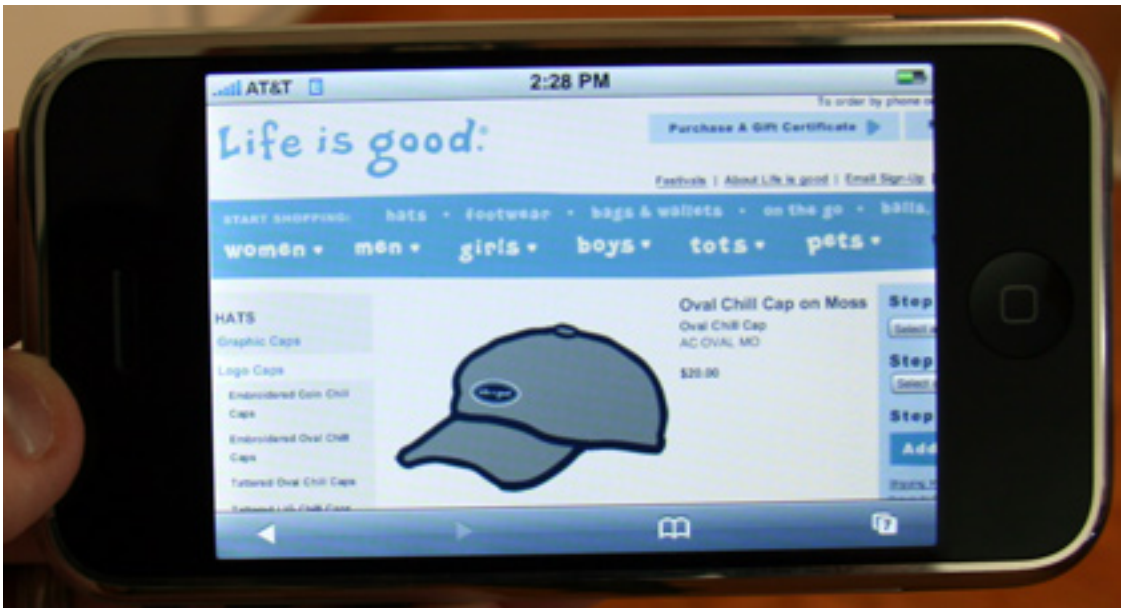

AT&T's EDGE network pulled up the Life is Good site in a reasonable amount of time, and I ran a search for local retail affiliates. Presented with a list, I tapped on the "View Map"

link for the retailer closest to my current location, and the iPhone's Maps application, powered by Google Maps, opened to show me the street layout for the address. It was about three minutes away from where I had just finished lunch, so I tapped on the name of the business on the map, and got the store info from Google, just like you've seen in the iPhone "Calamari" commercial.
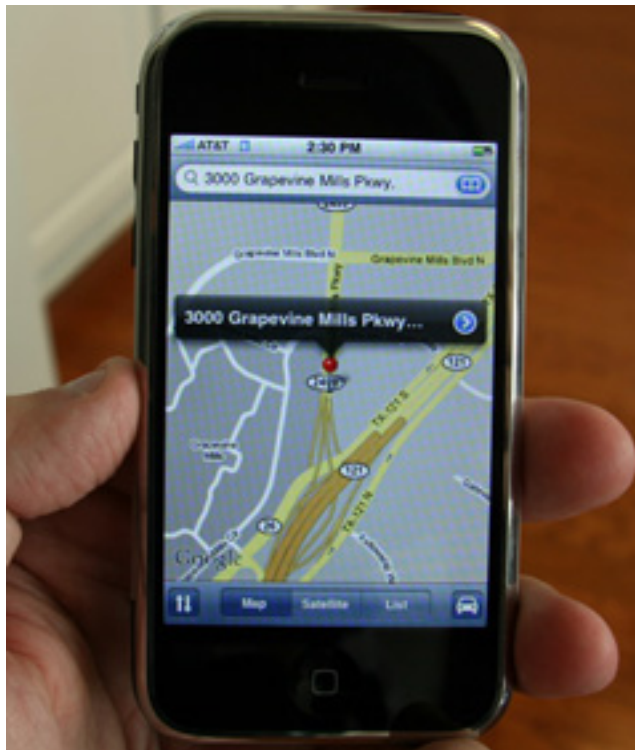
Tapping on the phone number, I began driving toward the retailer. Two rings, and I got the "no longer in service" message. Odd, I thought. Could Google have the wrong phone number in its database? I continued driving to the store, as it was just a few blocks away. Sure enough, Google was right: the retailer was out of business. Stopped in the parking lot, I pulled out the iPhone again, opened up Safari, which still featured the Life is Good retailer search results, and went to the next store on the list. Same thing: Google map, tap on the retailer name, get the store info, tap on the phone number, the iPhone dials. I put the Pilot in gear and headed off.
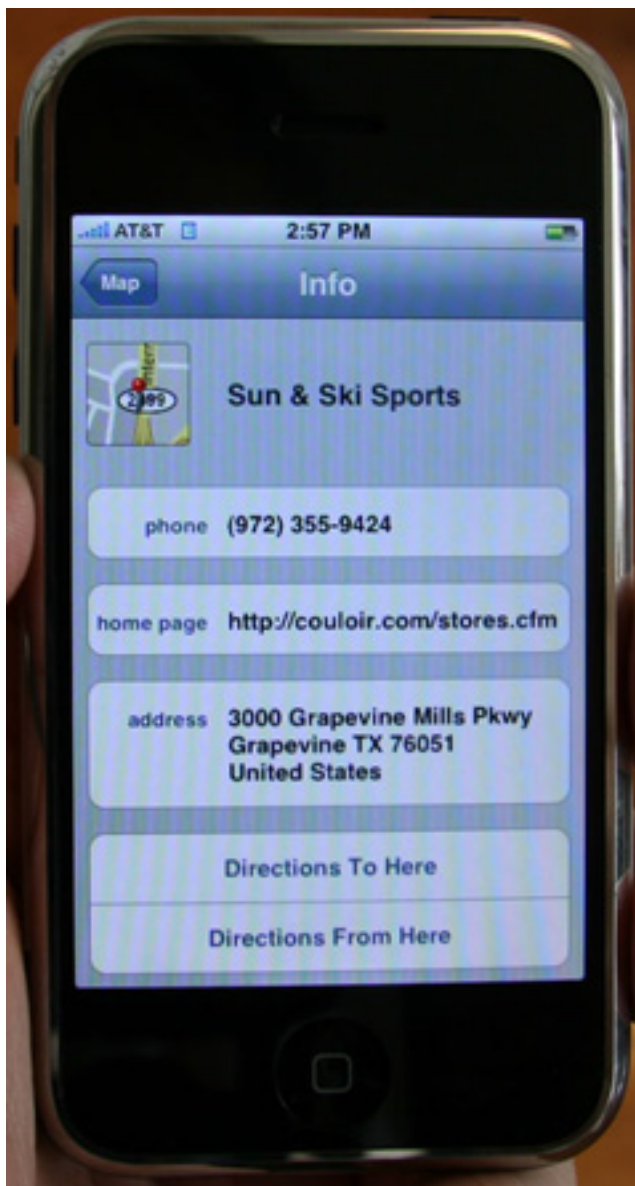
During the ensuing conversation, I was informed that yes, they did have the cap I was looking for in stock, and yes, they would hold it for me. Twenty minutes later, I walked out with a new Life is Good Oval Chill Cap in Olive, and life was indeed good. Total time from the moment I pulled up Safari to go to the Life is Good site to purchase completion was under half an hour.

