

# ATPM

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

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# Welcome

by Robert Paul Leitao, [rleitao@atpm.com](mailto:rleitao@atpm.com)

Welcome to the September issue of *About This Particular Macintosh!* With Labor Day approaching and gasoline prices in some regions of the country approaching \$3 per gallon, we're happy to say we are an environment-friendly publication. Not a piece of paper was used in the production of this issue, and not a drop of gas was used to deliver ATPM to your digital doorstep. The only thing our editors don't recycle is our content.

## Fire and Rain

Our thoughts are with the people of Louisiana and Mississippi who are struggling with the effects of hurricane Katrina. Meanwhile, in the west wildfires continue to rage, ravaging millions of acres of forest and plains. As we go to digital press, almost 7.5 million acres of land in the US have already been burned this year.

The advent of high-speed Internet access and media-rich content have helped save lives as early warning information and up-to-the-minute Internet-based disaster reports keep people informed and help those affected by natural disasters plan and prepare for action.

It's no wonder so many Macintoshes are being purchased by college students and higher-education institutions. There's no better learning tool for the Information Age than a Macintosh computer connected via of the Internet to news sources and libraries located all over the world.

The third calendar quarter of 2005 may be a banner season for iBook sales, as students returning to campus are buying Macintosh laptops in surprising numbers. A Macintosh computer and iSight combination may be just the solution for college students desiring to keep in close contact with family and friends at home. This year's natural disasters are just a reminder there's no one further away than a loved one who can't be reached from back home, and no one so close as someone separated by distance who calls, e-mails or video conferences to say "The rain has stopped," "The fire has moved on," or "Hey, I passed the test!"

## No Peas in the 'Pod?

One of our favorite regular columns at ATPM is [Pod People](#). We invite you to join our monthly madness by sharing your iPod experiences with our readers. Please contact our [managing editor](#) for more information. Without your help, there might be no peas in the 'Pod column next month.

## More Peas for the 'Pod?

According to media reports Apple Computer will be announcing a new portable product on September 7th. Much speculation focuses on a new iPod shuffle with up to 4 GB of flash

memory. Meanwhile, Apple Computer appears to be buying as much flash memory as the company can ahead of the new announcement.

## **iTunes Phone Home?**

The long-anticipated iTunes cell phone may soon be here (or hear), depending on how you like it. Although Apple and Motorola's CPU partnership may have waned, Motorola and Apple may soon debut an iTunes phone that can play music purchased at Apple's popular online music store.

## **Eight Is Great?**

We'll soon find out. FileMaker, a wholly-owned subsidiary of Apple Computer, had just rolled out version 8 of its popular database product. Skipping the half-step to 7.5, the new product offers a number of new features and enhancements that may have compelled the company to set-aside its usual upgrade nomenclature and offer this release as a full version advancement.

## **Our Latest Issue**

This month thousands of public and private learning institutions welcome students back to school. At ATPM we never stop learning. Our staff works around the clock and all over the world to bring you the latest Macintosh news and views in our friendly, easy-to-read monthly format. We don't test your patience, but we do examine the facts. Our standards never take recess. Please enjoy our latest issue.

Our September issue includes:

### **Bloggable: Intel-ligent Design**

When a bunch of hackers sent word that OS X for Intel CPUs wouldn't run fully on their grey-box PCs because Apple was using Trusted Computing, a kind of DRM for operating systems, the only sound Wes Meltzer could hear for many miles was thousands of hands wringing. Was Apple about to become the Kansas of the computer world? Also, news about future PowerBooks, bad jokes, Internet Explorer news, and more, in this month's *Bloggable*.

### **Desktop Muse: Robert Moog: A Tribute**

Remembering synthesizer pioneer Robert Moog.

### **Pod People: Adventures of an iPod: How I Became One of the Pod People**

No matter how much willpower you have, one long road trip with an iPod will make you too one of the Pod People. Resistance is indeed futile.

### **FileMaking: Calculations in Depth**

After a discussion of FileMaker's field types, this month Charles discusses fields and calculations.

## Desktop Pictures: Textures and Big Apple

Macintosh enthusiast Francisco Leung shares his view of the moon over Manhattan, and Contributing Editor Matthew Glidden offers street and building textures from Louisville, KY, as well as New Orleans, LA—locations which, in the aftermath of Hurricane Katrina, we may not see for quite some time.

## Cortland

Cortland decodes corporate buzzwords while missing a golden opportunity. Meanwhile, the plan of the evil geniuses is temporarily foiled due to their inability to read a map.

## Frisky Freeware: Nvu

Frisky the Freeware Guinea Pig checks out the Nvu Web authoring software.

## Review: ABSmini

David Blumenstein checks out a small external drive with one-touch backup capability that is totally USB-powered.

## Review: Mighty Mouse

“[The Mighty Mouse is] Apple’s first attempt at making a mouse with more than one button. With any luck, it won’t be its last.”

## Review: Neocase

The RadTech NeoCase is a nicely-made neoprene carrying case for Apple laptops, and it is much better than its *Matrix*-style advertising makes it appear.

## Review: PhoneValet 3.0, PodCast, and Anywhere

PhoneValet 3.0, PodCast, and Anywhere offer a significant upgrade to the previous PhoneValet products, and they offer the same ease-of-use in previous versions while greatly extending the features.

## Review: Tron 2.0

For any video-game geek growing up in the 80s, Tron was one of those defining moments. Now Monolith and MacPlay bring us the sequel: Tron 2.0—and this time you are on the game grid!

## Review: You Control: Desktops 1.1.1

Think about Apple’s Fast User Switching feature. Now imagine the same concept, but not switching to a different user.





## Bloggable: Get a Clue

You know, the reason all those “just don’t get it” guys don’t get it, could be because they really don’t get it! Maybe when you sit them down in front of a Mac, they really can’t see why it is so much easier to use than Windows (not just the graphical user interface, which is already awesome, but the way things are *done* on the Mac).

So, when it comes to the iPod:

Hey, look here a sec, this other MP3 player plays MP3s. It also looks fairly cool—it’s got different shades of rainbow. You Mac guys like different colors right? This MP3 player also syncs with my PC. It’s got a hard disk and a color screen. It’s also cheaper than the iPod! So, what gives? Why is the iPod so popular? *I don’t get it!*

—*Angus Wong*

## FileMaking: Welcome to FileMaker

This article should occupy a place in the tutorial shipped with FileMaker. It is that good. The example provided is exactly like the database I was trying to set up and the problem I had was not understanding how to use the pop-up. I was just about to drag my butt back to Borders to order a real book when I came across this site. I hope the articles keep coming. This is a fantastic introduction.

Thank you very much!

—*Bob Cook*

## Boswell Review

Thank you for your article. I’ve been using Boswell for a couple of years now. I am a Shop Steward for my Union, and use it to keep track of all of my interviews, facts and contentions, notes, information requests to management, etc. I’ve been able to get notes from a meeting that took place more than a year ago to help solve new problems.

I would also like to say that Copernican Technologies tech support is great. When I first upgraded to version 4.0, I had a problem with transferring my old library. I e-mailed in my problem. We exchanged a couple of e-mails. I still couldn’t solve it. Then I received a phone call from their tech support. We were on the phone for more than 30 minutes, and Will talked me through the import problem. This is great tech support. My upgrade to version 4.0 was free. They didn’t make a lot of money off me, but I am a very loyal user.

It's rare that I find software that I use every day with great support. Just for the record, I am not affiliated with Copernican Technologies in any way.

—*Cody Bryan III*



Thanks for the thorough review. If I'd read this a year or two ago, I'd have bought Boswell instantly. But since the advent of OS X, I've been continually astounded by the speed of development. Countless times, I've come across new programs that promised to meet all my needs, and now own Tinderbox, VoodooPad, Circus Ponies' Notebook, StickyBrain, DEVONthink Pro, OmniOutliner Pro, MindCad Pyramid, Inspiration, Webstractor, Ulysses, and MacJournal. That excludes more narrowly focused apps like Bookends (for references and citations) and Delicious Library.

For keeping a comprehensive library of data, I find it difficult to imagine anything better than DEVONthink Pro. For other purposes such as keeping snippets and storing my own I'm still not sure. In fact, I have a feeling that any of these programs could have served me well if I'd stuck with it and used it exclusively for a long period of time. I know I probably read too many software reviews and part with my money too easily. But I have several specific questions, and would appreciate any insights you or readers can provide.

1. Is it better to have separate programs to store one's own writing and miscellaneous snippets? That's what you seem to imply in this review, though other reviews suggest Boswell as the ultimate snippet keeper.
2. Anyone who's familiar with some of the programs I mention (and/or other competitors): Is any of these superior to the others? With so many new programs available, all boasting functionality that we could hardly have dreamed of a few years ago, is there any systematic or principled way to choose?
3. Reviewers such as yourself who regularly review software: When you find something that seems to be better than your present setup, do you adopt it wholesale after finishing the review. So for example are you doing all your writing in Boswell now? And if something even better comes up next month will you happily abandon Boswell for that?
4. Boswell seems cheap when you think about the mega-apps like Office, Photoshop, QuarkXPress, FileMaker that I used to think no computer could be without. Yet it's expensive compared to programs developed by people who didn't used to develop for Classic Mac OS (VoodooPad, StickyBrain, Notebook, OmniGraffle, etc., etc.). Do these prices reflect different degrees of functionality?

—*Rick Lewis*

I tried DEVONthink some time ago, and I didn't like it at the time. It felt like the user interface was getting in my way, in a way that I didn't feel with Boswell. I'm not surprised that the two are being compared, though, because they are similar in some ways. I also didn't get the impression that it's well-suited to storing as much data as Boswell.

Let me answer your questions, though:

1. I keep my snippets in Boswell, too. Are you referring to my remarks about keeping separate libraries? For that period of time, I kept everything in Boswell. It worked out quite nicely.
2. I can't answer this question fairly; I didn't use DEVONthink as heavily as Boswell, and I haven't used any of the other applications beyond a couple days' trial. I wouldn't be comfortable evaluating them. [I tried](#) to use MacJournal that way, and it didn't work out. Otherwise, though, we'll have to rely on other readers, Rick.
3. This will depend on the software you're reviewing, really. I'm still using Boswell currently, and it's worked out quite nicely. But if it's software you might otherwise not have used, or if you had to make a concerted effort to use it, then, sure, you'll see some drop-off. In the case of Boswell, I found that it worked better than writing everything out on sticky notes or in my Moleskine, in spite of the time advantage of being able to write while on mass transit. So I've stuck with it. If something came up, though, sure, I'd abandon it, at least for that month, and I'd even export everything out of Boswell and into the new application.
4. I don't think the application pricing has anything to do with the application development platform, no. We're really talking about three entirely different classes of software: really, really big-name applications; geek applications; and workhorse geek applications. The big-name applications are expensive because they're very expensive to develop and maintain, and because they always have been and Adobe has no reason to cut into their revenue. (I won't touch Quark, because, well, I might say too many mean things about Fred Ibrahimi.) As far as the distinction between the geek applications, OmniOutliner is the one that doesn't fit in. Boswell and DEVONthink are designed to store everything you write, period, and in my own experience VoodooPad, StickyBrain, and Notebook just aren't designed to hold everything. They're better suited to jottings and notes, but they're not really designed for you to write a book in them. And, in general, you pay more to get that stability and functionality and the je-ne-sais-quoi of Swiss Army knife-ness. OmniOutliner is the exception to this rule, but that has more to do with Omni's pricing structure, I think, than anything else.

Thank you for your comments, and I hope my answers are helpful to you, Rick! I hope everybody else feels free to chime in on the matter.

—Wes Meltzer

## Tiger Fix

Although initially excited about Mac OS X 10.4, I decided to hang fire expecting some sort of major upgrade. Sure enough, shortly after launch there is a multi-megabyte, multi-hour download to “fix” some issues (I think over 50 MB probably covers more than a few issues).

How am I supposed to stand up to my Microsoft-centric workmates and smugly praise the security of OS X when Apple’s updates are becoming almost as frequent—if not more so—than Microsoft’s?

Oh, and while I’m in full flow, when is Apple going to realise that whilst the US may have almost universally cheap broadband not all of the world is so favoured? What with updates to OS X, iTunes, iMovie, iPhoto, iCal, security updates, etc., anyone on a 56K connection would have to spend a small fortune every few months to keep up to speed.

Apart from widgets, and possibly a small speed bump, I see no need to update to 10.4 at the moment and especially not until all the updates are included in the shelf version.

Sorry Apple, ring up one no sale.

—*Phillip Davis, Kingston upon Hull, England*

## LP-to-iMac

I just came across your three columns on converting [LPs to CDs](#) in ATPM in 2003, and found them very helpful. What about the iMac G5, which has an audio input? Can you just go directly from a stereo preamp audio out to that via a cable with RCA jacks? I can’t find out from Apple!

—*Ed Kearns*

Yes you can basically just go right out from the preamplifier outputs on your preamp/receiver into your iMac’s audio input. You will need a 2x RCA to stereo 1/8" minijack converter, but you can get these at [Radioshack](#) easily, or at any number of other stores like Best Buy, etc.

One thing to keep in mind, however, is that if your preamp or receiver does not have a true phono stage on board, you will run into problems. What I mean by this is that you cannot simply plug your turntable into the CD or Aux input on a receiver/preamp and then go into the iMac’s audio input. The reason is two-fold. On the one hand, the turntable’s output is around 2 mV whereas a CD player or comparable “line level” device is about 2 V, so you’re talking about a huge difference in output level. Or simply put, the signal will be so low on the turntable you will not be able to get much sound on the Mac without amplifying the soundwave a bunch, and that will introduce significant noise. Secondly, if your preamp/receiver does not have a phono stage it will not equalize the RIAA curve that records are cut with, and as a result your recordings will have very little bass, and the high frequencies will be too pronounced.

You can solve this two ways—either buying an outboard RIAA phono stage for your preamp/receiver (you could get one for probably \$99, even cheaper at Radio Shack) or

using Griffin's iMic with Final Vinyl. You could then plug your turntable directly into the iMic because Final Vinyl compensates for the low output of your turntable by boosting the input gain, and it also corrects for RIAA using software equalization.

However, if your receiver/preamp has a phono stage built-in none of this is a concern and you can go right out of the preamp outputs. Be careful, however, not to overload the iMac's audio input. Preamp outputs are variable outputs, and the signal will be controlled by the volume knob on your preamp/receiver. If you use the tape or line outputs you will get a fixed 2 Volt signal that will not be affected by the volume control. This will ensure you do not overload the front end of the iMac's audio stage.

—Evan Trent

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## Intel-ligent Design

Pre-release versions of Mac OS X for Intel use a chip on the motherboard to control what hardware will execute certain code, according to reports from every tech news organization on Earth (but I saw it first on [Slashdot](#)). News of the first sign that hardware-level DRM was to play a meaningful role in modern operating systems probably raised sales of antacids to many pundits, Mac users, and Slashdotters, all of whom were fluffed up like a soufflé with a frenzy of angry comments.

But I wouldn't be surprised if most of you said, "Huh?"

Let's take a step back first, this month. The digital rights management, or DRM, that Apple has implemented in their Developer Transition Kit Intel Macs (currently a G5 case with a tiny little motherboard in it) is a chip that is part of the "[Trusted Computing](#)" platform used to implement hardware-level DRM for operating systems and userland software. It can do that in a variety of ways, and in the most Orwellian versions it could theoretically prevent a "home user's edition" operating system (Windows XP Home, we're looking at you) from so much as executing more than a few applications. Back in the realm of "possible," a DRM chip—though probably not this particular one—could be used to prevent access to a DVD-ROM by any application other than DVD Player, for instance. Now, I wouldn't agree with that use of the technology, as someone who uses third-party DVD player software, but it's technically doable and well within the design of onboard DRM.

Hardware DRM can also be used to control the operating system itself. That's what Apple is using it for, in effect. Rosetta, OS X/Intel's runtime PPC-to-i386 translation software, authenticates against the Infineon chip, a little like a password. Rosetta, in turn, controls access to running OS X's GUI, because significant GUI components are not yet Intel-native and have to be run in emulation. The specific component named as being non-native, though I imagine there are more, is ATSServer; it's the progress that handles font access and drawing.

The end result? You can't use OS X as such without Apple hardware (yet). Gasp.