This is the sort of thing the iPhone was built for.

I could never have accomplished the above on my old Motorola v557. For one, its Web browser, well, how shall I put this lightly? It *sucks*. Even for a stripped-down browser, it really, really, *really* doesn't do one much good to look up anything. Even if I'd been able to get the retailer search results on the Moto, it wouldn't have been as easy to switch between functions—Web browser to map to phone—as it is on the iPhone.

Sure, if I had a Treo or Blackberry, I could have done all of the above a lot easier than on the Motorola, but based on my limited exposure to both of those platforms, something tells me it wouldn't have been as smooth an experience as it was on the iPhone. The ease of use of the iPhone experience is based on the attention to detail that Apple is renowned for. This is quite simply the best mobile phone I have ever used.

Is it perfect? No. Are there other phones on the market with features the iPhone doesn't have? Yes. Does that make a difference? No. Again, it's not about having the most features, but how those features integrate together to make using the device as easy as possible, if not joyful, for the user. Palm and RIM can only dream of a user experience one has when using the iPhone, and based on personal experience, I seriously doubt whether Motorola even has personnel devoted to usability.

The (non) Hardware

There are few phones on the market that are as beautiful as the iPhone. The sleek, dare I say *sexy* blackness of the front, coupled with the brushed aluminum back with the lower quarter a contrasting black, the Apple logo a shiny mirror...Sorry, did I wander off there? The iPhone, very much like the iPod, is a device which begs to be held, to be used. This is why one saw, for days after the device went on sale, so many tweets on Twitter from new iPhone users who proclaimed words to the effect of, "I just can't put this thing down."

There are only four physical buttons on the iPhone: the sleep/wake button on top, the ring silencer switch and volume control rocker on the left side, and the home button at the bottom of the front. Everything else is controlled from the iPhone's generous screen, including the keyboard.

I, for one, applauded Apple's decision to go with a virtual keyboard on the iPhone. Then again, I was coming from a T9 situation in my mobile use, at which I was never very good at (a generational thing, perhaps?), so I didn't have the keyboard usage a Treo or Blackberry user would have. I am much faster at texting with the iPhone's virtual keyboard than I ever was with my Moto's T9 pad. The lack of tactile feedback, a worry for so many, has not been a factor for me. The iPhone's auto correction works fantastic, and the fact that it's learned my own spelling nuances makes typing on it much faster.
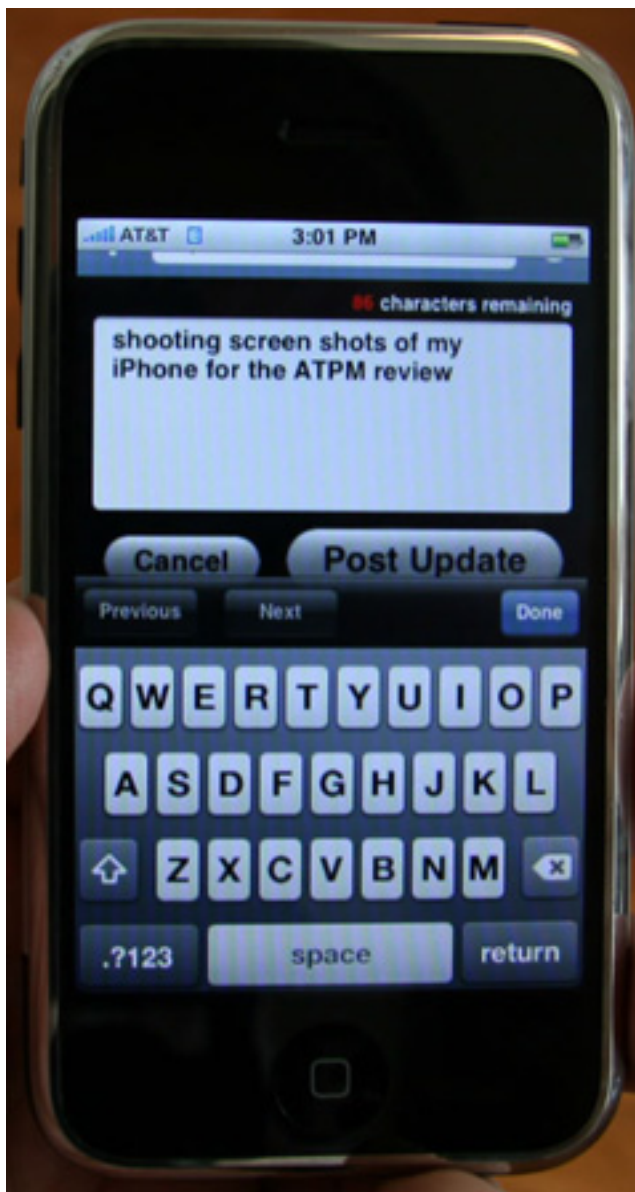
Using my iPhone to twitter via iTweet.

I *love* the physical switch to silence the phone. Whenever we went in to church, or some other venue where it would be rude to have one's phone ring, it was always a two step, minimum, procedure to silence my Motorola v557. When the miniscreen on the top of the v557's clamshell died, that became something like a seven-step process. *Just to put the phone in vibrate mode.* Now, with the iPhone, one step. Flip. Silenced. Flip. Ring.

The sleep/wake button on top also serves to lock the iPhone when it's in use. To power off or on the iPhone, one holds the button down for several seconds, until the desired result takes effect. While the iPhone is on, however, a quick click of the button locks the iPhone. This was also a multi-step process on my Motorola, but one in which I rarely indulged since

the v557 is a clamshell phone, and there wasn't much chance of the buttons accidentally getting pressed.

If there is a phone currently on the market with a better display than the iPhone, I am unaware of it. The iPhone's display is stunningly gorgeous and perfectly bright. The text is crisp and easy to read. Photos and pictures look amazing. It gets a little washed out in bright, direct sunlight, but not so much that you still can't easily read what's on the screen.

I keep telling myself that I'm going to get a Bluetooth headset for my iPhone, but over the past year I've gone without a headset of any sort, and the iPhone earbuds are doing a decent job. These are also the first stock earbuds from Apple where I don't have to worry about the right one falling out after a few minutes of use. (My right ear canal is apparently much smaller than my left.) I was unsure of the mic-on-the-earbud-wire setup at first, but no one's complained that I was difficult to hear when I've used them.

The Software

Many others have said it, and I'll echo their sentiment: having a real Web browser on one's phone is a vast improvement, even if it doesn't have Flash and Java. It sure beats the stripped-down, painful-to-use browsers one finds on the majority of other phones. Yes, the mobile version of Safari does crash more often than the full-blown version, but it's not like it's every session, nor even every day (at least for me). The iPhone's Safari, coupled with [IMDb](), even helped to resolve a. . .spirited discussion my wife and I were having one evening.