The stage is now set for the classic debate on DRM. Early on, two "A-list" bloggers entered the ring to duke it out. Cory Doctorow, of *Boing Boing* fame, picked this up as evidence of the upcoming invasion of Trusted Computing, which he worries might:

[M]ake it hard—impossible, if you believe the snake-oil salesmen from the Trusted Computing world—to open a document in a player other than the one that wrote it in the first place, unless the application vendor authorizes it. It's

like a blender that will only chop the food that Cuisinart says you're allowed to chop. It's like a car that will only take the brand of gas that Ford will let you fill it with.

Apple, according to Doctorow, is already at the [forefront](#) of this, since they've already put the DRM chip on the motherboard and locked portions of the OS to it:

Apple may never implement this in their own apps...but Trusted Computing in the kernel is like a rifle on the mantelpiece: if it's present in act one, it'll go off by act three.

Doctorow says he won't continue using a Mac if any part of the OS is locked to the Infineon chip in a final version of OS X.

John Gruber, the *Daring Fireball* prince of darkness, couldn't resist taking the bait. He says that it should come as [no surprise to anyone](#) that Apple is locking their OS to their hardware; it's what they've said they're doing all along. He writes:

It's hard to see how this news is surprising to anyone. Given...that Apple has stated, adamantly, that Mac OS X will only run on Apple hardware...it seems rather obvious that the Developer Kit boxes contain some sort of hardware that the software is tied to. This affects no one other than those who hope to install bootleg copies of Mac OS X on their x86 PCs.

To Gruber, Doctorow (and *Slashdot's* "boil the water slowly and the frog won't panic" crowd) is way out in what he calls "tin foil hat territory"; he says there's no evidence to suggest that Apple intends to use the DRM for anything other than locking OS X to their own hardware. Furthermore, it would be suicidal for any computer manufacturer to do what Doctorow fears and build a platform allowing software developers to lock any file format to its own, particular application. Rainer Brockerhoff rightly calls this hyperbole for [what it is: FUD](#) rather than fact. (Brockerhoff also goes into great detail about the Infineon chip, so you might find it worth a read.)

In case you were wondering, I find myself somewhere in between: I would be as shocked! just shocked! as Cory Doctorow that Apple would *want* to use "Trusted Computing" for iTunes, but since the Infineon chip will be Intel-only and not every Windows PC using iTunes will have hardware DRM either, it seems like kind of a pie-in-the-sky dream. And beyond Microsoft and Adobe, I don't see much of a market for developers who want their file formats to open only in their applications.

But this all raises the question: If all that is locked to a TCPA platform is Rosetta...what happens when the whole OS is Intel-native? Will we see a kernel extension that polls a TCPA chip—which, I'm sure, could be easily circumvented—or code stored in a TCPA chip

and loaded by Open Firmware? More importantly, *will* any applications poll the chip? I doubt it. It's not impossible that Apple will make the window manager poll a TCPA chip, to lock OS X GUI access to their own computers, and make their install CDs check for the chip. Any more than that strikes me as pure fancy that won't be implemented.

And it's not just me. Rob McNair-Huff, at *Mac Net Journal*, [agrees with me](#):

I have not felt like it is time to start slamming Apple over something it may or may not be doing when the real version of Mac OS X arrives for Intel machines. I prefer to give the benefit of the doubt.

Oh, and within twelve minutes, someone had already hacked it to run [on grey-box PCs](#), as *Wired* reported. Which should surprise absolutely no one; it just goes to prove that someone will always try to hack anything, so long as it is hackable. OS X on Intel is the Mt. Everest of hacks: "because we can." Expect other forms of OS control, most notably a boot-control system that resembles OpenFirmware more than the old standby BIOS that your PC motherboard has, to keep OS X off your Gateway or Dell.

Further collection of links: *Macworld* reports on Apple [legal threats](#) to hackers; Arlo Guthrie (not [that Arlo Guthrie](#)) observes that hacking OS X to run on your Dell will probably remain possible but will [always be painful](#); Larry Loeb at *eWeek* disagrees with me and says we can expect [a lot more DRM](#) in OS X and should not assume that this is the last word; and *Command-Tab* asks if [Apple is prepared](#) for the legion of hackers they are about to encounter.

Keep your eyes on this front, because I expect a technological (i.e., non-lawyer-oriented) salvo will be fired by Apple in future releases of their developer previews. I have a feeling this will be a very good learning process for them.

And now, we'll take another quick trip around. Don't get off the carousel just yet, folks, there's plenty left to come.

## **An Entirely Different Style, at Great Expense**

- Also on the Rosetta front...have you wondered just how seamless the transition to Intel will be? Everything depends on Rosetta, Apple's software to handle all the runtime translation (see previous item). We won't know until the fat lady sings, but Hannibal at *Ars Technica* speculates that [it won't be fast](#), based on his extensive knowledge of CPU architectures. It's pretty technical, but the crux of it is that Rosetta works more like Transmeta's much-ballyhooed runtime translation software (hello, 1997!) than like Virtual PC, and if you have enough RAM, and if Apple springs for dual-core CPUs, there's no reason performance won't be acceptable enough for occasional use. Don't bet on it for mission-critical software, though, he says.



- According to an [Engadget](#) source, Apple is [poaching Sony designers](#) for the Intel PowerBooks . It's not the first time Sony's pitched in—cf. the original PowerBook in 1991—but it would certainly be an interesting turn of events for Sony.

## The Pen Is Mightier

- No Sean Connery jokes here (too late!), but my boss, Michael Tsai, has some quibbles with Apple's new [Mighty Mouse](#). The mouse has a one-piece shell just like traditional Apple mice, and has a scroll ball instead of a wheel. Initially, word on the street was that it used iPod-style [tactile sensors](#) rather than ordinary mouse sensors, but Jacqui Cheng at *Ars Technica* says that's [not the case](#). Michael doesn't think it's very promising: he thinks it's an incremental improvement at best, and that it would be better to come up with [new and innovative](#) ideas—or at least reimplement some of Apple's past mousing innovations. I won't judge it until I've had one in the palm of my hand. . .but Julio Ojeda-Zapata, my favorite tech maven, got one and found it to be nice, but in possession of [too small a scroll ball](#), and technology godfather Walt Mossberg disliked its [inconsistency](#). If you'd like to see the interior, *Ars Technica* [took one apart](#) for you. (They weren't all that hot on it [either](#).)
- As Mac users, we often enjoy the schadenfreude of thumbing our noses at Windows every time someone reveals another Internet Explorer vulnerability or CSS bug. Well, we may not be able to any longer: Eminent Microsoft apologist Paul Thurrott, the butt of many jokes on [As the Apple Turns](#), is now encouraging Redmond's faithful to turn their backs on IE 7. He says, as long as Microsoft refuses to properly support Web standards, Windows users should boycott IE and [use another browser](#)—[Firefox](#) or [Opera](#). I, um, I hate to say, I told you so, but. . .
- To end on the one theme I always harp on, I'd like to note that the number of rumors that refuse to die is astonishing. One of the most long-standing rumors, which dates back to at *least* late 2002 (though I can't seem to find any extant examples), is the “video iPod” rumor. It takes a close second to the “iPod phone” rumor, which [I've taken a hack at before](#), but comparing the two rumors is a little unfair. After all, Motorola will, at some point in the distant future, release a phone with iTunes running on it.

The latest stand of this rumor is that evidently, Apple has [added “video”](#) to their enumerated list of technologies in the iPod trademark.

As usual, I don't think that's such convincing evidence, but since the rumors insist it's coming in September, we'll see soon enough, won't we?

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## Robert Moog: A Tribute

No single individual can be credited for the invention of the synthesizer. It is difficult to even determine when the first synthesizer was invented. The term has been used since the 1920s, and at first there was little agreement as to what a synthesizer actually was. However, a single individual can be credited for popularizing the synthesizer: Robert Moog.

Before Moog, the synthesizer was a very different instrument. Based on what most would consider an “instrument,” it was hardly that at all. The 50s-era RCA Synthesizers, for example, were massive machines fed with punch cards that bore a greater resemblance to computers of the same era than to any instrument ever played by human hands. The voltage-controlled synthesizers of the early 1960s, in contrast, were more “hands-on,” with patch cords, knobs, and buttons, encouraging a more intuitive and experimental approach. But beyond producing sounds (some pitched, others not so much), they still had little in common with any traditional instrument.

Moog’s first synthesizer, the Moog 900 series, was in most ways similar to other voltage controlled systems. It was constructed modularly out of a large collection of individual components—oscillators, filters, amplifiers, envelope generators, sequencers, etc.—that were interconnected via patch cables (hence the term “patch” for a particular synth sound). One component, however, set it apart: a keyboard. With this one addition, Moog built the bridge between electronic and popular music. Later instruments, like the all-in-one Minimoog; the smaller, yet still highly patchable Moog System 35; and the Taurus bass pedal synthesizer, made Moog Music the first mass-market synth manufacturer.

The 1970s was the decade of analog synthesizers. By 1975, a whole market had developed with numerous competitors including ARP, Korg, Oberheim, Roland, and Sequential Circuits. While offering various designs, all were strongly influenced by Moog’s instruments. As the synth industry became more business than art, however, Moog left his own company and got out of synthesizers all together. He returned to his first love, the [theremin](#) (an electronic musical instrument), founding a new company called Big Briar in 1978.

Perhaps he got out at just the right time. The 1980s was the decade of the digital synthesizer, and analog synths declined in popularity. Digital synthesis had the advantage of precision and predictability. Program a DX-7, for example, and the sound will be exactly the same every time you recall it. Electricity just isn’t that stable. But a number of musicians found something lacking in digital sound, and stuck it out with their old analog synths.

Nostalgia in America seems to run on a twenty-year cycle. So perhaps it was inevitable that analog synthesis would experience a resurgence in the 1990s. Old instruments were

now prized for their vintage sound, and manufacturers of soft synth (software based digital synthesizers) strove to recapture at least some aspects of the now classic analog sound. In the wake of analog's resurgence, Moog returned to the mass market with a set of analog effects pedals (under the moogerfooger brand name) and partnered with Bomb Factory studios to develop a set of digital (yes, digital) plug-ins for Pro Tools. Moog even succeeded in buying back the Moog Music name (the original company went bankrupt in 1986 and liquidated in 1993) and in 2003 produced a new Minimoog called the Minimoog Voyager. That same year, Moog Music partnered with Arturia to produce software versions of the original Moog Modular system (Moog Modular V) and the Minimoog (Minimoog V).

Moog's legacy is extensive. Go into a music store and play a synthesizer, any synthesizer. That keyboard is there thanks to Bob Moog. Open up GarageBand and select a synthesizer loop. Both the style and the sound of that loop comes courtesy of Bob Moog. Shop online for a software synth. Many are modeled on analog synths inspired by Bob Moog and even one (Native Instruments' Reaktor) is fully modular, just like the Moog 900. Finally, consider some of the popular recording artists who have used Moog's instruments:

- The Beatles (one of the first albums to feature a Moog was 1969's *Abbey Road*)
- Black Eyed Peas
- Chick Corea
- The Cure
- John Delay (Dido)
- Depeche Mode
- Devo
- Thomas Dolby
- Dream Theater
- Duran Duran
- Emerson, Lake, and Palmer
- Erasure
- Larry Fast (Peter Gabriel, Synergy)
- John Fogerty
- Genesis
- Herbie Hancock

- Kraftwerk
- Nine Inch Nails
- No Doubt
- Phish
- Pink Floyd
- Red Hot Chili Peppers
- Rush
- Santana
- Paul Shaffer (of *Late Night with David Letterman*)
- Skinny Puppy
- Tangerine Dream
- They Might Be Giants
- Weezer
- Wilco
- Stevie Wonder
- Yes

Without a doubt. Moog's influence on the synthesizer industry, and by extension the whole music industry, was enormous. And as a final and very fitting tribute, a proposal has been made to call the standard unit of expressing volts per octave the moog (abbreviated Mg). That way, Moog can join James Watt, Georg Ohm, Alessandro Volta, Andre-Marie Ampere, and Heinrich Rudolph Hertz in the electronics pantheon.

Note: In addition to his incredible gift for electronics and incredible influence on music, Moog also possessed one the most incredibly mispronounced names in popular culture. I give him the last word:

It rhymes with vogue. That is the usual German pronunciation. My father's grandfather came from Marburg, Germany. I like the way that pronunciation sounds better than the way the cow's 'moo-g' sounds.

—*The Origins of the Synthesizer: An Interview with Dr. Robert Moog* by Brian L. Knight, available at [Vermont Review](#).



## Adventures of an iPod: How I Became One of the Pod People

Yes, the rumors are true. I am one of the Pod People. You know, those unfortunate souls who cannot seem to go anywhere without a certain small music-filled hard drive attached to some part of their anatomy? Wait a minute, it's not my fault. Listen to my story, and I think you'll see that I resisted as long as humanly possible.

### Life Before the iPod

When the MP3 craze first began, I wasn't very interested. Portable players were not yet the rage, and the only real option was replaying the files on your computer. I had an aging computer with a small hard drive. Why in the world would I waste valuable time—and hard drive space—ripping my music collection? Besides, there was a stereo in the computer room—all I had to do was reach out about a foot or so and insert a CD. OK, once in a while I had to grab a new batch of music. Besides, I needed the exercise. But how in the world did I go from that to being one of the Pod People?

Flash forward a few years. The iPod is all the rage. As the second-generation iPods are announced, Mac users everywhere are selling first-generation iPods to get the new ones. My wife bought a first-generation model for a price that was just too good to pass up. She immediately discovered that she liked listening to audiobooks while working on other things. OK, this new gadget was cool, but with my budget it was going to take more than cool to persuade me. Besides, I could always borrow hers once in a while. It's a short commute to work, and while at work I can't teach and wear headphones at the same time, so what's the point? She was in Iowa; I was in Louisiana. Surely I could hold out.

### My Surrender to the Pod

Shortly before the fourth-generation iPods were announced, I surrendered and became one of the Pod People. The will to resist just wasn't there anymore, but as I said, it wasn't my fault. The desire for an iPod started to grow when I missed connecting flights for several trips in a row. Whether the airport is large or small doesn't really matter; there are only so many things you can do for five or six hours at an airport.

The second time that happened it was followed shortly thereafter by a more positive development. One of the ATPM contributors had a third-generation iPod that he was willing to sell for a more than reasonable sum of money. A couple of e-mails later and I was the proud owner of an iPod that was in mint condition. Resistance was no longer an option; I was an iPod owner. I use it now whenever I can, so I guess that makes me one of the Pod People.

## You've Got the Pod, So What Do You Do With It?

Most of the time my iPod leads a somewhat ordinary life. It's filled with fifteen gigabytes of music from my iTunes library. B.B. King, Eric Clapton, Chuck Berry, Queen, et. al. are all right here in my shirt pocket. With the compression settings I have been using, I've got more than enough music to survive the next flight delay. The closest it's come to an adventure was a recent car trip from Iowa to Louisiana. Boy, was I glad to be one of the Pod People.

In the pre-iPod days, trips like that were a nightmare. It seems that, no matter where you were going somewhere along the route, radio reception was terrible or the available stations were playing something you really weren't interested in hearing. We usually solved the problem by putting a boom box and multiple CDs in the car. Anybody remember to bring extra batteries? I've been holding this thing for hours...are we there yet?

This time, instead of a boom box, several flashlight batteries, and an obscene number of CDs, we carried an iPod and Belin's TuneCast FM transmitter. We've had it for some time and originally bought it because it worked with both the first- and third-generation iPods. I've also used it as a quick way to transmit audio from my iBook to our home stereo. There are more options available now with several different options for connecting to your home or car stereo. Some of these devices are FM transmitters, and some use other connection methods. Use the one that you prefer. I'm not implying that other options are inferior. I haven't used them yet. We used this one because we already had it.

This arrangement was quite an improvement over the boom-box in the pre-iPod era. We generally used the radio and the iPod, depending on what was on the radio. When the iPod was on, we were either listening to music or Larry Niven's *Ringworld* on audiobook. An iPod is so much lighter and easier to carry than a boom box.

The problems we had along the way were minor. First, after a few hours on the road we had to replace the two AA batteries in the TuneCast. I'd forgotten to replace them at the start of the trip, and they had been in there for some time. Second, we did have to change the radio frequency that the TuneCast broadcasts on twice because local radio stations were occupying the frequency we usually use. If you are in the car alone or in an area where the FM band is a little crowded, this could be inconvenient. [Belkin's TuneCast II](#) has apparently taken steps to address both of these issues.