From the introduction to this review, you've probably gathered that I love the Maps application, and you'd be right. I've even used it to do my own "Calamari"-like search in my local area for Mexican restaurants, and, just like in the commercial, the little red push-pins came raining down on to the map. (To be honest, it didn't really tell me anything I didn't know already. Then again, Tex-Mex is my favorite, so I've already noted the nearby haunts.)
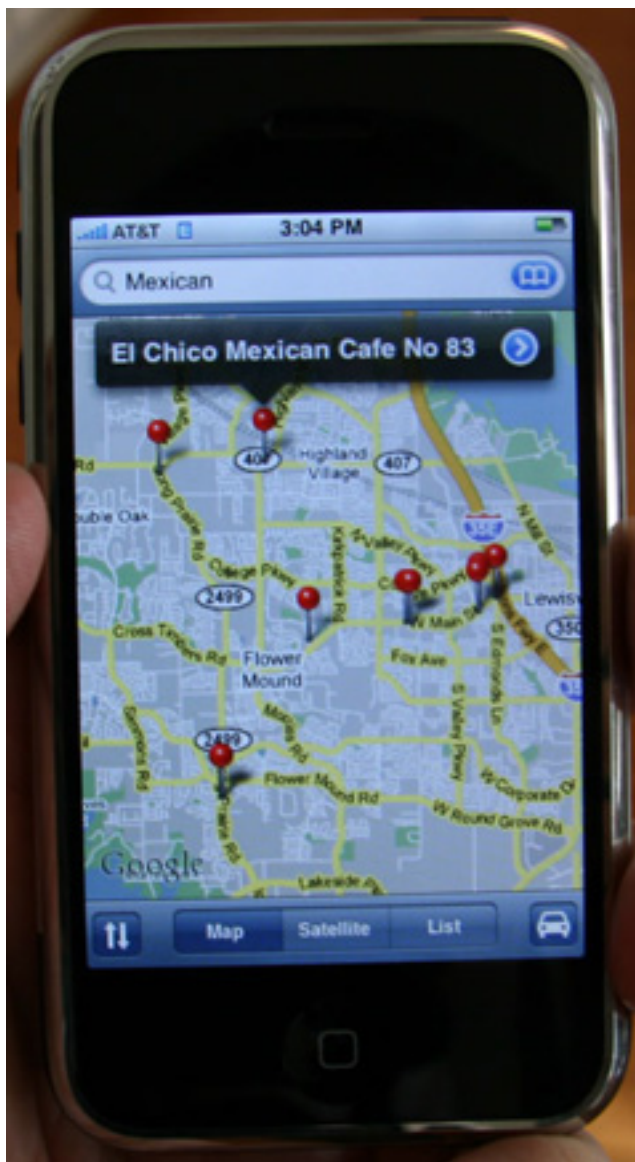
So far as the iPod controls go, I love using the iPhone for listening to music more than I do my 60 GB iPod. If there were a 60 GB iPhone, I'd be in hog heaven. While I don't use Cover Flow hardly at all in iTunes on my Mac, I find myself using it more on the iPhone, for the eye candy, if nothing else. The iPhone screen is the perfect size for browsing album art.
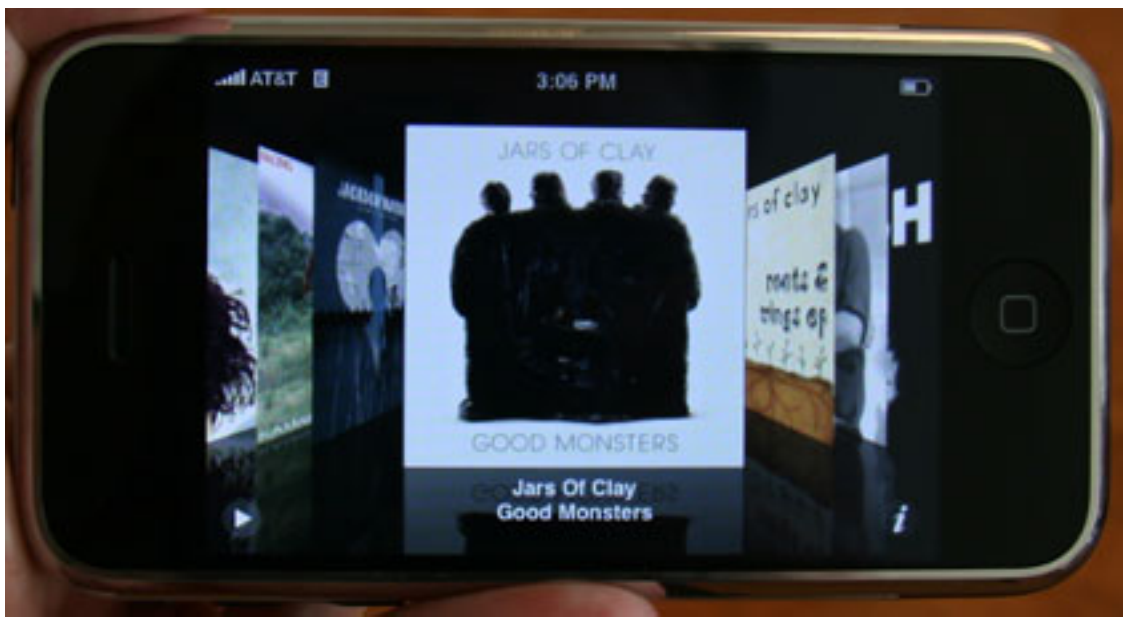
I've never really been a big user of IMAP with e-mail, since my long-time [e-mail client of choice](#) is POP-only, but I really appreciate having e-mail accounts that have IMAP support. I honestly don't have a need to be plugged in to my e-mail *all the time*, but it is nice to be able to send and receive e-mail on my iPhone. I just wish I could get the e-mails in to horizontal mode as easily as one can do with Web pages in Safari.

There are times when I've called my parents during the work day, when I needed to talk to both of them at the same time. This usually meant calling my mom first, since her PBX system gives her the ability to merge phone calls; she'd put me on hold, then call my dad, and merge us all together. I no longer have to rely on mom for that; my iPhone makes it easy to do myself. It's great to be able to put a call on hold, too, something I was never able to do with my old Moto. Because when you're yelling at your toddler to stop torturing one of the cats, the customer service rep at the sprinkler company really doesn't need to hear that.

A good friend pondered if it was worth having an iPhone without the Visual Voicemail feature. While my answer would still be "Yes!", if you use Visual Voicemail for any length of time, it will likely start to make you mad that no other handset maker or service provider has thought of this before now. It truly puts the power of voice-mail control where it belongs: in the hands of the user, not in the hard-to-use maze of a provider's menu system.

The Druthers

Even as I believe that the iPhone is the best mobile phone on the market for the above-average, non-Exchange-requiring mobile user, it's certainly what one would classify as a 1.0 product.

From a hardware perspective, my biggest quibble is that there's not a physical button for the camera. Trying to hold the iPhone steady to snap a photo while pressing the virtual

shutter release is an exercise in steely nerves and muscles, and one generally ends up with less than stellar results, even for a phone camera. A physical shutter release, on the bottom right side of the iPhone, would allow a user to rotate the iPhone sideways and use it as one might a real camera.

If you regularly use the camera on your mobile, and you're looking for the best possible quality, you're not going to find it in the iPhone. The iPhone's camera is typical of what you'll find amongst similar phones. For a lot of people, yours truly included, it's good enough. So far as better-quality shots are concerned, I figure that's why I carry my little Canon PowerShot S500.

The headphone jack is recessed too deeply, and the hole for said jack is too narrow. I cannot use my Aiwa noise-reducing headphones, a mainstay with my iPod, with the iPhone without an adapter plug.

I've never been a big MMS user, but I know many are, and the fact that the iPhone *currently* doesn't send MMS messages could be a deal breaker. I have no hard evidence to back this up, but something tells me this feature will be coming to the iPhone, since it hardly takes a rocket scientist to figure out that a cameraphone needs to be able to send pictures it takes to other people. I do find the fact that I cannot send an SMS message to more than one person at a time rather annoying, though. Let's hope that gets corrected soon as well.

While I love the iPod controls on the iPhone, I really don't care for the fact that there's no disk mode. I really don't like having to get my media on the iPhone via playlists and syncing. I'd much prefer to be able to drag and drop at will whatever I want.

I do miss having speed dial on one of the T9 numbers. The Favorites list on the iPhone is a decent alternative, but it still takes a minimum of three taps to dial a favorite, versus just one press of a key on the old T9 keypad. This will be something that one won't see easily fixed, as some of the issues above, with a firmware update.

I've never been a heavy user of custom ringtones, but I have enjoyed a few. I had gotten so used to the two or three ringtones I had been using that I missed them upon switching to the iPhone. It does seem strange that a device which seeks to mix one's music with a mobile phone wouldn't make it very easy to select *any* song on the iPhone as a ringtone for any contact. We can only hope that Apple is working on such an obvious, brain-dead feature in a future software update for the iPhone, especially for music which one already legally owns. I do not buy a lot of music online, from the iTunes Store or otherwise, preferring to rip CDs in to the formats of my choosing. So Apple's new ringtone service really doesn't do me much good.

Inasmuch as I've gotten good at typing on the virtual keyboard, it would be nice to have it available in its widescreen glory in *all* applications. And what's with the creators of iChat not putting a mobile version of the application on the iPhone? It's also nice to have Bluetooth on the iPhone, but it's limited to headsets. My crappy Motorola phone did easy file exchanges over Bluetooth with Apple's own Bluetooth File Exchange application; you'd

think this would be another obvious, user-friendly feature for Apple out have included out of the gate, but I imagine we won't see this unless we see disk mode come to the iPhone.

In The End...

You may think that as much time as I've spent telling you what I see as the iPhone's shortcomings that I may be having regrets about my purchase of it, especially since I was one of those who paid the $599 premium as an early adopter. You would be wrong. Inasmuch as I was shocked by the sudden $200 price drop last month, I still feel the iPhone is a great value at the original price, and a veritable *bargain* at its new price.

And while I would like to see the above items in the iPhone *right now*, I realize that not every product is perfect, especially when the first version is released. Users considering the iPhone should realize that, too.

Despite my druthers, I still love my iPhone. No matter that I think it could be better, it's still *the best mobile phone I've ever used.* For the majority of heavy-use mobile users, it's the best phone for them, too.

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Software Review

by Chris Dudar, cdudar@atpm.com

iWatermark 3.0.11

Developer: Script Software
Price: $20
Requirements: Mac OS X 10.3. Universal.
Trial: Feature-limited (puts iWatermark registration notice on all processed images).

Do you have images posted online, either photographs or graphic designs? Are you concerned with the potential for having your creative efforts stolen and used commercially without payment or proper acknowledgment? It has been reported that even personal vacation and family pictures uploaded to popular Web galleries are showing up marketing someone else's business. iWatermark, from Script Software, might help to avoid this happening to you.

Almost every image placed online can be easily downloaded with a few exceptions, and those others might still be grabbed by taking screen shots. The first step in protecting the fruits of your creative efforts is to know your rights and the preliminary procedures necessary to curb unscrupulous behavior. For our American readers, the United States Government Copyright Office has a Web site detailing your rights and the requirements necessary to protect them. If you are a professional photographer there is even an online system for filing copyright registration of your images. If you live elsewhere, you should find the equivalent for your country.

In brief, if you have your name, company logo, or copyright notice on your image (collectively termed a "watermark"), then the act of taking and using that image for commercial gain by someone else is considered willful and intentional, and can result in a monetary award. As an aside, Dan Heller presents an interesting tongue-in-cheek scenario of a professional photographer consumed with making more money tracking down and prosecuting copyright infringement cases of his work rather than actually doing regular business. He shrewdly describes the many pitfalls involved in the discovery and litigation of these cases from a small business perspective.

## Visual Watermarking With iWatermark

To reiterate the take-home-message, you *must* have at least a visible copyright notice, ©, or some other personal identifier on your images *prior* to posting them on a Web site for the watermark to have any value as a deterrent to illegal use, or for effective subsequent prosecution of offenders. This is where iWatermark can assist you. It is a good application for its

primary purpose, merging a visual watermark into your digital images, and it accomplishes this job easily and with some great additional features to make your life easier.

Logo.

If you are satisfied with your existing logo then it is a simple matter of dragging it into the Watermark Editor window for use. There is even a handy checkbox for "Make White Transparent" in the Image menu for when the existing logo is on a white background. However, you may wish to explore further tweaking of your logo for use as a watermark. Your existing TIFF, JPEG, or PNG graphic can be combined with simple text and then altered for font size and style, overall transparency, as well as effects such as: emboss, engrave, inverse, outline, shadow, and three plaque settings (brass, silver, and gold). The location, justification, rotation, and size of the resulting watermark can all be set, with the program providing a live preview.
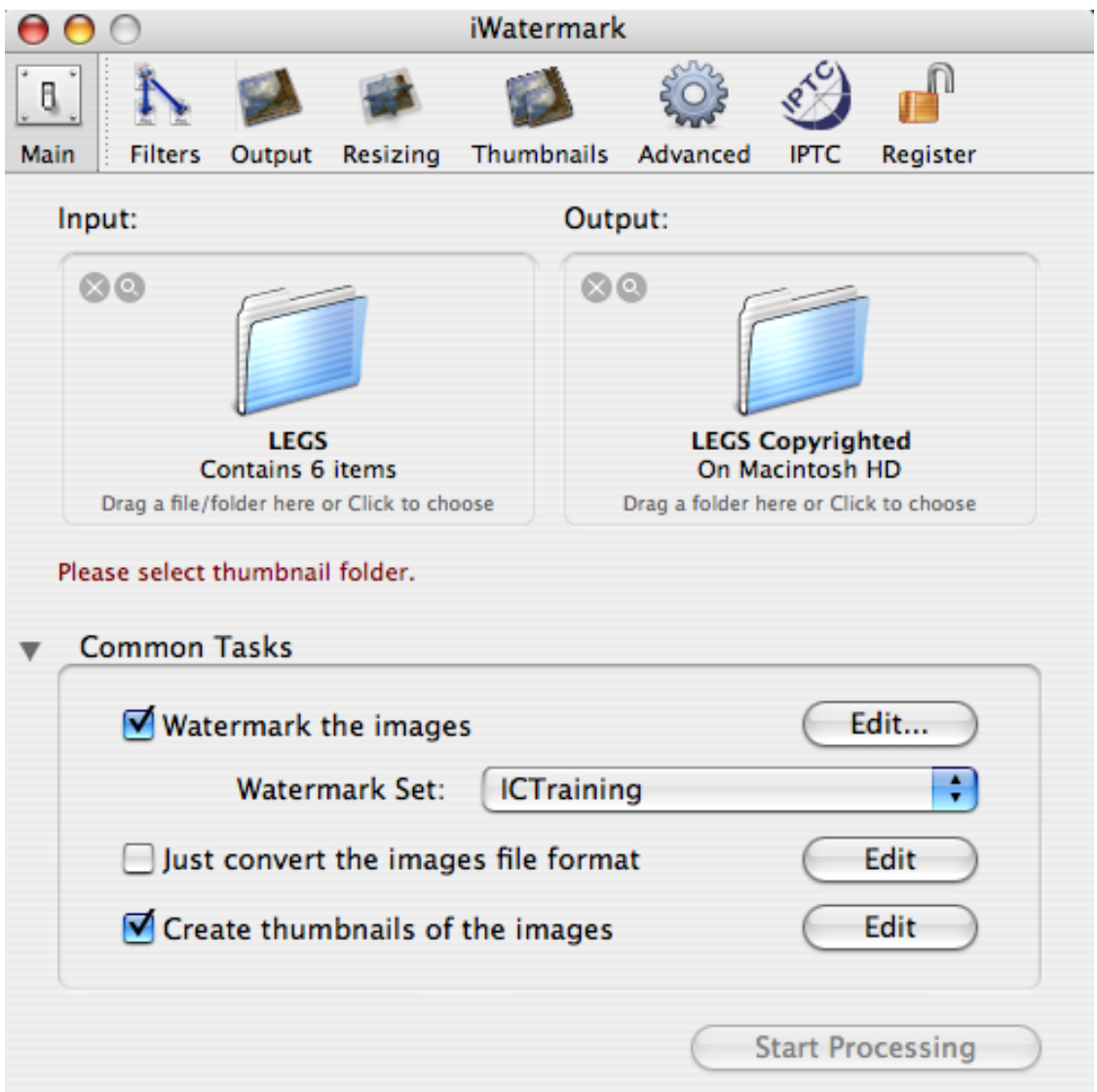
The iWatermark main menu with image folder Input and Output wells, and Common Tasks frame.