## Further Adventures of My iPod

Now that I've had my first iPod adventure, I'm thinking about a few other projects that might be interesting. If I can convince myself to use the iPod as a disk, I could record voice samples that I need to analyze rather than use an audio cassette. We've also got a short road trip coming up soon. I'm tempted to store the driving directions on my iPod as notes and see how well I like reading them that way. It might be a little more convenient than reading the directions from a map. I might also try a few more audiobooks. They play well on the iPod but I'm not a big fan right now. Maybe I'll check out some of the [open source audiobooks](#) that are available. I'll keep you posted.





## Calculations in Depth

In the articles of this [series](#) up to now (which I highly recommend you read before continuing with this installment), we introduced the basic concepts of a relational database, walked through creating a simple database with FileMaker, and went over the field types that FileMaker provides. This month, we'll investigate one of those field types in depth, the Calculation field. We'll also cover the other areas of FileMaker that make use of calculations and touch on the Custom Function feature that is new with FileMaker 7.

### Calculations in General

A primary function of databases is to store and retrieve information, but if that's all databases did, they wouldn't have nearly the utility they do. Databases also have the ability to take data input by a user and provide it in a different form. The computer doesn't (usually) create anything new by doing this, but only takes the given input and produces the requested output.

For example, a sales database might allow the user to enter the lines items of an invoice. The user enters each line item, letting the computer know the quantity and unit price of each item. These two pieces of data (quantity and unit price) are provided by the user; the computer can't know what they are. However, the computer can take the provided information and use calculations to provide the same information in a more useful form. First of all, the computer can multiply the unit price by the quantity to provide a line item total. The computer can then sum up all the line item totals of all the line items to provide an invoice total.

Note that the computer is not providing new information here. It is simply expressing the information provided by the user in a different form. Computers almost never create information (the single exception I can think of being random numbers, although even then the computer is working from information provided by the user, since the user provided the parameters of the random numbers).

What the computer has done is apply a calculation to existing data. In the case of the line item total, the calculation would be (in FileMaker's syntax) `Quantity*UnitPrice`, and in the case of the invoice total, would be something like `Sum(InvoiceLineItems::LineItemTotal)`.

FileMaker can make use of calculations in many places. We've already seen two of them in prior articles: in a Calculation field type and field validation. Other places FileMaker makes use of calculations are within some script steps, custom functions, and access privileges, among others. The concepts we will cover today can be applied to any of these places.

## Anatomy of a Calculation

Calculations are built with four types of objects: fields, operators, constants, and functions. Our first example above, `Quantity*UnitPrice`, makes use of two fields and an operator (the asterisk, which signifies multiplication in FileMaker). The second example makes use of a function (`Sum`) and one field.

Every calculation also has a result type. Sometimes, you don't have a choice as to what the result type will be. When we entered a calculation to validate a field, the result type had to be a boolean value (i.e., `True` or `False`). If you are using a script step to set a field value using a calculation, the result of the calculation should match the field type. However, when creating Calculation fields, you need to specify what type should be returned. In our two prior examples, our result type would have been `Number`.

FileMaker will ignore whitespace in calculations, which means that you can use spaces and carriage returns to make your calculation easier to read. Use this to your advantage! Calculations can get very complex, and therefore very hard to read. By indenting nested functions and providing spaces around operators you can ease the task of understanding your calculation later.

Another way to make calculations easier to read is to use comments. FileMaker allows two methods for indicating that the text of a calculation is a comment. The first is to use `//`, which says that everything that appears after those two characters is a comment. Such comments can only appear on a single line. The second is to begin with `/*` and end with `*/`. Everything between those two codes will be considered a comment. Comments are completely ignored when FileMaker evaluates a calculation.

Let's take a look at all of these options with an actual calculation that makes use of many of the concepts. Don't worry too much about what this function does, although you should be able to deduce much of it. Just take a look at it so that we can take apart its syntax:

```
// Extracts the xth parameter from
// a list separated by pipes.
Let(
  // Bracket the entire parameter with
  // pipes for easier extraction.
  [ RefinedParameter =
    "|" &
    Get( ScriptParameter ) &
    "|" ];

  Case(
    // Make sure the x is legal.
    ( x ≤ 0 ) or
    ( x > ParameterCount(
      Get( ScriptParameter ) ) ) or
```

```

( Int( x ) ≠ x );
"error";
// Extract the parameter by getting
// everything between the xth and
// x+1th pipe.
Middle(
  RefinedParameter;
  Position( RefinedParameter; "|" ; 1; x )
    + 1;
  Position( RefinedParameter;
    "|" ; 1; x + 1 ) -
  Position( RefinedParameter;
    "|" ; 1; x ) - 1
)
)
)

```

Most of the concepts I've described are found above. We have many operators (=, &, or, etc.), a number of functions (Let(), Case(), Middle()), a couple of comments that use the // format, parentheses to separate logical units of the calculation, and a number of constants (0, and "|").

Note the whitespace used to make this calculation easier to read. Without whitespace, the function would have looked like this:

```

Let([RefinedParameter="|"&Get(ScriptParameter
)&"|"];Case((x≤0)or(x>ParameterCount(Get(
ScriptParameter)))or(Int(x)≠x);"error";Middle
(RefinedParameter;Position(RefinedParameter;
|"";1;x)+1;Position(RefinedParameter;"|";1;x
+1)-Position(RefinedParameter;"|";1;x)-1)))

```

FileMaker considers both of the above versions to be the same, but obviously the first version is easier for humans to understand.

## Operators

Operators are symbols that perform, of all things, an operation on two “operands.” For example, the calculation 1 + 3 is using the + operator on two operands, 1 and 3. FileMaker includes the standard arithmetic operators for addition (+), subtraction (-), multiplication (\*) and division (/), which all work just as you would expect. Also available is the power operator (^), which raises the first operand to the power of the second, so that 3 ^ 4 will return 81.

FileMaker also includes comparison operators that compare one operand to another and return a boolean value of either **True** or **False**. FileMaker doesn't actually have a separate boolean type. A boolean value is a value that can have only one of two possibilities: True or False. Rather than have a separate field type for boolean, FileMaker uses the **Number** field type, interpreting 0 as False and anything else as True. When FileMaker needs to return a boolean value, it will return 0 for False and 1 for True. FileMaker also includes two built-in constants, **True** and **False**, which are places holders for 1 and 0 and can sometimes increase the readability of your calculations.

Now that we know what boolean values are, we can return to our comparison operators. Comparison operators perform a comparison on their operands and return a boolean value. For example,  $4 = 7$  will return **False**, because four does not equal seven.  $4 < 7$  will return **True** because four is less than seven. FileMaker includes six comparison operators: equals ( $=$ ), not equals ( $\neq$ ), greater than ( $>$ ), less than ( $<$ ), greater than or equals ( $\geq$ ), and less than or equals ( $\leq$ ).

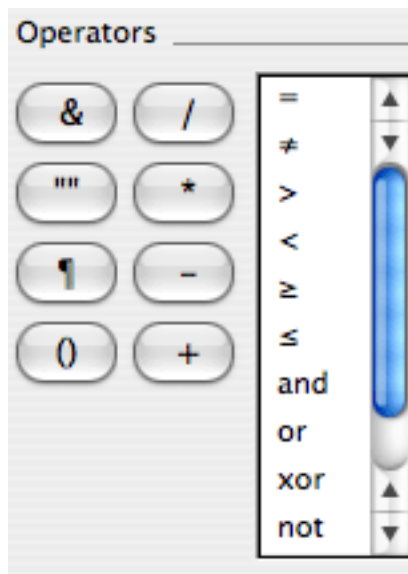
In order to build complex boolean tests, FileMaker also provides us with four logical operators, **and**, **or**, **xor**, and **not**. The **and** operator uses two boolean values as its operands and returns **True** if *both* of them return **True** and **False** if either one is **False**. Therefore,  $( 4 = ( 2 * 2 ) )$  and  $( ( 5 / 2 ) > 1 )$  returns **True** because both of the operands are **True**.

The **or** operator returns **True** if *either* of the operands are true, and **False** if both of them are false. **not** *reverses* the boolean value of its operand, so that **not True** is **False** and vice versa.

The **xor** operator, also known as the exclusive-or operator is more seldom used, and will return **True** if *either, but not both*, of the operands is **True**. Therefore, a **xor b** is equivalent to  $( a \text{ or } b )$  and  $( \text{not } ( a \text{ and } b ) )$ .

Finally, there is the concatenation operator, **&**, which will take two strings and return the concatenation of them. Strings are indicated by enclosing text within double-quotes. **"File" & "Maker"** returns **"FileMaker"**.

All of the operators can be typed directly, but FileMaker also provides buttons and a list box for entering them. Clicking the button will insert the symbol on the button, while double-clicking a symbol or word in the list box will insert it from there.



Each of the symbols can be entered from the keyboard, with the less common symbols available by using the Option key. To type a  $\neq$  symbol, use Option-Equals.  $\geq$  is input with Option-Period, and  $\leq$  with Option-Comma. The one button you'll see there that we haven't covered is the paragraph mark, ¶. Use this when you wish to insert a carriage return into a string, as in `FirstName & " " & LastName & "¶" & Address & "¶" & City & ", " & State & " " & ZipCode`. This will return a string with two carriage returns. You can type the paragraph mark character by hitting Option-7 (which I remember because if you squint and use your imagination, the ampersand symbol on top of the 7 looks like of like the paragraph mark).

(Yes, FileMaker is cross-platform, and most of what I write in these columns is applicable to FileMaker on Windows XP, and yes, there are keyboard equivalents for these special characters, but they involve hitting the Alt key and then entering the character code for the symbol, which is, I think, four digits, and which I never remember, and that is yet another reason to use a Mac.)

FileMaker, like most programming languages, has an order of evaluation when parsing operators. For instance, multiplication and division will take place before addition and subtraction, so that  $5 + 3 * 2$  will return 11, not 16. I never rely on this precedence (as it's called) for a number of reasons. First of all, I would have to memorize the order (does the  $>$  operator come before or after the `and` operator?). Second, anyone reading my calculations would have to know the precedence to be able to know what the calculation is supposed to do. Finally, parentheses override the order of precedence. To have the above sample return 16, the calculation would read  $(5 + 3) * 2$ , but even if I wanted the multiplication to be performed first, I would write it as  $5 + (3 * 2)$ , which makes the order explicit and easier to read.

The last thing to note about operators is that the subtraction operator ( $-$ ) has an addition function: when used between two operands, it will subtract the second from the first, but

when used before a single operand, it will return the negative of the operand, so that `-x` will return `-5` when `x` is `5` and `3` when `x` is `-3`.

## Functions

Functions are very much like operators in that they perform actions on other pieces of data. Rather than functions working with operands, however, they work with parameters. You pass some information to a function through parameters and the function returns a value based on the parameters.

FileMaker includes an extensive library of functions. A few don't take any parameters, but most accept at least one. A simple function to use as an example is the `Abs()` function, which takes a single numeric parameter and returns the absolute value of the number. If you remember from your high school math, the absolute value of a number is its distance from zero. For zero and positive numbers, the absolute value of the number is the number itself. For negative numbers, the absolute value is the same number as a positive number. `Abs( 5 )` returns `5` and `Abs( -10 )` returns `10`.

When multiple parameters are needed, each parameter is separated by a semi-colon. For instance, the `Left()` function takes two parameters, a string and a number. It returns the number of characters in the string that are indicated in the second parameter, starting from the left. An example of a call to it would be `Left( "FileMaker, Inc."; 4 )`, which would return the string `"File"`. When entering the function in a calculation field, you can use commas instead of semi-colons, as in `Left( "FileMaker, Inc.", 4 )`, but FileMaker will convert this to the semi-colon syntax when you save the calculation.

Each function returns a value of a particular type. the `Abs()` function returns a number, while the `Left()` function returns a string. Some functions (such as `If` or `Evaluate`) can return any type.

Expounding on all of the functions included with FileMaker is beyond the scope of this series. My recommendation is to read the help files for every function FileMaker offers. Press `Command-/` while in FileMaker to bring up the help system, click the "Contents" link in the top left and click the "Alphabetical list" link for the function reference (near the bottom of the help page). It will take a while to go over all of them, but I highly recommend it. You needn't remember everything, but going over all of the available functions will allow you to become familiar with what is available so that when you need a function, you'll remember that it exists and can use the help system to refresh your memory.

There are, however, a few functions that are more important to know because they will be used more often. We will cover some of these.

The first of these is the `Case()` function, which allows you to make decisions and provide different results based on a series of tests. `Case()` takes at least two parameters, but can, and usually will, take more. The parameters alternate between tests that return boolean values and expressions to use if the previous test evaluated to `True`. So tests and expressions

come in pairs. If there is an extra parameter (i.e., an odd number of them), the last one is the default, which is what will be returned if none of the tests evaluate to **True**.

Here is the syntax of the `Case()` function:

```
Case( test1; result1 {; test2; result2; ...}
      {defaultResult} )
```

When reading a syntax template like this, parameters found within curly braces (`{}`) are optional, the ellipsis indicates that there could be more parameters following. So the above says that the first two parameters are required. The second and third are optional, and set up the possibility of more parameters. The fifth parameter is also optional.

An example will help, and a common example with the `Case()` function is grades. Assume there is a number field in a database called **Score** that specifies the score out of 100 that a student received on a test. We could calculate the letter grade of the test with the following `Case()` function:

```
Case(
  Score ≥ 90;
  "A";
  ( Score < 90 ) and ( Score ≥ 80 );
  "B";
  ( Score < 80 ) and ( Score ≥ 70 );
  "C";
  ( Score < 70 ) and ( Score ≥ 60 );
  "D";
  "F"
)
```

Note the series of tests and results, with a default result being used if none of the tests evaluates to **True**. However, we can shorten this a bit because of a feature of the `Case()` function: As soon as it finds a test that evaluates to **True** it evaluates the expression following it and stops making tests. Here's the shortened version:

```
Case(
  Score ≥ 90;
  "A";
  Score ≥ 80;
  "B";
  Score ≥ 70;
  "C";
  Score ≥ 60;
```

```
"D";  
"F"  
)
```

It's possible for more than one of these tests to evaluate to **True**. For instance, if **Score** has a value of 86, the second, third, and fourth tests will also evaluate to **True**. But since once the second test returns **True** the **Case()** function will return the following expression and stop, we needn't worry about ambiguity in the calculation.

The functionality of the **Case()** function is very similar to that of the **If()** function, and in fact, one can duplicate the results of the other. Here's the syntax of the **If()** function:

```
If( test; resultOne; resultTwo )
```

Notice that if a call to **Case()** has only three parameters, it operates exactly like the **If()** function. If we wanted to duplicate the above **Case()** example with **If()**, it would look like this:

```
If(  
  Score ≥ 90;  
  "A";  
  If(  
    Score ≥ 80;  
    "B";  
    If(  
      Score ≥ 70;  
      "C";  
      If(  
        Score ≥ 60;  
        "D";  
        "F"  
      )  
    )  
  )  
)
```

Honestly, I haven't used the **If()** function in years. I always use **Case()**. In previous versions of FileMaker, **Case()** executed faster than **If()**, which was important when performing long loops in scripts. I believe this is no longer the case, but I've gotten used to using only **Case()**, and doing so has the additional slight advantage that if I ever need to change a calculation to have more than one test, I don't have to change the function I'm using. FileMaker doesn't care. They will both work.



We've seen two ways to do the same thing here: using `Case()` and `If()`. FileMaker often provides multiple ways to do the same thing, and I'll show you one more: `Choose()`. The `Choose()` function is less used than `Case` and performs a similar task, but in a slightly different way. Here's the syntax:

```
Choose( test; result0
      {; result1; result2; ...})
```

The `Choose()` function has only one test, and that test must return either zero or a positive integer. Based on the integer returned from the test, the corresponding result is returned from the function. A simple example would be:

```
Choose(
  3;
  "Zero";
  "One";
  "Two";
  "Three";
  "Four"
)
```

Because the “test” returns the number 3, the string `"Three"` (i.e., the fourth result) is returned. `Choose()` uses zero-based indexing, so that the first result is returned when the test returns 0, the second when it returns 1, and so on.