Once you have settled on your watermark you simply drag the folder containing your images to the Input well on the Main tab of the main window; they can be in a wide range of file formats including JPEG, TIFF, PNG, PICT, and Photoshop. You can watermark all images in a folder, or filter the files to be processed by format, date, size, keywords, and comments in the file metadata (see below). The empty destination folder for the soon-to-be watermarked images is then dragged to the Output well, and all that is left is to press the Start Process button. iWatermark will copy the images and apply your design, leaving the originals unaltered in their folder. Other output options include changing the file format to any of those listed above, scaling all images to the same size and resolution, and even the creation of additional thumbnails, a fantastic idea.
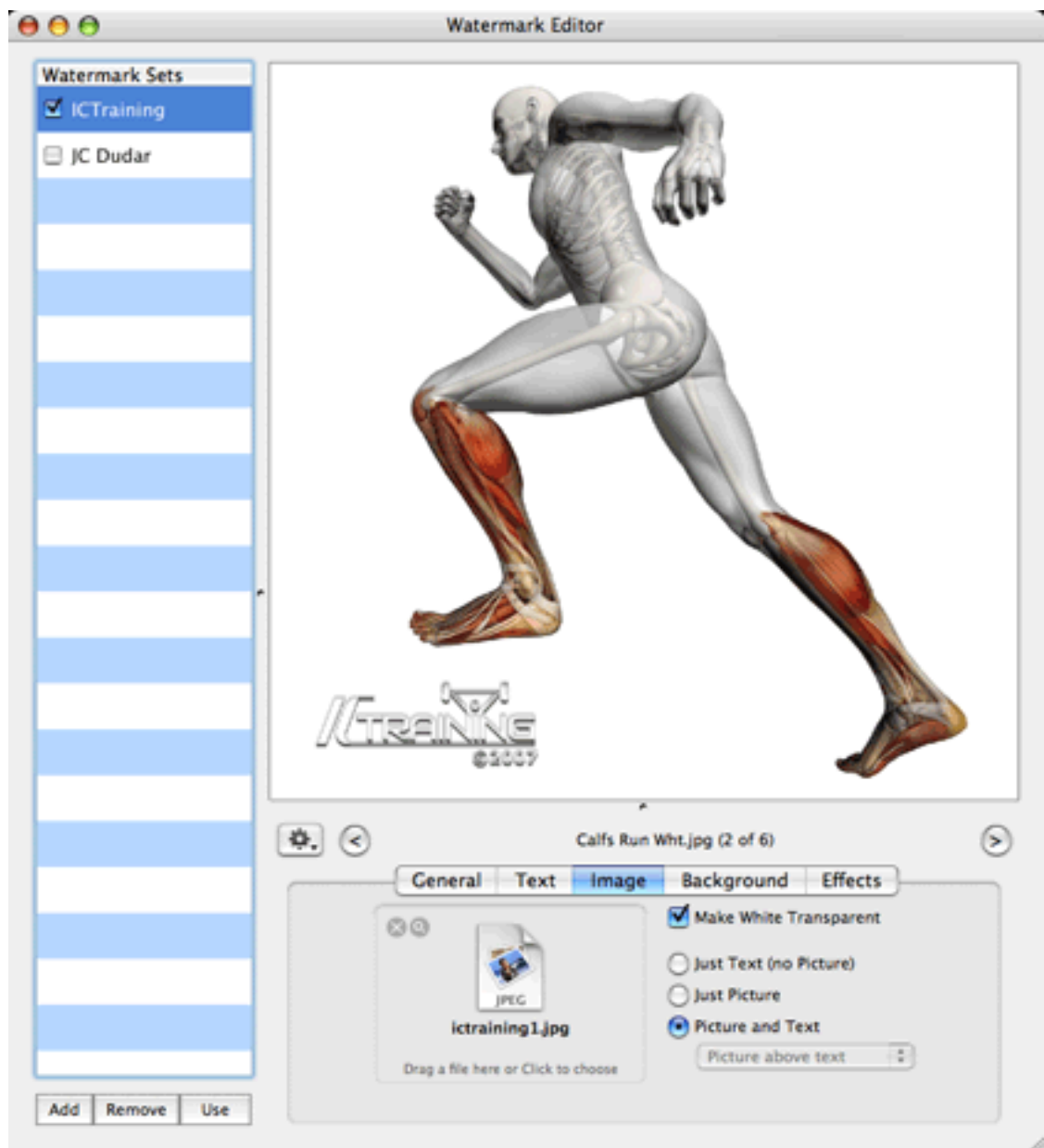
A 3D graphic in the preview pane of the iWatermark Watermark Editor window with the logo and copyright in embossed style.

A powerful new feature introduced with version 3 is the ability to embed more metadata into the image and to save the same metadata into all images, such as the name of the creator, contact information, keywords, and other details. This feature uses the [IPTC](#) (International Press Telecommunications Council) standard format, which allows the data to be read by a variety of other applications. Other advanced settings include *Quick Process*, and a *Watch Input Folder* option, which will auto-process all new images whenever they are placed into an unlimited number of designated Input folders. These are real time savers.

My iWatermark Experience

For the most part I was able to find my way through the program without referring to the help menu, and this is perhaps expected since the application has such a narrow focus. This is also good because the software documentation in the Help menu, organized into *Getting Started* and *Advanced Tutorials*, can be sparse for even the common tasks.

I did experience some intermittent iWatermark glitches, with the first instance involving the main window not acknowledging that I had created a new watermark set, and thus Start Processing was not, and could not, be enabled. The second glitch involved the Watermark Editor window when the program's default example image for the preview was not replaced by the images in my Input folder. This happened on two occasions with start up of the software, though restarting the application resolved both issues, and they have not occurred again in my limited use.