We would duplicate our grade calculation using `Choose()` as follows:

```
Choose(
  10 - Div( Score; 10);
  "A";
  "A";
  "B";
  "C";
  "D";
  "F";
  "F";
  "F";
  "F";
  "F";
  "F";
  "F"
)
```

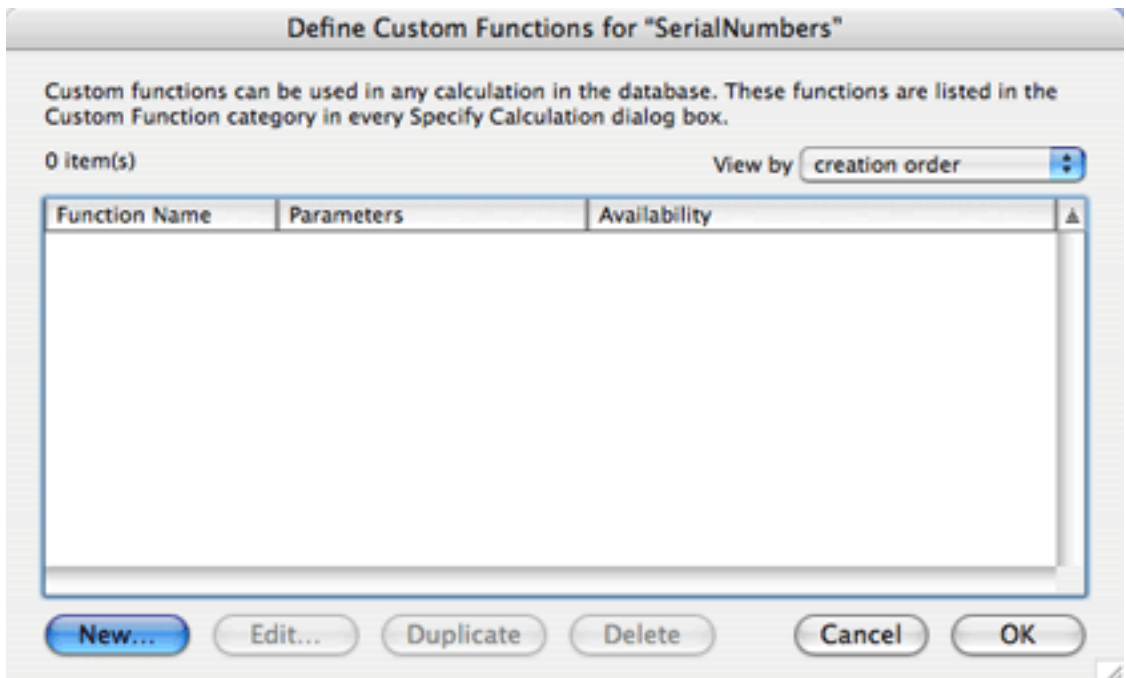
Here our test converts the **Score** to a value between 0 and 10. **Div()** returns the integer value of the first parameter divided by the second, so **Div( 95, 10 )** will return 9 because  $95/10=9.5$  and **Div()** returns just the integer portion of that, the 9. It would be a good exercise for you to figure out, based on this information, why the calculation works, but it is functionally identical to our two previous examples. The point is that there are many ways in FileMaker to calculate the same result. By knowing all of the functions available to you, you can pick the best functions (or combination of functions) for your desired result. In this example, the **Case()** function would probably be best; it's easy to read and understand and compact.

## Custom Functions

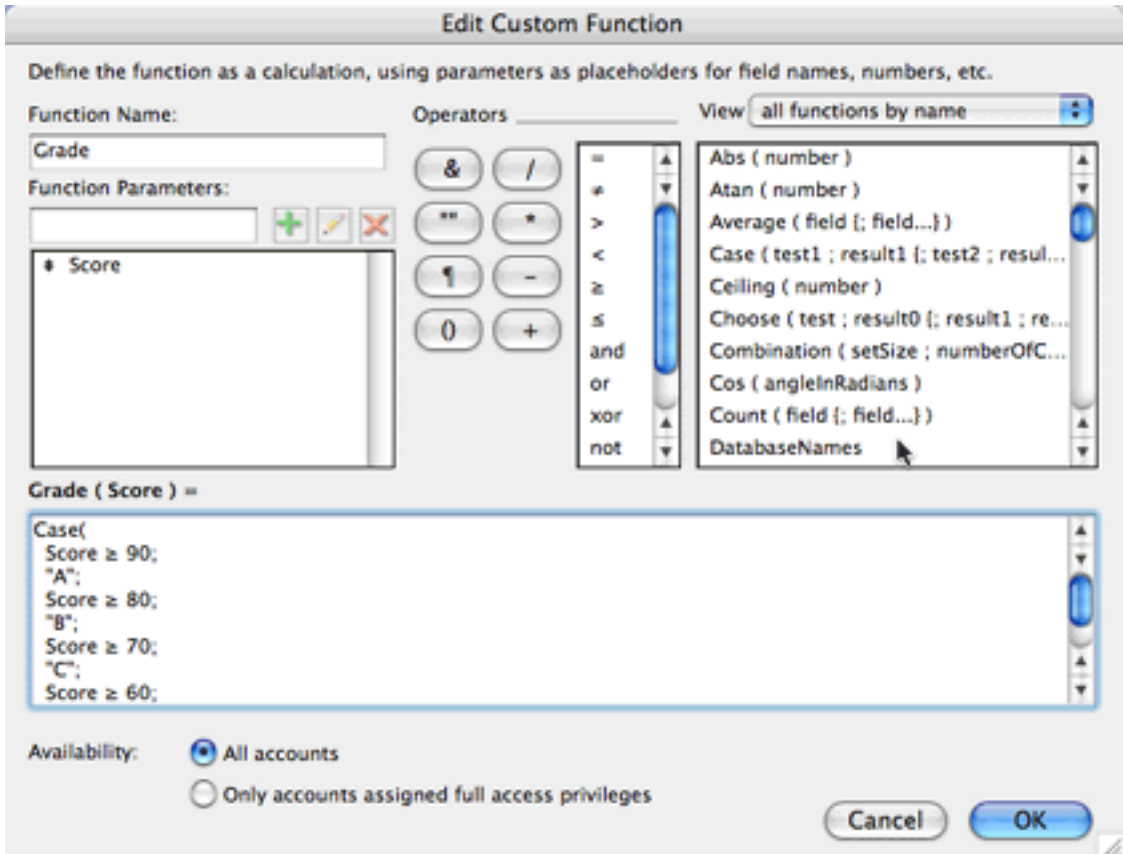
We'll cover more of the common functions next month, but there's one more type of function that is useful: functions you create yourself. You'll need FileMaker Developer 7 to follow along here, as it's required to create custom functions. However, if someone has created custom functions in a database file, you can access them in your calculations even if you're using FileMaker Pro.

Calculating the grade given a score would be a common need in a database used by a teacher. It would be handy to have this functionality as its own function, a **Grade()** function. If you have FileMaker Developer 7, you can do this, and after creating a custom function, you can access it in the file even when using FileMaker Pro 7. You provide a name for the custom function, the names of the parameters and the calculation to use.

Open the [SerialNumbers.fp7](#) file we've been working with in FileMaker Developer 7. Choose "File > Define > Custom Functions."



Click the New button. Enter “Grade” in the “Function Name:” field. Type “Score” in the “Function Parameters:” field and click the plus button to its right. Finally, enter our example grade calculation that uses the `Case()` function into the large calculation text area at the bottom of the window.



Click the OK button to save your custom function, and click OK to dismiss the custom function list window. You can now use the `Grade()` function just like any built-in FileMaker function. You can test this by creating a new number field called “TestScore” and a calculation field with a number result called “TestGrade” and set its calculation to `Grade( TestScore )`. Place both fields on a layout and enter some grades into “TestGrade.” Custom functions are very useful, and probably one of the best new features of FileMaker 7.

• — \*

That’s it for this month. Next month we’ll cover more of the most common functions in FileMaker. Until then, check out the FileMaker help files to gain familiarity with the functions available to you. As always, comments and questions are welcome.

Copyright © 2005 Charles Ross, [chuck@chivalrysoftware.com](mailto:chuck@chivalrysoftware.com). Charles Ross is a Certified FileMaker 7 Developer and the Chief Technology Officer of [Chivalry Software, LLC](#), a company specializing in custom database, web and automation software and publisher of [Function Helper](#), a FileMaker calculation debugging tool. He was a contributing writer and the technical editor for [The Book of FileMaker 6](#) and has contributed to [ISO FileMaker Magazine](#) and [Macworld](#) in addition to his [series on AppleScript](#) for ATPM.



## Textures and Big Apple

### Textures

These photos, taken by Contributing Editor Matthew Glidden with a Nikon CoolPix 3500, are street and building textures from New Orleans, LA and Louisville, KY. The photos from Louisville are from the downtown area and were taken in August of 2004 on a sunny day. The New Orleans photos are from the French Quarter and were taken on an overcast day in March 2005. The photos seek to capture the cities' mix of development styles and materials.

### Big Apple

Beginning in 1998, the moon over Manhattan looked different in the summer. . .

This desktop picture was created by Francisco Leung, a Macintosh enthusiast and friend of Managing Editor Christopher Turner.

### **Previous Months' Desktop Pictures**

Pictures from previous months are listed in the [desktop pictures archives](#).

### **Downloading All the Pictures at Once**

iCab and Interarchy can download an entire set of desktop pictures at once. Use the “Web > Download Entire Site” command in the File menu, giving it the URL to the pictures page above. In iCab, use the Download command to download “Get all files in same path.”

### **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](mailto: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**

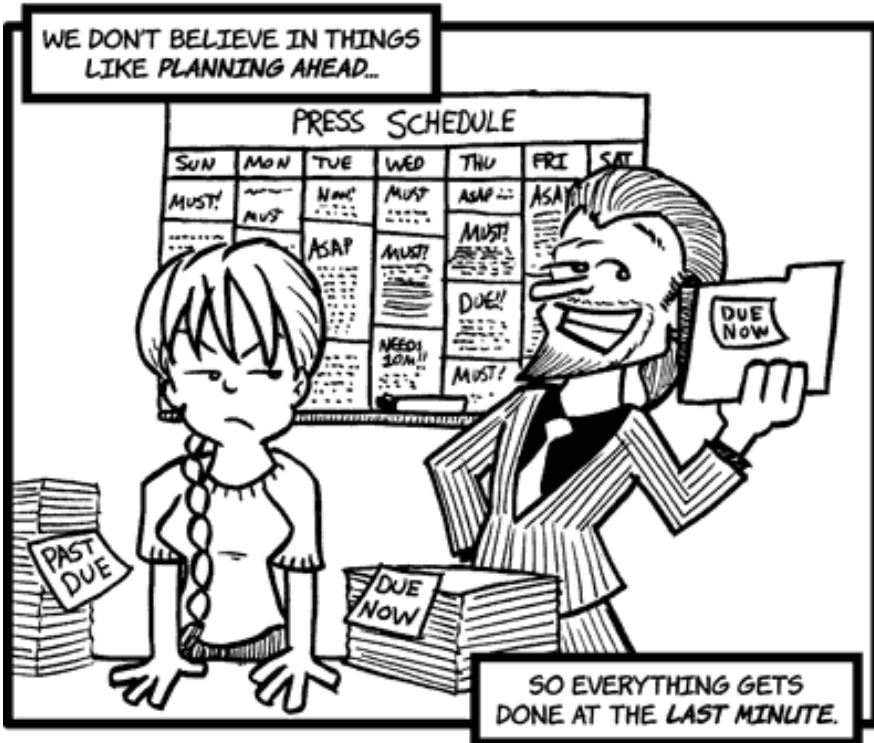
Choose “System Preferences...” from the Apple menu and click the Desktop button. With the pop-up menu, select the desktop pictures folder you want to use.

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'S GUIDE TO  
JOB-HUNTING BUZZWORDS

MUST BE ABLE TO  
"MULTITASK"



WE BELIEVE IT'S BETTER TO  
DO SEVERAL THINGS POORLY...



...THAN ANY ONE  
THING WELL.



CORTLAND'S GUIDE TO  
JOB-HUNTING BUZZWORDS

## "DETAIL ORIENTED"



ONE MISTAKE AND YOU GET THE GATE!



AND REMEMBER, THE BOSS DOESN'T MAKE MISTAKES,  
EVEN WHEN HE CAN'T UNDERSTAND THAT A SPOT  
GREEN COLOR WON'T PRINT AS BRIGHTLY IN CMYK.

CORTLAND'S GUIDE TO  
JOB-HUNTING BUZZWORDS.

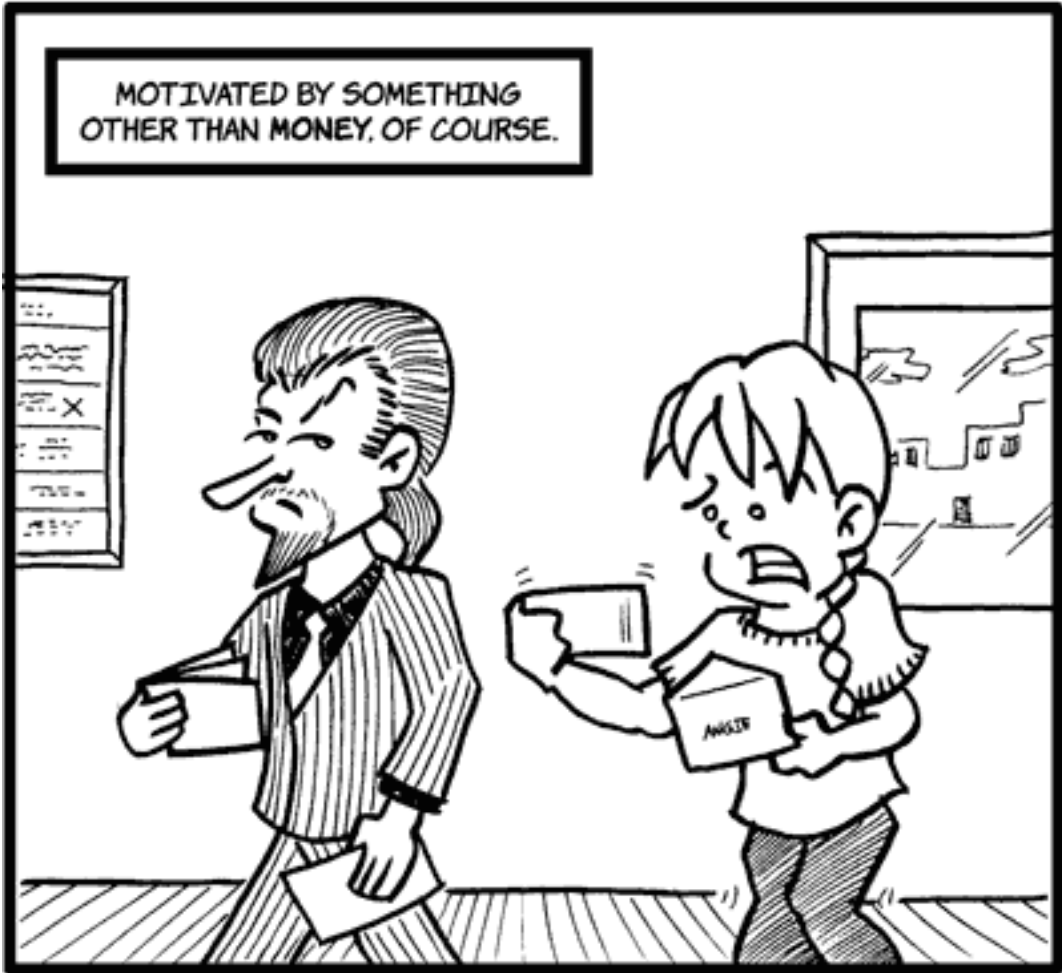
# "TEAM PLAYER"



OUR MANAGEMENT  
LIKES TO PLAY HOOKY.

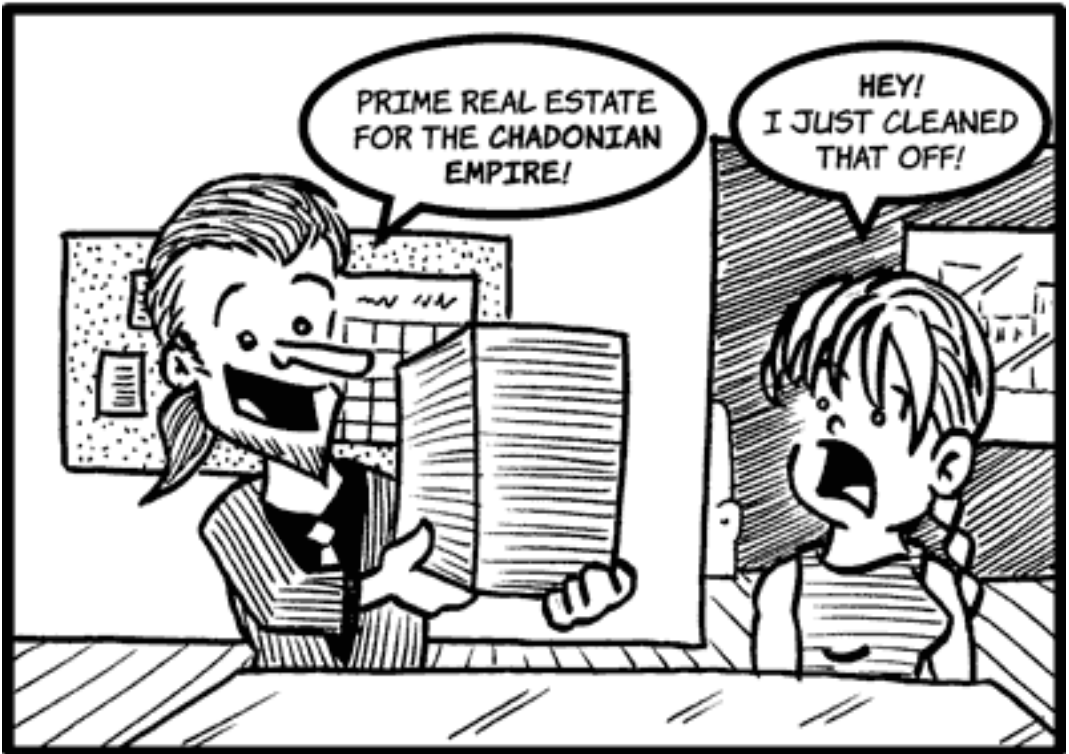


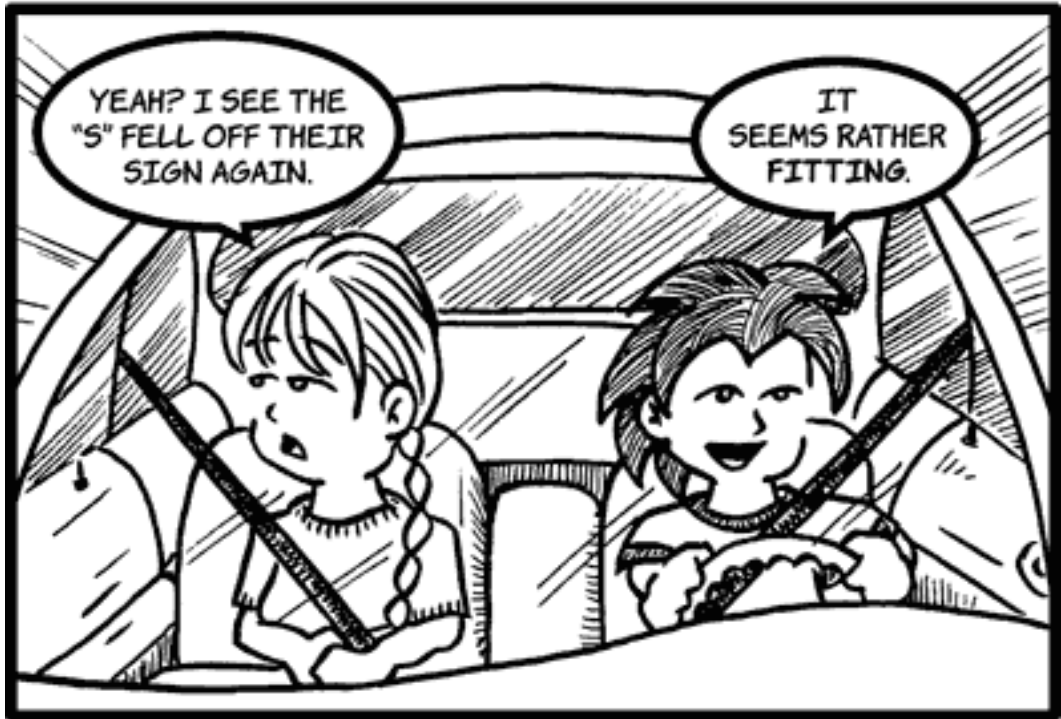
SO WE'RE HOPING THAT  
YOU'LL PICK UP THE SLACK.





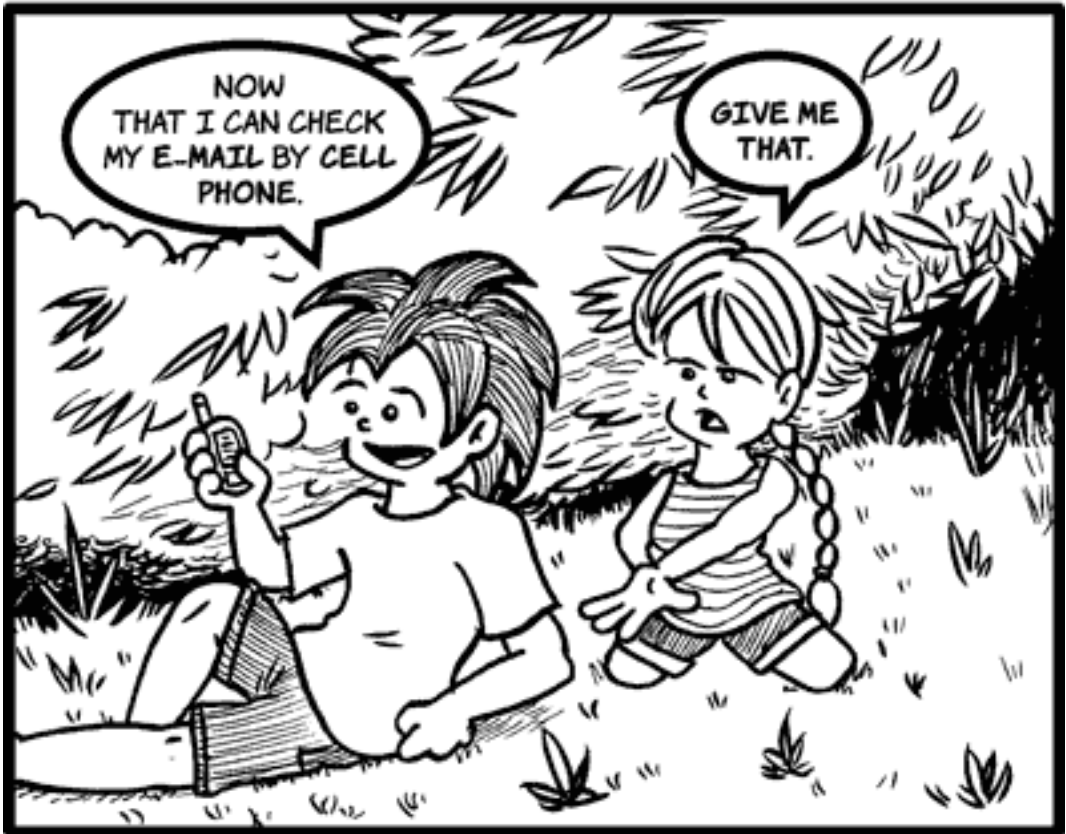
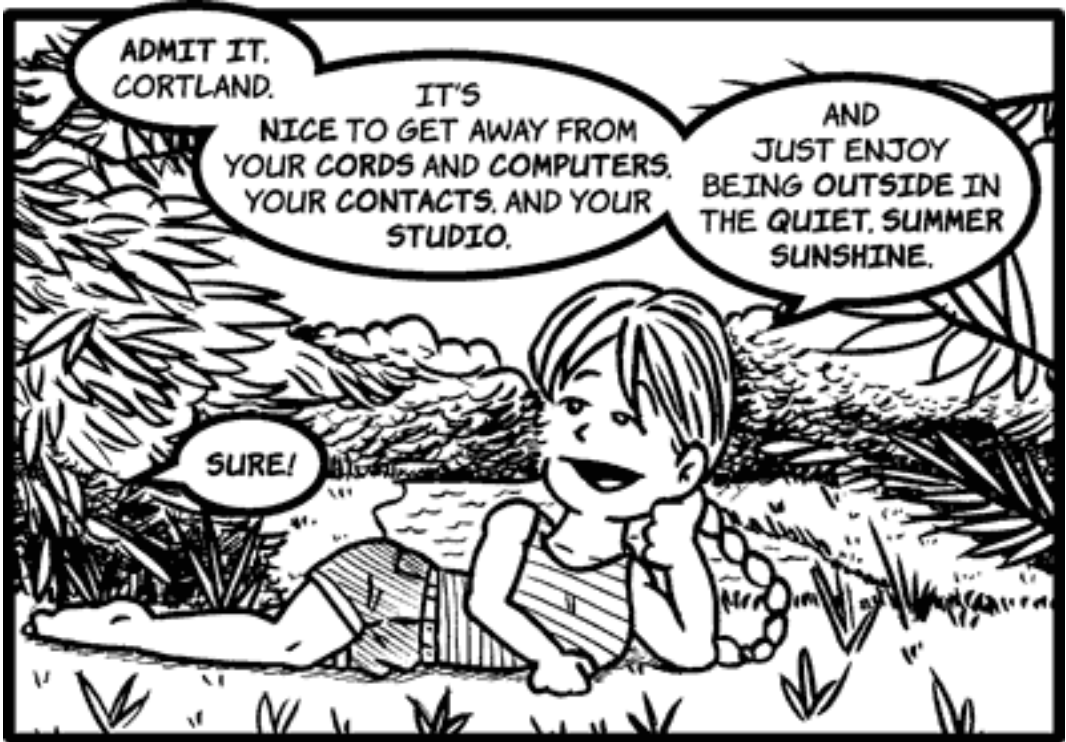


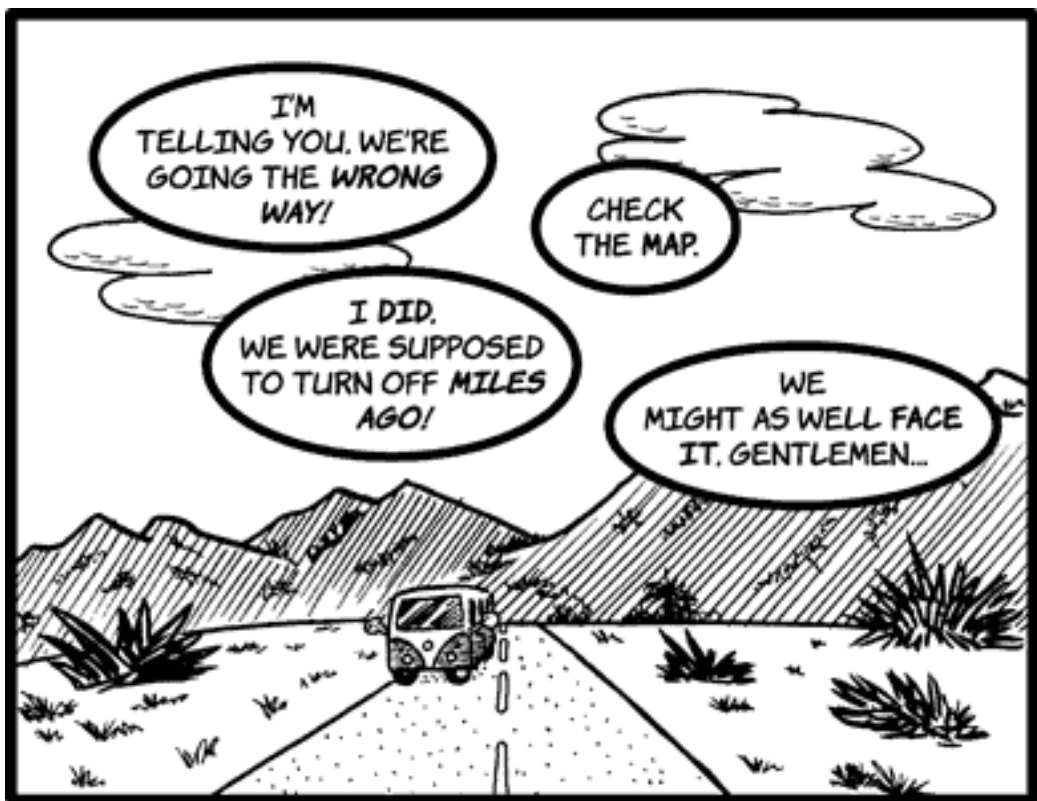


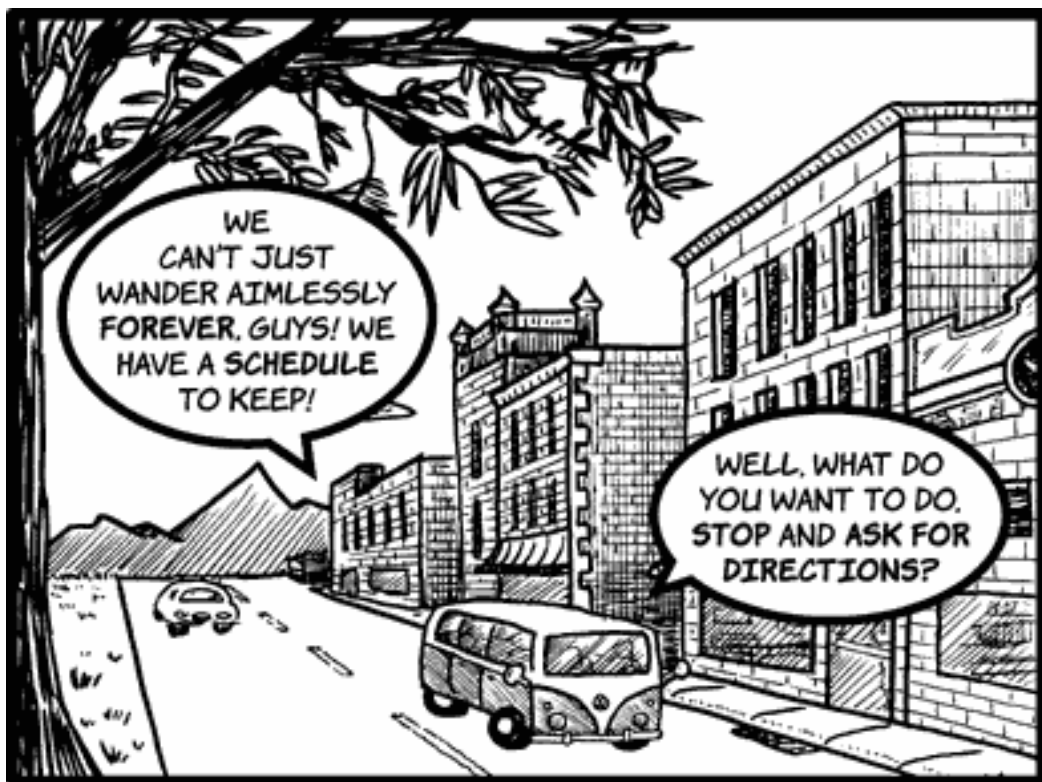
















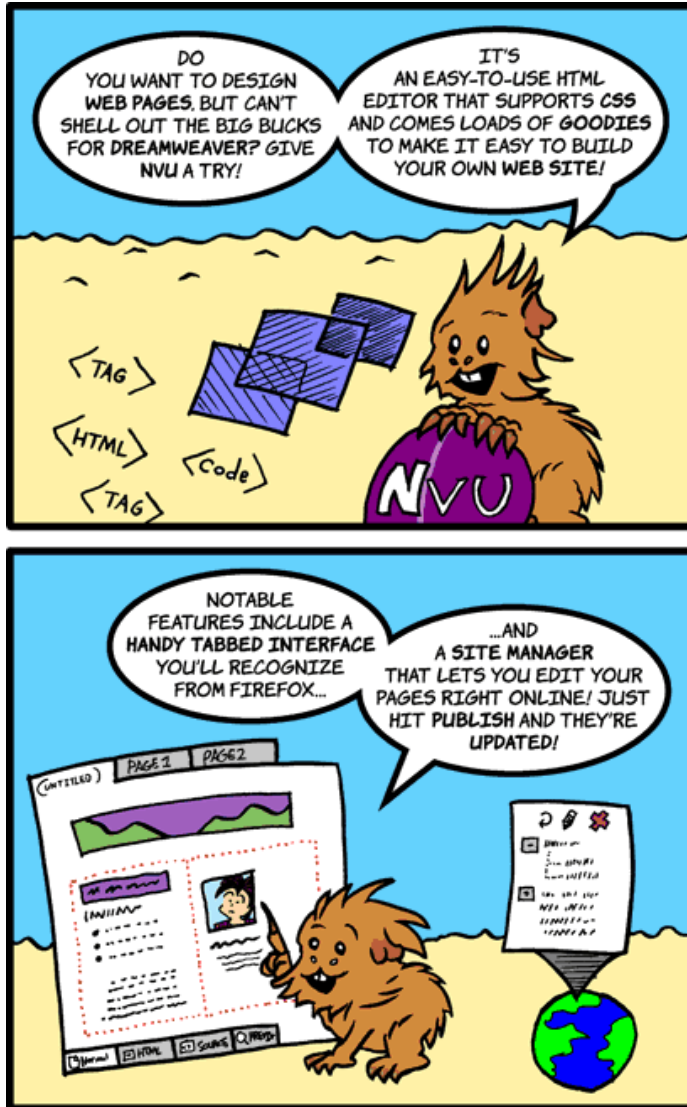


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# Frisky Freeware

by Matt Johnson, [mjohnson@atpm.com](mailto:mjohnson@atpm.com)



[Nvu](#)

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# Hardware Review

by David Blumenstein, [dblumenstein@atpm.com](mailto:dblumenstein@atpm.com)

## ABSmini

**Developer:** [CMS Products](#)

**Price:** \$179 (20 GB); \$259 (40 GB); \$329 (60 GB)

**Requirements:** USB port

**Trial:** None



The onslaught of portable computing and the road warrior mentality has prompted companies to devise more attractive backup solutions. It was the physical aspect of CMS Products' ABSmini backup solution that first caught my eye, and I had to know more.