While the watermarking and thumbnail production itself took only about 10 seconds for the 40 images in my test run, I am disappointed with the refresh rate of the Watermark Editor preview. A few seconds were required for switches between watermark effects, shifts of the transparency slider, or even simple text editing, and a bit longer to refresh the preview when moving to the next image in the Input folder. The image I used to create the screen shot you see above is only 144KB, the logo is 204KB, and I have a Mac Pro with 3 GB RAM and 512 MB video RAM. When I tried this on my 1.8 GHz iMac, I was surprised it only took marginally longer to refresh. Watching the program on Activity Monitor showed it was only intermittently using all the cores, but not effectively multithreading between them.

Other Software

If you already have image editing software with layer abilities then you could simply do all, or most of what iWatermark does, in that program. Jan Allinder has posted a free tutorial for embossing your copyright using Photoshop, and even provides step-by-step instructions for creating an action to batch process multiple images. This is a rather more labor intensive substitute and still does not provide all the options, so those who don't mind spending the $20 for the flexibility should go get iWatermark.

Digital Watermarking Alternative

Alternatives to visually branding your images in the iWatermark fashion include digital watermarking, which embeds an encrypted personal identifier right into the pixels of your image, supposedly leaving the image visually unchanged. Ken Rockwell and Dan Heller discuss the pros and cons of the most popular choice, Digimarc. Both conclude that it does alter the appearance and quality of the image with all else being equal, or that the file size needs to be increased by up to 40% to be relatively free from the artifacts introduced by the process.

Protective Code for your Website

If you are posting images to your own Web site, and thus have control over the content code, then Jan Allinder provides some really great tips and scripts on protecting your images, such

as using a simple roll-over technique where the roll-over image is set to 80% transparency and is watermarked. Another includes setting the image as a background picture within a table, then placing a transparent blank image file over the table so that when right-clicked, only the blank file can be grabbed. However, many image protection techniques make Web pages inaccessible to the handicapped, so beware and research before you implement.

The Reality of Watermarking

No method of watermarking creates an image that cannot be altered in some way to remove the copyright; after all, one could simply crop the image if the watermark is along the bottom or sides. If you went so far as to boldly place your watermark across the entire picture, then you would be disfiguring it to the point where it loses its appeal to viewers or customers. In addition, image editing software contains some pretty sophisticated tools to cover imperfections, and these could be used to strip any watermark if somebody were really determined.

Despite the fact that a digital watermark is encrypted and embedded, Mr. Rockwell maintains it can also be removed by simply applying a 2-pixel Gaussian blur. The bottom line is that a watermark acts as a simple deterrent, but the presence of a watermark on an image must necessarily predate an act of copyright infringement should you decide to exercise your legal rights.

Conclusion

The demonstration version of iWatermark comes fully featured so you can get a good idea of its capabilities. That said, it will "watermark" your images, and even the thumbnails produced, with a nag message to register your copy. If you really need to know, you can get around this by saving the preview image to disk from the Watermark Editor window by clicking on the rectangular button to the left of the image navigation back arrow.

Some improvements I highly recommend include better optimization of the refresh rate on the preview image, and a fully adjustable watermark scale, as the current scale options include only nine settings ranging between 5% to 100%. There may be a simple workaround within the program for this last issue; I just haven't found it yet. I would also like to be able to experiment more by combining watermark effects and adjustable expression levels, for example 50% shadow on the watermark combined with 75% inverse background color might be interesting, though this may just be me.

PodFolio

Developer: Digital Lifestyle Outfitters
Price: $30
Requirements: 5G video iPod
Trial: None

The sixth anniversary of the iPod is coming up this month, and the now-ubiquitous media player has spawned a multi-billion-dollar accessories industry ranging from the mundane to the ridiculous. With its highly polished metal case, the iPod has, like a restored classic car, inspired owners to go to great lengths to protect the new look, and a huge chunk of the accessories industry is built around protective cases.

You can have a protective case for your iPod made out of just about anything. Anodized aircraft aluminum? Check. Waterproof silicone rubber in all the colors of the rainbow? Check. Leather? Check. Clear acrylic? Check. Wookiee fur? Check.

DLO's $30 PodFolio is the spiritual successor to one of the original iPod cases, the Leatherpod. It's essentially the same design updated for the iPod video form factor with a few minor tweaks. The leather hinge runs all the way across the top of the iPod, providing strength and durability, but the headphone jack cutout is fairly small and has the potential to block larger plugs like those found on some higher-end headphones.

The headphone cutout is fairly small, which puts pressure on the stock Apple earbuds and may prevent the use of headphones with larger plugs entirely.

There is no screen protection with the flap up. This is a double-edged sword; having a piece of clear material across the screen in a case that fits this tightly does indeed provide protection to the screen but also has a tendency to trap dirt and other tiny abrasive particles that will eventually scratch the very screen the material is designed to protect. After using both designs for quite some time, I believe the folks at DLO got it right. There's really no need for additional screen protection beyond the flap itself.

The PodFolio's belt clip is wrapped in leather like the rest of the case, making it slide off your belt easily—too easily—while running.

The belt clip on the PodFolio is a simple design that works well enough for walking around, but tends to slip off if you run with the PodFolio. While most people who use an iPod for exercise inspiration probably use a Shuffle or a Nano, if you're planning on running with your iPod in the PodFolio, you'll probably want to consider a different case with a more secure means of attachment.

The PodFolio allows you to sync the iPod without removing it from the case.

Just about every iPod case now allows you to charge the iPod without removing it from the case, and the PodFolio is no exception. A good thing, too, because removing the iPod from the case is awfully difficult. To make up for this difficulty, though, DLO designed the PodFolio to work with many Dock Connector accessories. DLO's TuneStik, for example, clips right onto the bottom of the iPod-PodFolio combo without fuss. As with most cases, however, you can't put the iPod in a dock while it's in the case.

The DLO PodFolio is thin enough to allow some third-party iPod accessories to be installed in the Dock Connector while using the case. Shown here is DLO's [TuneStik](#).

The flip design isn't everyone's favorite, and for good reason. It's inconvenient to watch video because you have to keep the flip open, and it's well-nigh impossible to change tracks on the iPod with the flip closed. This can be a minor annoyance at best and a fatal flaw at worst, but only you know how you use your iPod, and within those limitations, the PodFolio works very well.

A steady hand and a textured surface can combine to get the PodFolio to stand on its own, but it won't last long.

The classic black leather look goes with everything, which is more than can be said for a lot of cases. You could wear this case with a suit and it would fit right in, but it won't look out of place with jeans and a hoodie either. Try that with a <u>Detroit Pistons iPod case</u>.

There's not really much wrong with the PodFolio, and at a price of $30 for a stylish genuine leather case that does its job without hassle, there's a lot right with it. If you're looking for a flip-style case for a video iPod, there isn't anything out there that's better for the price.

TuneStik

**Developer:** Digital Lifestyle Outfitters
Price: $60
Requirements: FM radio and any iPod with dock connector.
Trial: None

The TuneStik is DLO's latest FM transmitter for the iPod. Unlike the TransDock and TransPod series of FM transmitters from DLO, the TuneStik is not also an iPod charger, and the TuneStik features a RF remote control. Being a happy owner of two TransPods, I was eager to give the TuneStik a tour of duty as the primary means of iPod broadcast in my vehicles.