The ABSmini is a 1.8" USB 2.0 external storage device and one-touch backup system that is smaller than it has a right to be. Not only is its size remarkable, but so is its ability to be powered totally off of its USB connection, so no power plugs and bulky AC adapters are necessary at all.



The case itself caught my eye, when I first saw this product at a trade show. It is silver, sleek, and adorned with curves. It is made of anodized aluminum. The hard drives are sourced from Hitachi and run at a speed of 4200 RPM. The dimensions of the case are 3.45" long by 0.68" high by 2.72" wide.





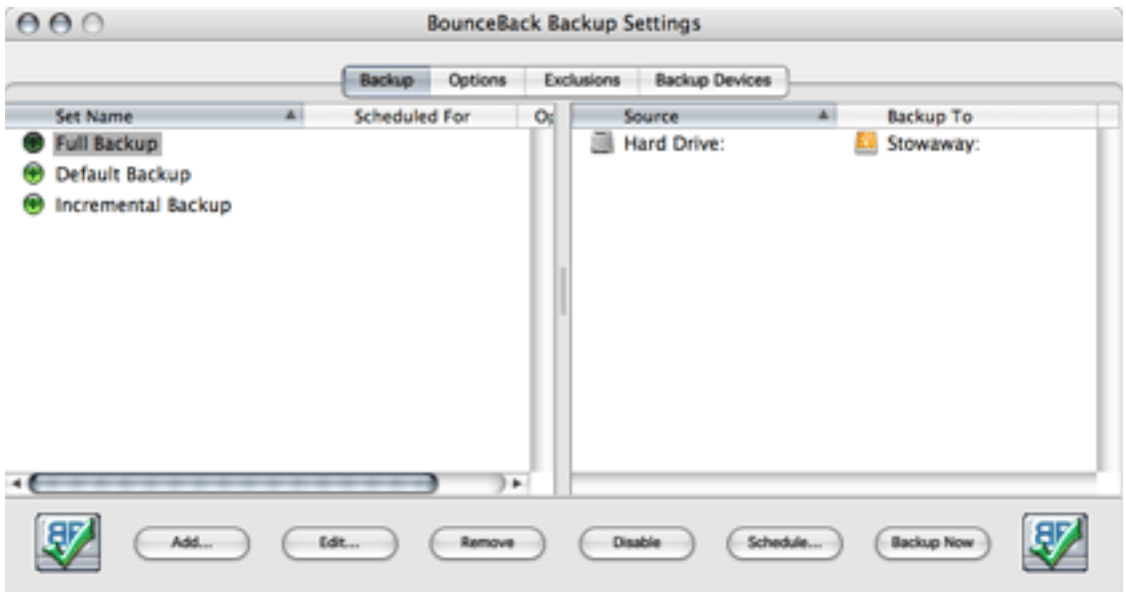
The CMS Backup solution fits elegantly in my computer bag, leaving ample room for my pocket digital camera to exist side-by-side without any unnecessary bulges in the bag's compartment area. This is the age of both maximum and intelligent use of surface area in portable hard drive design and computer bag storage.

The drive is recognizable by all operating systems. Out of the box, it is formatted for DOS and is accessible by both Macintosh and PC systems. Users will most likely want to reformat the drive to correspond to their native operating system, and with Apple's Disk Utility this can be accomplished quickly. I did so in a matter of minutes.

CMS includes BounceBack Express with the drive, a USB A-to-B mini cable, and a traveling pouch. The Express version of the software is functional for straightforward full backups, but I wanted something with more options. I wanted to be able to do incremental backups, as well as custom scheduling of pre-determined backup sets. CMS Products markets [BounceBack Professional](#), a full featured backup software solution that costs \$79, which includes these features and more.



BounceBack Professional Options



BounceBack Professional Settings

While I was waiting for the Professional version of the software to arrive, I decided to surf the Web for freeware backup solutions and came across La Cie's [SilverKeeper](#), which I must admit worked rather nicely, allowing me to do incremental backups; it had no problem recognizing and working with the ABSmini.

Once the new BounceBack Professional was installed, I wasted no time in creating backup sets, scheduling backups, and using the reminder system, so that there would no chance of me forgetting to backup.

I was at my favorite Internet cafe in Manhattan when I took out my ABSmini to do a backup, and attracted attention from its patrons. I explained to the curious that mine was a 40 GB model and that it came in both a smaller 20 GB and larger 60 GB version. They wanted to get one as they pointed to their bulging computer bags and the need to start jettisoning excess weight.

On its own the ABSmini hardware is a gem. The included BounceBack Express software was an issue, but there are many software alternatives (some mentioned above). BounceBack Professional is now a mainstay of mine. I feel so much more at ease because my data is secure and is always with me.

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# Hardware Review

by Tom Bridge, [tbridge@atpm.com](mailto:tbridge@atpm.com)

## Mighty Mouse

**Developer:** [Apple Computer](#)

**Price:** \$49

**Requirements:** Mac OS X 10.3.8 or later, USB port

**Recommended:** Mac OS X 10.4.2 (to [program it](#))

**Trial:** None



When I found out Apple had released a two-button mouse, I had to check the calendar to make sure it wasn't April. After fighting the two-button trend for more than 20 years, Apple gave in this summer and introduced the Mighty Mouse, which is a two-button, no-button mouse. Featuring touch-sensitive areas, a scroll ball, and a pair of "squeeze" buttons, it's Apple's first attempt at making a mouse with more than one button.

With any luck, it won't be its last.



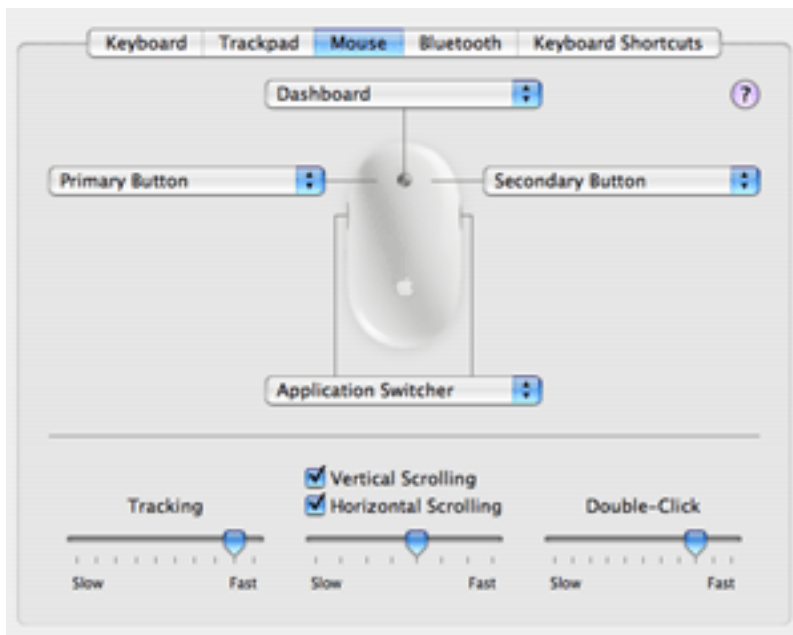
Apple's first attempt at a two-button mouse, though, is far from perfect. In my two weeks with the Mightiest of Mice that Apple could send me, I've questioned the design engineer's sanity, skills, and drug-use patterns. Most traditional two-button mice, such as the Kensington Pocket Mouse Pro Wireless that adorned my desk before the Mighty Mouse, have little buttons, or at least some form of touch feedback that lets you know if your index finger is straying too close to the middle finger. That little raised line reinforces proper hand position and is sorely lacking from the new Mighty Mouse, with unfortunate occasional results, such as a right-click when you meant a left-, or even the infrequent center-click.



But it's not all bad news. The Mighty Mouse does have one feature that no other mouse on the market has: the scroll ball. For so long, the scroll wheel has been a feature on my mice—a crucial part of my day as I page through e-mails, Web browsers, and Word docs—that mice without a scroll wheel weren't a purchase option for me. The new scroll ball changes that entirely. Any mouse without its own scroll wheel is completely a waste. The purely frictionless scroll ball that sits nearly hidden at the head of the mouse is the Mighty Mouse's single finest feature. With dual-axis tracking control as part of the software component, and itself a clickable button, Apple has found a winning function combination. This is where the Mighty Mouse shines.

The third set of buttons, a squeezable set of studs along the side, proves to be an interesting choice, and I'm not convinced one way or the other that this is a winning feature. Time will tell. There's a good chance this might put me over the top on the mouse as an overall experience.

Apple also bundled software to make the Mighty Mouse work the way it is does, but it is for Tiger only (10.4.2 or later), so Panther users won't get the functionality described here. Sorry kids, but it's time to upgrade. Each of the buttons is fully programmable: left click (Primary Button in Apple parlance), right click (Secondary Button), and a whole host of other functions from Spotlight to the Application Switcher, to any script or application you've got handy. The software might actually be one of the mouse's redeeming features; with full tracking control, scrolling control, and button control, it's a full-feature preference pane. So far, I've been loving using the application switcher in the squeeze position, and Exposé in the scroll-button position. It makes my workflow so much better. Apple's *forté* continues to be in the software market, while their hardware needs improvement.



What's the bottom line? It's an Apple-produced two-button mouse. This is something so revolutionary that it's become a [sign of the apocalypse](#) and a massive joke all over the world. Apple gives in, it says, to the two-button paradigm. I think it had been coming since 2000, and I'm a bit frustrated that this was all Apple could manage. Overall, it's a mouse with two buttons and a grand scroll wheel, but I think Apple could do much better, and I hope it does.

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# Accessory Review

by Frank H. Wu, [frankhwu@starpower.net](mailto:frankhwu@starpower.net)

## NeoCase

**Developer:** [RadTech](#)

**Price:** \$30 (plus shipping and handling)

**Requirements:** iBook or PowerBook

**Trial:** None



In 1989, I was at a movie theatre in Manhattan with a woman I was dating. Just before the show was about to start, actors Jeff Goldblum and Geena Davis walked in—they were married at the time. Like everyone else, we turned to gawk at the celebrities as they walked down the aisle looking for seats. I said, “Yeah, he hasn’t made a good movie since *The Fly*.”

The gentlemen sitting next to me, a stranger, remarked in response, with the tone only native New Yorkers can articulate properly, “You know, and how many good movies have you made?”

Since then, even though I’ve managed to become a professional writer—as Samuel Johnson once said, “nobody but a blockhead ever wrote for any reason but the money”—I’ve tried to remember how much easier it is to criticize than to create.

This is all a roundabout means of explaining that I bought the RadTech NeoCase despite the marketing campaign for it. The name “NeoCase,” the slogan “It’s the one,” and the graphic of a man clutching the product while falling over backward are obviously meant to evoke Keanu Reeves caught in “bullet-time” cinematography in *The Matrix*. Call me a curmudgeon, but I’m just irritated by this attempt to suggest that the product will suddenly make any of us similar to the fictitious “Mr. Anderson”—“my name is Neo.”

Don’t get me wrong. RadTech is a terrific company. I’ve bought a half-dozen of their products, ranging from their Glide Kit for PowerBook hinges to their Ice Cream polish for iPods, both of which, incidentally, I recommend with enthusiasm. The NeoCase actually is quite good. For a soft case, used inside a briefcase, I recommend it with enthusiasm, too.

It’s just that the advertising is silly. Leave that aside, and you have a terrific product at a reasonable price.



The NeoCase belongs to the category of neoprene laptop cases. I'm guessing most consumers must make a decision at the outset whether they want a hard or semi-hard carrying case or a soft carrying case. There probably isn't that much overlap between the categories of products. In a lawyer's parlance, they are not "fungible." That is, one cannot be exchanged for the other. If you want more protection and are more likely to bang up against hard surfaces, you probably want the extra protection offered by a hard or semi-hard carrying case, such as the [booq Vyper](#) I previously reviewed. But in all likelihood, if you dropped your laptop from a tabletop or subjected it to some other severe shock, a simple sleeve isn't likely to prevent a ruined screen or worse however firm its few millimeters might be. If you are so risk-averse you want to guard against such an accident, you'll want something such as the RadTech MacTruck, which seems indestructible at least in the "real world."





Otherwise, the NeoCase is a fine choice. It is a black neoprene sleeve with no extraneous aesthetic features other than its name in white letters adorning a corner. It allows operation inside the case, and, indeed, is best suited to such deployment. There are four diagonal straps across the corners to hold it onto the laptop. It is easier to leave it on than take it off each time you open up the machine.

The only oddity of the Neocase, as compared to other designs, is the carrying handle. It retracts. If you don't want to use it, the symmetrical double strap (one part behind the screen, the other part beneath the keyboard) tucks away neatly without much of a bulge. If you want to use it, it comes out easily enough. The zipper then doesn't close all the way, because the handle obstructs it.

There is a flap with a hook-and-loop closure that fits inside the double strap, though, to protect that area. Actually, the same flap secures the center of the sleeve regardless of whether the straps are in use. It's just that the flap goes either directly over the center of the sleeve (with the handle retracted) or threads through the straps (with the handle in use). The photographs on the manufacturer Web site show its operation clearly, if the foregoing description isn't sufficient.

RadTech also states the neoprene is siliconized for water repellency. The zipper design, with two pulls, has the increasingly common flange to prevent the zipper from contacting the laptop directly.

In conclusion, the RadTech NeoCase does the job. I just doubt it'd enable any consumer to stand up to Agent Smith.

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# Hardware Review

by Andrew Kator, [akator@atpm.com](mailto:akator@atpm.com)

## PhoneValet 3.0, PodCast, and Anywhere

**Developer:** Parliant

**Price:** \$330, \$155 (upgrade as tested)

**Requirements:** Mac with USB port, Mac OS X 10.2, QuickTime 6.5, analog phone line

**Trial:** None



Last year's release of PhoneValet 2.0 brought telephone communications management back to the Mac with Caller ID and announcements, call logging, voice mail, phone-based remote control, call recording, and shared voice/fax management on the same phone line. Parliant has released three significant upgrade options to their PhoneValet software. The purchase options can be a little confusing, so it's important to clarify those up front.

For new users, PhoneValet 3.0 (\$200) includes the PhoneValet USB Telephone Adapter with PhoneValet 3.0 software. PhoneValet PodCast (\$250) includes the PhoneValet USB Telephone Adapter, PhoneValet 3.0 software, BIAS Peak Express 4, and SoundSoap 2.

Those who already own the PhoneValet USB Telephone Adapter hardware can choose from the PhoneValet 3.0 Upgrade (\$30) or PhoneValet PodCast (\$75) including PhoneValet 3.0 software, BIAS Peak Express 4, and SoundSoap 2.

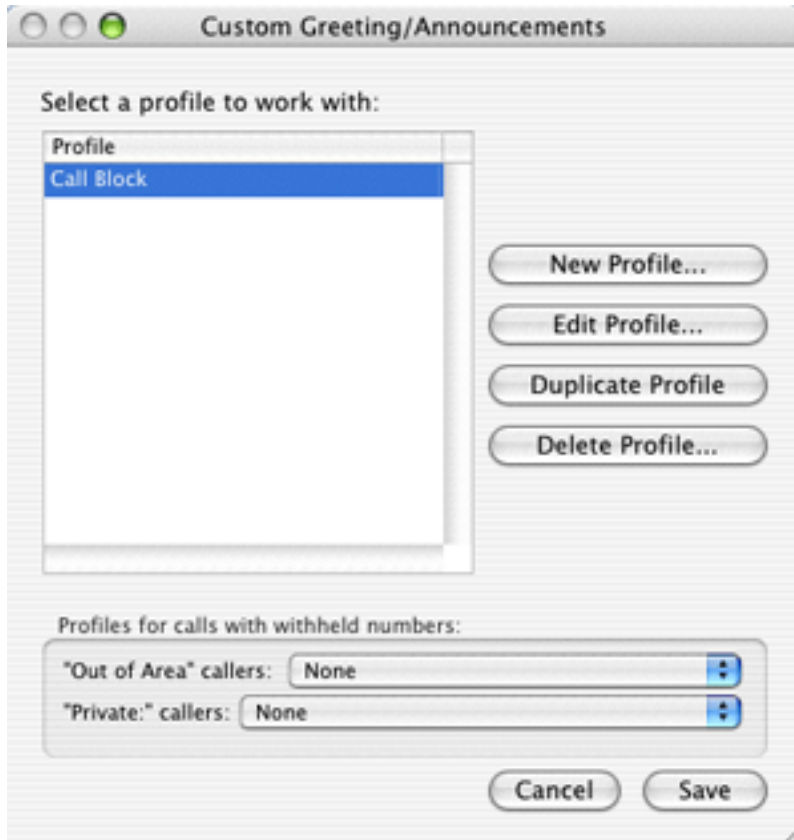
Both new and upgraded PhoneValet 3.0 users can choose the optional PhoneValet Anywhere (\$80), which enables Web and network access to the call center using OS X's built-in Web server features.

### PhoneValet 3.0

Since last year's [review](#) the rock-solid reliability of this product has been impressive—PhoneValet 2.x ran perfectly without even the smallest glitch for the entire period of use. There are two existing PhoneValet features that have proven indispensable over the last year. PhoneValet can e-mail missed calls to specified e-mail accounts, including Caller ID and any voice mails associated with the calls. Call Recording has been extremely useful for dealing with customer service and tele-marketers, helping us resolve over \$500 of “billing issues” from unscrupulous businesses.

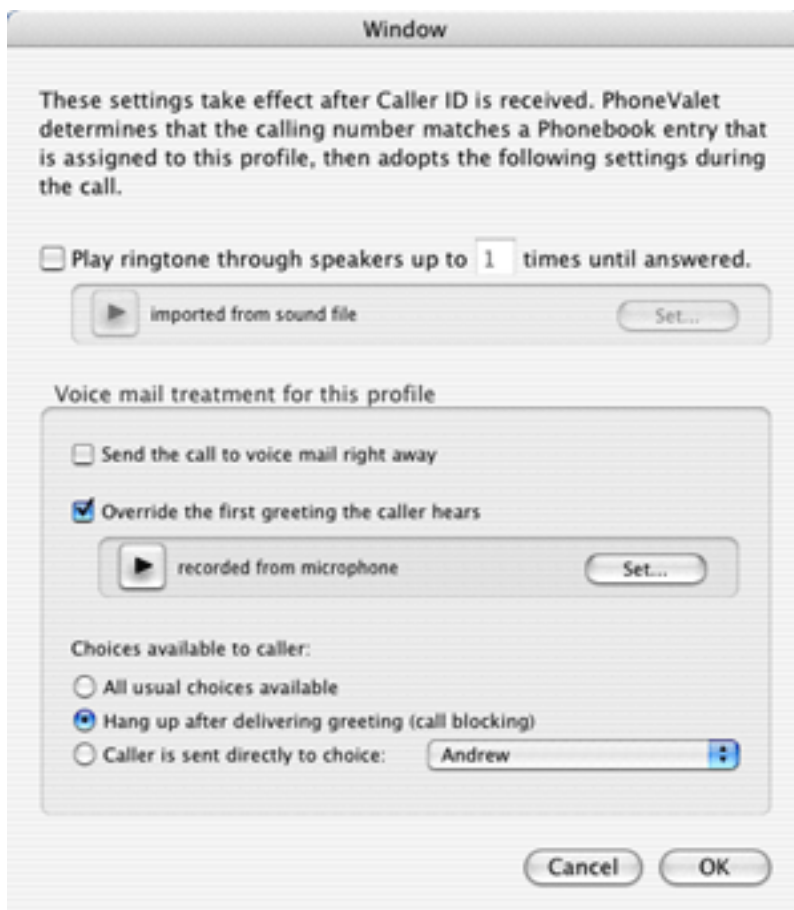
Over the last year the only major feature we found missing was call blocking. Most telephone companies offer blocking for a few phone numbers, but their call blocking limits are easily exceeded by companies that purchase multiple prefixes.

PhoneValet 3.0 resolves this problem and offers even greater flexibility with Call Profiling. PhoneValet uses Caller ID to perform a user-defined series of actions stored in a profile. These actions include custom ring-tones, custom greetings, sending the caller directly to voice mail, sending the caller to a voice mailbox, hanging up, or a combination of the preceding options. For example, call blocking is possible by combining a custom greeting followed by hanging up.



Custom Profiles are easy to create using PhoneValet's preferences.

A profile can be assigned to individual or multiple phone numbers, to out-of-area numbers, or to "private" numbers that don't appear on Caller ID.



There are many Profile options. Not only can you avoid telemarketers, but you can also record special messages for family, friends, or even your in-laws.

## PhoneValet PodCast

Parliant has joined the podcasting phenomenon with their PhoneValet Podcast bundle. This includes the PhoneValet 3.0 software and BIAS's Peak Express 4 and SoundSoap 2. Peak Express allows users to perform basic editing and optimization tasks with audio files, and SoundSoap is one of the premier tools for audio cleanup. SoundSoap is remarkably easy-to-use for eliminating unwanted noise and artifacts from not only recorded phone calls, but any audio source.

This bundle is a significant value, considering SoundSoap 2 retails for \$99 and the \$30 PhoneValet 3.0 upgrade is included. Parliant offers a Peak Express/SoundSoap *tutorial* <[http://www.parliant.com/support/phonevalet/podcasting\\_tutorial.html](http://www.parliant.com/support/phonevalet/podcasting_tutorial.html)> \_\_\_ on their Web site.

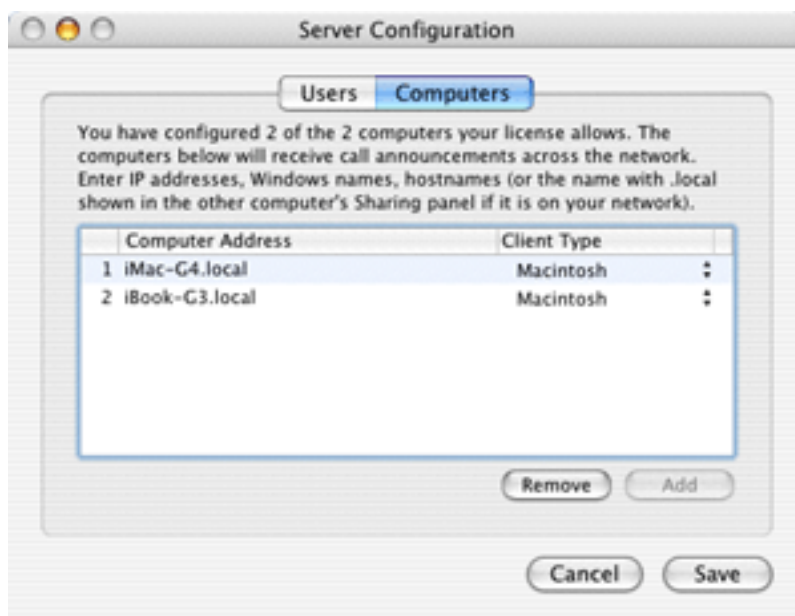
## PhoneValet Anywhere

Older versions of PhoneValet offered two basic methods for remote access: the e-mail feature described previously, and the ability to access messages by calling from another phone.

PhoneValet Anywhere takes remote access much further by offering two new network features.

PhoneValet Anywhere is built-in to PhoneValet 3.0, but activated only when the purchased codes are entered into the PhoneValet preferences. Once the code is entered, the server options become available. Two user accounts are included, but additional accounts can be purchased from the Parliant Web site.

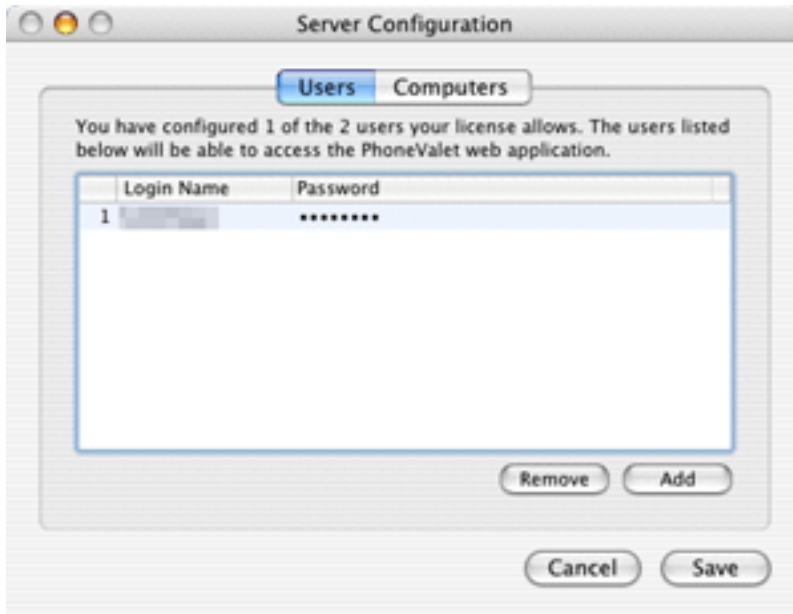
Live incoming call information is displayed by remote computers (either on the local network or on the Internet) by installing the PhoneValet Client software. The client software is available for both Mac and Windows. Caller ID for incoming calls to the PhoneValet server (the Mac connected to the phone line and running the PhoneValet software) are displayed on the computer(s) running PhoneValet Client. Macs running the client can both display and announce the caller through audio, whereas Windows computers can display Caller ID information only. The display window has five options for display size and whether verbal announcements are used. The client software runs unobtrusively in the background, only displaying information when calls are announced.



The PhoneValet server automatically detects any networked machines that are running PhoneValet Client.

PhoneValet Web Access offers several additional features. The Phonebook, Call Log, and Message Center are all accessible through straightforward Web pages—playback of voice mail and call recordings is seamless. Notations for each entry can be added and edited using a Web browser. There is also a Call Report feature, which creates logs based on time, date, caller info, notes, duration, and several other criteria. These features can be accessed either through Rendezvous/Bonjour or by accessing the server's domain or IP address.

Anywhere's Web Access requires OS X's built-in Web server to be activated, done simply by accessing System Preferences, Sharing, and turning on Personal Web Sharing.



PhoneValet Web Access is restricted to defined users with passwords, keeping information safe from unwanted users.

## Results

PhoneValet 3.0, PodCast, and Anywhere offer a significant upgrade to the previous PhoneValet products, and they offer the same ease-of-use in previous versions while greatly extending the features. The PodCast bundle is a great value, but it is Anywhere's network call center access that makes this upgrade most remarkable. Whether for new or existing users, PhoneValet 3.0, PodCast, and Anywhere offer a robust and affordable telephony solution for home and small businesses.

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# Software Review

by Marcus J. Albers, [mjalbers@mchsi.com](mailto:mjalbers@mchsi.com)

## Tron 2.0

**Developer:** [Monolith](#)

**Price:** \$49

**Requirements:** 700 MHz G4, Mac OS X 10.2.8, 256 MB RAM, 32 MB Radeon 7500/GeForce 2MX, 2.5 GB disk space

**Recommended:** 1 GHz G4, Mac OS X 10.3.3, 512 MB RAM, 128 MB Radeon 9700/GeForce 4 Ti

**Trial:** None



Back in the early 80s, the home computer was more and more becoming a common item. The video arcades were booming with new creations from Atari and Midway, among others. And Hollywood was about to be introduced to a technique and technology that would forever change the face of film, literally. The vehicle for this new technology was a little Disney movie called *Tron*. Although *Tron* did less than stellar at the box office, it made an indelible mark on the popular landscape that can be seen to this day. Computer-generated images are as commonplace now in television and film as they were foreign back then.



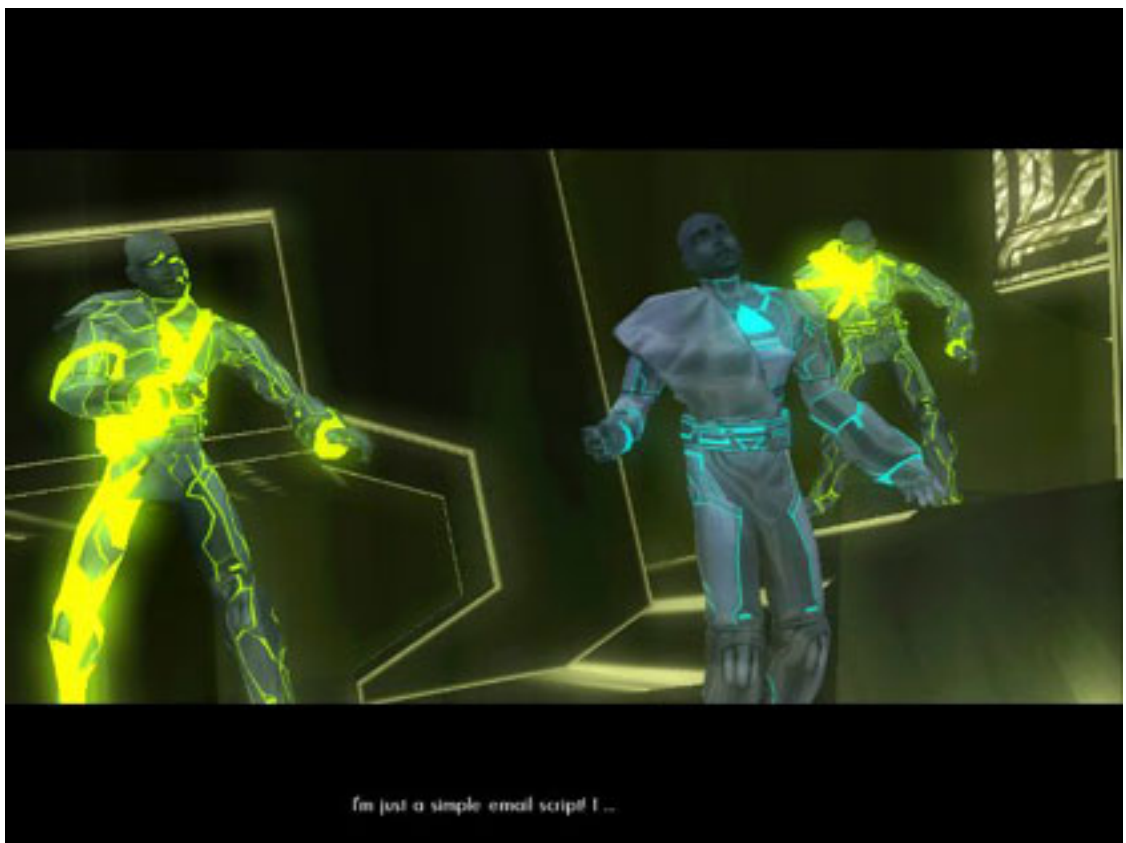
It was with much joy that I received the news that Disney was working on a sequel to *Tron*. What the rumors didn't make clear was that the project wasn't another movie, but a video game. What better way to show how much computer technology had advanced in 20 years than to show that we can do in real time on desktop computers what the Disney animators did painstakingly over the course of a number of years on Cray supercomputers.