The TuneStik is well deserving of its name; it's *tiny*, conforming to the dimensions of the iPod. When plugged in, especially on an iPod of similar color—and the TuneStik is available in any color you can think of, so long as that color is black—one might be hard-pressed at first glance to notice that it is not part of the iPod itself. My father-in-law, whom I had picked up from the airport when he came for a visit, was fooled for a moment when he first examined the unit in operation in my Honda Pilot.
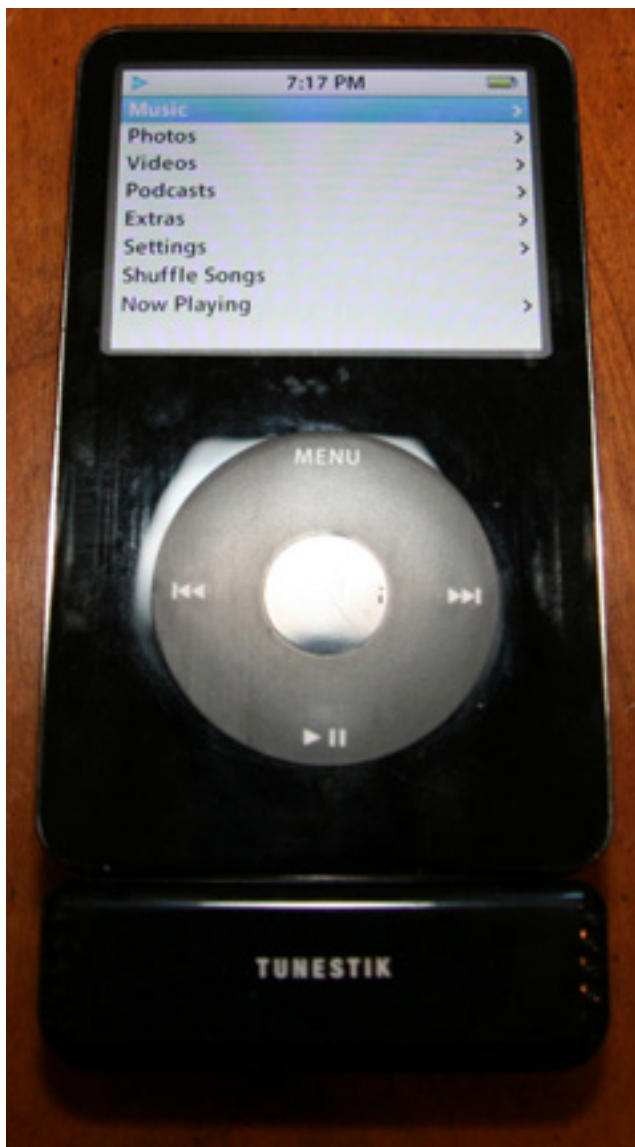
The TuneStik installed on my 60 GB iPod.

Since the TuneStik is not large enough to enable charging of the iPod through a vehicle's power plug, as the TransDock and TransPod transmitters do, DLO included a dock connector pass-through, so you can plug in any dock-connector power cord to the TuneStik, and your iPod will receive power. This worked when I used it with a cord, though in a vehicular setup, it's a bulky setup. I would warn you to *not* plug in your TuneStik-attached iPod to the standard iPod Dock. While the TuneStik makes the connection just fine, the overall height of the iPod with the TuneStik attached makes the unit unwieldy, putting too much rearward pressure on the Dock's connector.

The RF remote is equally tiny, and color-coordinated with the TuneStik. It features buttons for play/pause, forward, back, volume up and down, as well as a button to turn on the iPod's

backlight. The final button is the Frequency button, used to tune the TuneStik to the FM frequency of your choice while plugged in to the iPod.

Left to right, the TuneStik's cradle, remote, and TuneStik module.

The remote also features a cradle you can attach to your steering wheel through means of a Velcro strap. This makes it easy to control the iPod through the TuneStik while driving, and indeed, this was one area where the TuneStik setup worked as advertised. The remote cradle can be problematic, however, depending upon your personal driving habits and the layout of your vehicle's steering wheel. For myself, the best place for cradle placement, from a usability standpoint, also happened to be the one spot on the steering wheel my left hand rests the most. I liked the ability to control the iPod with the remote without having to look away from the road, but I did not like having to revise my own driving habits to do so. You may feel differently.

When DLO released their first TransPod a little over two years ago, I was fairly smitten. One thing I appreciated with the original TransPod was that I could dial it down to the lowest FM frequency possible, 87.9. In the radio station-heavy metropolis of Dallas/Fort Worth, this was a boon. As a matter of fact, having travelled through a good portion of the southern United States, as well as northern Mexico, in the past two year and a half years, I cannot recall having a single interference issue with the TransPod set at 87.9.

Alas, the next generation TransPod we purchased for my wife's minivan did not dial as low, going down only to 88.1, and we have intermittent interference issues with it. After much trial and error, we seem to have found a decent frequency for it, but we still get the occasional burst of static or random overpowering from some other transmitter.

The TuneStik suffers a similar fate, only *more* so. I had a devil of a time finding a suitable FM frequency for it to remain on while riding around town, much less while driving long distances. It has been very easy for the little TuneStik to be overpowered, and I wonder if its small size, and therefore lack of shielding, has something to do with it. I have been unable to remain static-free on multiple frequencies while running errands within a 12-mile radius. The TuneStik is nearly useless in a rain storm with any significant electricity in the air. We've seen more than normal rain this June and July in north Texas, and during one particular storm, which wasn't that heavy, rain-wise, the TuneStik struggled, with static constantly mingling in during playback.

Setting the TuneStik's FM frequency.

The TuneStik is supposed to have an effective range of 27 feet, so one would think it would not have any problems resting in the center console, a mere three to four feet from the vehicle's radio. Even at that short range, the TuneStik, on a clear and sunny day, would have problems with intermittent static while driving around. To make matters worse, the TuneStik is very susceptible to interference from the one source you'd want it to be shielded: the human body. Any time I attempted to handle the *iPod* with the TuneStik attached, static increased over the speakers.

The TuneStik is advertised as a means of playing your iPod through your home stereo as well. It works just as it does in an automobile; tune your home stereo to the same frequency as the TuneStik, and play tunes from your iPod. I have an Aiwa shelf stereo in the study that my iMac is hooked up to; this is my primary means of playback from the iMac. Being in a completely stationary setting didn't bode much better for the TuneStik. It took several

minutes to get a clean signal to the Aiwa, even though the iPod/TuneStik was a mere 12 inches from the stereo's antenna! Again, even in this stable environment, the TuneStik was susceptible to interference whenever I picked up the iPod to move it around.

Given the constant unpredictability of outside interference causing the TuneStik to stumble, I cannot recommend this unit for iPod playback through FM radio frequencies. This is disappointing, given my favorable past experiences with DLO products. I hope they can fix these interference issues in the next hardware iteration.

Velocity Matrix Laptop Backpack

Developer: Slappa
Price: $120
Requirements: Laptop
Trial: None

ATPM has been host to a considerable number of backpack reviews authored
by people who have described pretty clear opinions about what they want—and what they
don't want—in a backpack. I, on the other hand, have absolutely no aficionado tendencies where backpacks are concerned. What I know is that every backpack I've considered
purchasing that was designed to accommodate a laptop computer seemed to either be too
small to accommodate all the items I wanted to bring, or so large that it might be mistaken
for a pack you'd use on a multi-day, backwoods hiking trip.

The Slappa Velocity Matrix backpack.

When the Slappa Velocity Matrix appeared on the ATPM review items radar, I remembered that I had seen another write-up about it. It finally seemed to be the backpack I wanted—one that would hold about the same amount as my tried-and-true laptop case, yet not be so cavernous that everything simply fell into a pile at the bottom of the bag.

This laptop case has served me very well for many years, but I'm finally ready for something that can hold just as much and also be hands-free when I'm on the go.

If you've been reading ATPM for a while, you might remember my review of the Incase Sling Pack. While I do still periodically use the Sling Pack, my need to carry more than what it can hold tends to leave it on the sidelines while my "big bag" makes the journey yet again.

The Sling Pack's left shoulder-only design was my favorite attribute because of a shoulder injury that prevented me from carrying much weight on my right shoulder for very long. Five years later, the shoulder is much better, and I can use standard backpacks.

Size comparison between my trusty travel case and the Velocity Matrix.

Without taking literal measurements, the Velocity Matrix appears to have no more capacity—and possibly a little less—than my old travel case. But appearances, say it with me, can be deceiving. Without looking or feeling like an enormous backpack, the Velocity Matrix is extremely spacious. This backpack quite happily accepted every last item that I transferred from my travel case. When I had finished, the Velocity Matrix was, astonishingly, carrying the following:

- 15″ MacBook Pro

- spare power adapter (the large version before Apple finally started selling the smaller ones again)

- Apple AirPort Express

- Apple USB modem with a phone cable

- DVI to VGA adapter

- standard size USB optical mouse (I hate miniature mice)

- a half dozen blank CDs in slimline cases

- earbuds, power adapter, and USB cable for my iPhone

- 5G iPod

- A/V cable (3.5mm jack to triple RCA connectors)

- an assortment of RCA/quarter-inch/3.5mm audio connection adapters

- an assortment of FireWire and USB cables

- two Ethernet cables

- Podium [CoolPad](#) laptop stand

- USB thumb drive

- several pens and markers

- checkbook

- Leatherman multi-purpose tool

- travel-size Mag-Lite

- compact first aid kit

- small bottle of Advil

- pocket novel

- collapsible Frisbee (gotta have some something to toss around once in a while, right?)

The fully loaded backpack.

Wow! All of this really did go into the bag, and *there was room to spare!* In fact, as the Slappa promotional shots indicate, I could easily accommodate two laptops in this bag and probably would only have to rearrange a few of the above list of items without removing any. So the Velocity Matrix clearly had at least as much, if not more, capacity as my travel case. Since there's a well-stitched handle on the top of the backpack, there's an extremely good chance it will permanently replace the case.

The handle feels well-stitched and comfortable.

You might be thinking that with all of those items tucked away in the backpack, the thing must be wicked heavy and/or uncomfortable to wear. You'd be thinking wrong. Notice that the laptop is the only thing in that list of any considerable weight, and only things that weigh a fraction of the laptop's weight comprise the runners-up for heaviest items—such as the iPod, the Leatherman, the AirPort Express, and the two power adapters.

As for comfort, my only initial concern doesn't seem to be a concern at all. I was worried about the design of the shoulder straps, specifically where they connect at the top. That connection runs from one shoulder to the other, just below your neck, and I had the impression that its edge would press into the base of my neck.

The upper portion of the shoulder straps.

What this piece actually does is spread the weight out a little bit so that instead of resting entirely on your shoulders, a little bit of the weight goes across your upper back.

This flap of material, rather than digging into your neck, actually distributes and cushions the weight.

The straps themselves are curved inward, a more ergonomic design that helps keep the backpack securely in place. However, this inward curve may not be entirely agreeable with some women.

Inward-curved straps may help secure the backpack while wearing it, but may have been designed only for males.

Maybe I'm just too accustomed to the travel case and too inexperienced with backpacks (I never used backpacks in school, opting for tote bags instead), but I somewhat wished the sides of the Velocity Matrix were stiffer so that it would stand up a little better on its own. When I open it to get things in or out, it sort of collapses on itself a bit unless I lean it against something. The front zip-open compartments also just completely flops around when it is completely open, though this might be a benefit when placing an odd-sized object in that space. This, however, is just my observation and may be typical of this style of backpack.

The "floppy" front compartment cover.

Immediately apparent when I first received the Velocity Matrix was that the material used on the exterior is tough, even if it does collapse on itself as mentioned above. Slappa describes it as "thick rubber exoskeleton plus hydro-repellant and puncture-proof BuckBlast suede." I can vouch for the weather-repellant properties of the material, but I'm not sure I'm ready to start poking it with a sharp object.

Inside almost every compartment, virtually every inch is covered in soft material that won't leave you worrying about the contents getting scratched.

The zippers include a piece of material stitched over the ends. This material keeps the ends from snagging on anything and allows the zipper handles to be tucked into place.

The primary compartment for a laptop uses this soft material wrapped around a stiffer material that cocoons your computer. Its size can easily accommodate a 17″ MacBook Pro. As for my 15″ laptop, I may consider purchasing a sleeve of some sort—not because I feel the extra padding is needed, but just to not have the computer riding loose in a compartment that is so much larger.

I was very pleased with the laptop compartment, except for the cover flap which seemed a bit oversized. When open, the hook-and-loop fastener patch on the flap has a tendency to stick to other parts of the interior lining.

The compartment on the back side of the Velocity Matrix that rests against your back is lined with a soft, smooth, plastic-like material. Slappa calls it a "Stay Cool" material intended for keeping liquids from getting warm. This particular compartment may not, however, be where you'd want to store a water bottle.

Another compartment, located directly in front of the one that holds a laptop, seems ideally suited for placing a few books, making the Velocity Matrix a good backpack for students.

The back of the case sports a thick-padded Slappa hand logo. In spite of the unwieldy shape, it's a comfortable pad you can wear against your back for long periods of time.

The Slappa hand slap logo forms a thick and comfortable pad against your back.

On the bottom, two hard plastic strips offer some protection against scuffing the BuckBlast suede material that comprises most of the backpack's exterior when you set it down.

Hard plastic strips reinforce the bottom of the Velocity Matrix.

One last little perk is the inclusion of a pouch with a metal clip designed to attach to nylon strips on the backpack's front straps. This pouch can carry an iPod, a phone, or any small device to which you'd want quick access.

The clip-on device pouch.

The pouch shown attached to the shoulder strap.

Unfortunately, its design seems suited only to giving an easily accessible storage location for such devices. It's not terribly conducive to actually using a device when it is still inside the pouch since you'd have to completely remove it to access any button controls. Likewise, there's really no good way to have a headphone cable attached to an iPod that's riding inside the pouch.

Finally, on the Velocity Matrix's overall aesthetics, I'm a bit on the fence. The overall shape and black color are great, but I'm not sure on the pattern of the white stitching surrounding the exoskeleton rubber. But everyone's tastes are different. I'm sure there are some who think the pattern looks great.

Since I can see this backpack permanently replacing my old travel case, I obviously must like the design of the exterior pattern well enough. But what I like most is its ability to hold the above list of items, plus have room for additional gadgets in the future, while keeping

my hands free and not feeling as though I'm carrying something the size of a duffel bag. Slappa has several choices in tote bags, as well, if a backpack doesn't suit you. But, if you're looking for color choices, you'll have to search elsewhere. Slappa only makes computer cases in black, with dark grey accents on some models.

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