Tron 2.0 is the sequel to Disney's 1982 fantasy flick. Set twenty years after the events of the original movie, 2.0 follows the path of Jet Bradley, Alan Bradley's son. Jet is a twenty-something programmer who'd rather be playing games than developing them. But with some pushing from Alan, Jet has taken a job at the same company where his father currently works. During a father-son talk via cellphone, something happens to Alan, and Jet races to the laser lab to find out what's going on. Upon entering the lab, Jet finds his father missing. It appears the company supercomputer, MA3A (pronounced mah-three-ah), has other plans for Jet. You see, an evil virus known as Thorne has taken over the computer world that we remember from the original movie, corrupting data and turning programs into obedient zombies. Only a "user" from the real world can set things right again. MA3A digitizes Jet, à la Flynn, and sends him into the computer world, in all of its glowing neon spandex glory.

This is where the gameplay picks up. Tron 2.0 is basically a first-person shooter, with a few modifications to fit the *Tron* world. Your main weapon, of course, is your data disc. This glowing Frisbee is how you will dispatch most of your enemies. You will be given access to other weapons, including guns, as the game progresses. But none will be quite as useful, or as readily available, as your "TRON Disc of Death."

You are led through the game by a "byte," a more complex version of the "bit" that befriended Flynn in the first movie. Byte will let you know where you should be going in the game by opening doors and activating lifts, and will give you hints on gameplay as you progress through the levels. Byte helps to move the narrative along, so you don't get too bogged down in a particular section of the game. This helps to keep the game interesting.

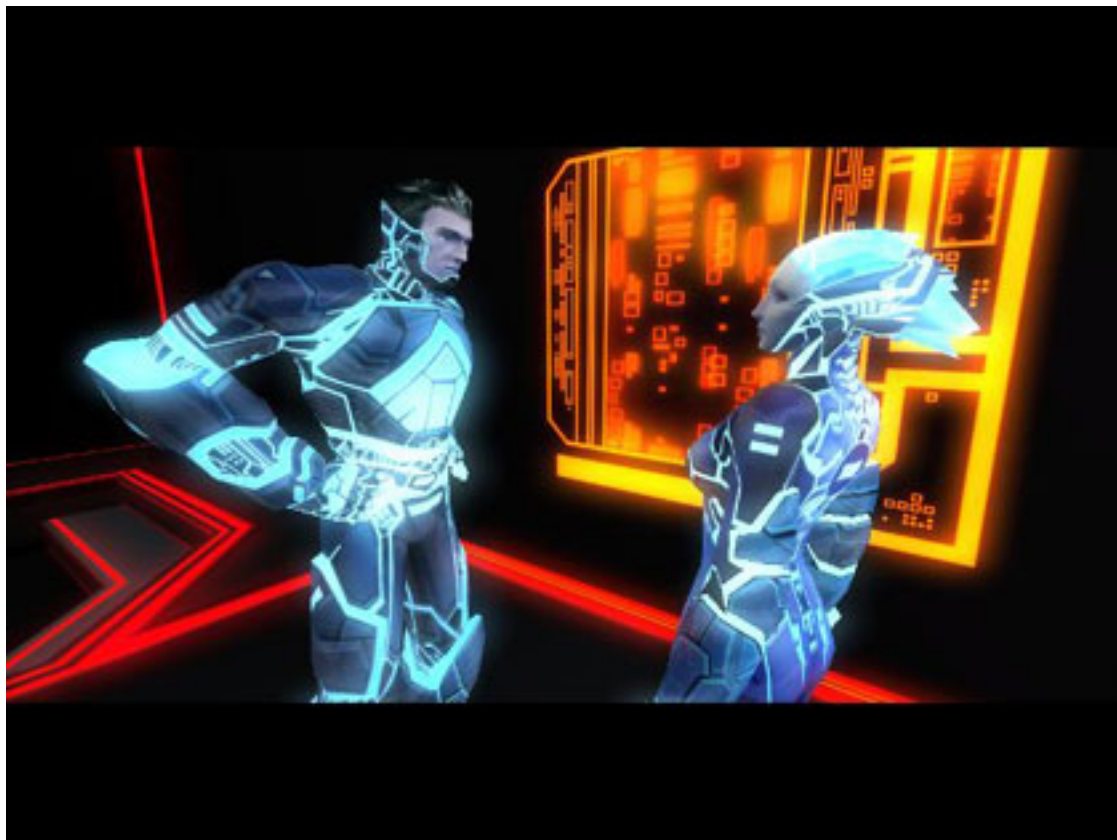


The exposition is accomplished by scripted cutscenes done with the in-game engine. I'm glad the developers chose to use the game engine instead of pre-rendering the scenes. It helps to keep the player immersed in the game world, without constantly reminding him that his computer can't really handle what's happening on screen right now.

If there is one thing that irks me about the gameplay, it's that the developers believe that because we are in the world of video games, we need to be jumping all over the place. Well, we don't. But Tron 2.0 makes you jump, and quite frequently, I might add. You will seldom enter an area that doesn't contain a pile of glowing neon boxes, with a data box somewhere near the top. The idea, of course, is to jump from box to box to get to the data. At first glance, this may sound easy. But timing jumps in a first-person view is like trying to step off of a curb blindfolded. It's going to take you a number of tries to get it just right. A number of tries laced with frustration, choice words, and a cordless mouse flying across the room.

When you're not jumping, the game is a joy to play. On my G5 iMac, I can turn all of the graphic options on full and still be playing at a silky-smooth frame rate for the majority of the game. Let me tell you, the graphics are absolutely beautiful on a powerful enough computer. The neon really glows, just like the movie. The facial expressions of the characters can be seen up close, and voice-overs are well synced with the facial animations. Models appear to have a fairly high polygon count, giving curves a nice round appearance.

From the character models to the environment to the inevitable appearance of the light-cycles, they all look just as good, or better than, they looked on the big screen in the 80s.



The sound in this game is absolutely top-notch. Sound effects appear to have been either taken from the originals, or painstakingly designed to sound like the originals, because everything sounds so familiar. From the light-cycle sounds to the disc-flight sounds, to the sound of a de-rezzing guard, you'll truly feel as if you are there. The voice-overs are excellent as well. It was great that Buena-Vista was able to bring back Bruce Boxleitner to reprise his role as Alan Bradley, as it adds a lot of credibility to the game and also gives it a nice connection to the original. Rebecca Romijn-Stamos provides the voice of Mercury, a program you will meet later in the game. I, for one, could listen to those vocals forever. The extras do an excellent job as well, with a lot of scripted conversations happening as you enter into particular areas (much like Half-life on the PC, only not quite as complex). The score, which borrows from Wendy Carlos' groundbreaking original soundtrack, is excellent and complements the gameplay without detracting from it. The opening title sequence really shows this off; it's something you almost wish you could sit through without starting a new game each time.

As excellent as the sound and graphics are, one thing keeps this game from being truly top-notch. As with many other single-player first-person shooters, the multiplayer options

seem to be tossed in at the last second. The light-cycle arena, which should be the hallmark of this game, can only be played multiplayer on a LAN. The other multiplayer option, and the only one that allows you to play against others over the Internet, is the disc duel. While this is fun for a while, and the levels are varied, there just isn't enough there to keep my interest for more than a couple of games. It's a good thing the single-player game can keep your interest for a number of hours.

While Tron 2.0 is not the big-budget movie that I was hoping it would be, this game does an excellent job of being the sequel to one of my favorite childhood movies. With a solid single-player experience (if you can get over the jumping puzzles), I would definitely recommend giving this one a go. See all you programs on the game grid!

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# Software Review

by Lee Bennett, [lbennett@atpm.com](mailto:lbennett@atpm.com)

## You Control: Desktops 1.1.1

**Developer:** [You Software](#)

**Price:** \$30 (special \$10 offer for ATPM readers—see below)

**Requirements:** Mac OS X 10.3.9

**Recommended:** Mac OS X 10.4 for unique desktop file/folders, Quartz Extreme support for workspace transitions.

**Trial:** Fully-featured (15 days)



It has been said that an empty desk is the sign of an empty mind. Not surprisingly, some of the most creative Mac users you may come across have a smattering of files and folders littering their computer desktops and application windows in all manners of arrangements.

Even though such people may know exactly where things are on their screens, it's still somewhat undesirable to have such clutter visible when a client or boss shows up to see your work. You Control: Desktops not only provides a quick solution for accessing a pristine desktop, it also fosters a workflow that may help you keep your desktop—make that *desktops*—better-organized in the first place.



A menu click or, if desired, a single keyboard shortcut, and you're spinning off to a new desktop workspace just as if you were switching to a different user.

So how does it work? Think about Apple's [Fast User Switching](#) feature. Now imagine the same concept, but not switching to a different user.

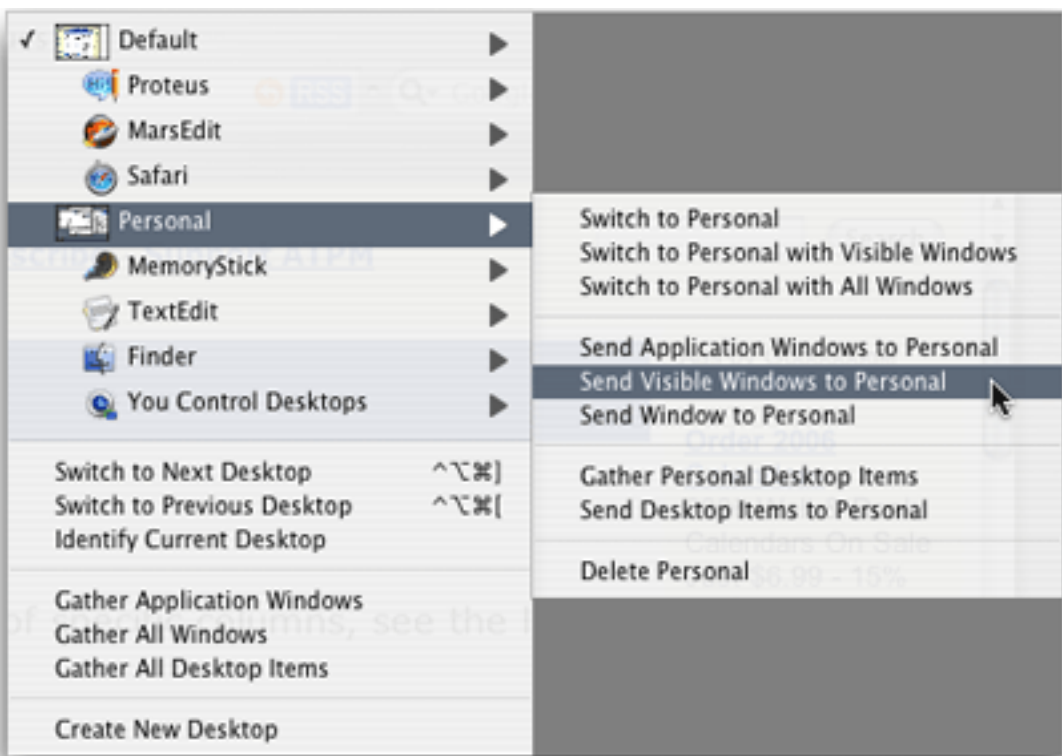
## Using Multiple Desktops

There are many workflow possibilities while using You Control: Desktops. One option would be to create a desktop workspace for each task such as a workspace for Final Cut Pro, another for Soundtrack, and another for a script and/or shot list. Alternatively, you could create workspaces intended for where you are using your computer—work, home, vacation, etc.

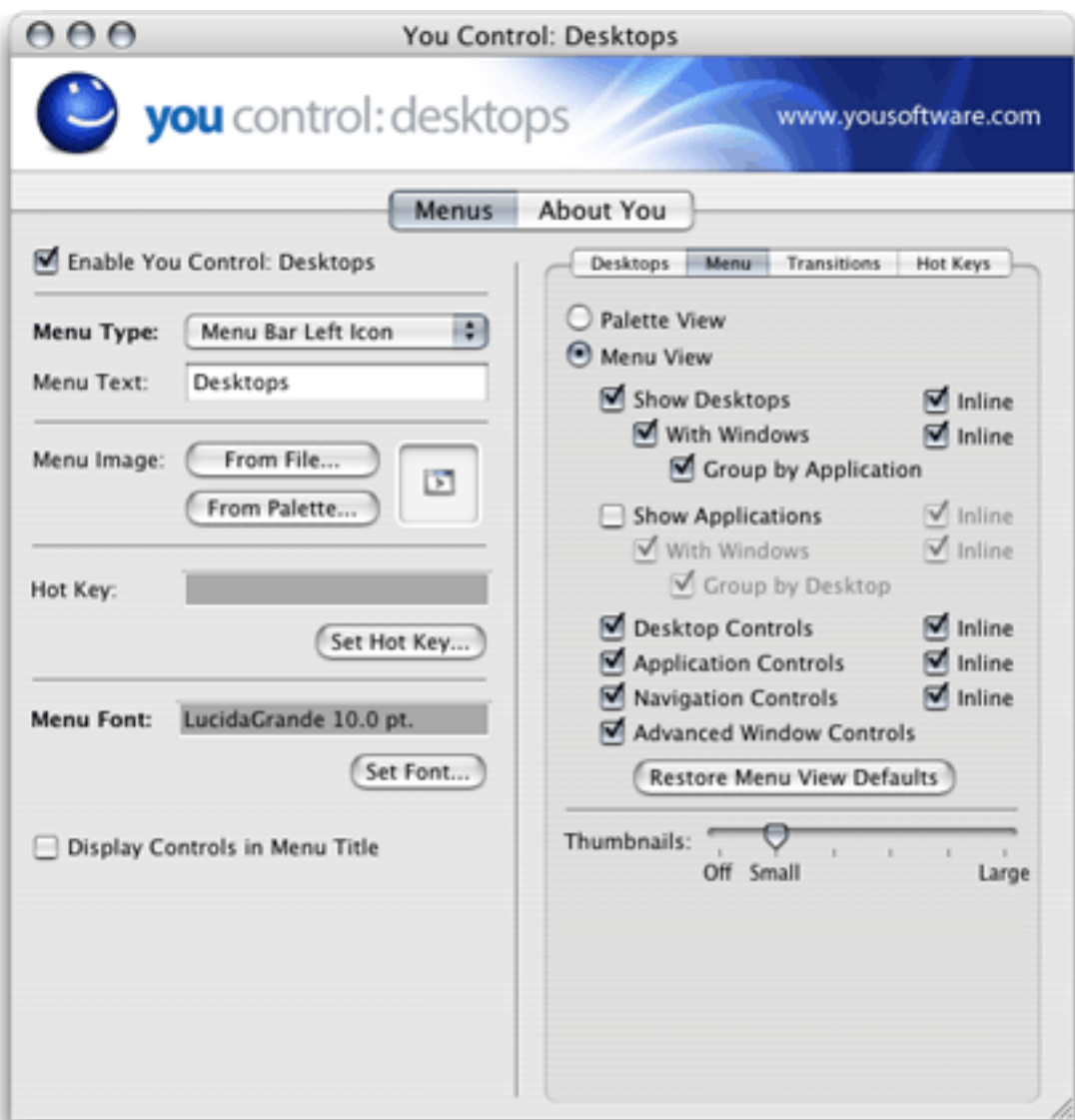
### ***Workspace Management***

You Control: Desktops also offers several methods of getting your desktop icons and windows from one workspace to another. Probably the most useful method is the ability to drag a window to either edge of your screen which can invoke a switch to the next workspace in sequence. Unfortunately, this same metaphor does not work for desktop icons. It should.

The remaining methods for moving items across workspaces involves using the menu bar control. Depending on which options you enable, you can gather all windows or icons to the active workspace or send items to another workspace, choosing whether to send visible items, items belonging to the active application, a single item, etc.



A variety of options are available for window and desktop item management.



You can customize which window and desktop item management commands appear in the menu bar control.

### ***Interface Bugs?***

Actually, I should've said that you can *theoretically* send items to another workspace because some of these commands did not work for me. I can't explain why. I would think that these primary functions would have been tested and working before the software completed beta testing. All I know is that when I selected the Send Desktop Items to [workspace name] option, nothing happened. Similar inactivity occurred with a few of the commands to relocate windows.

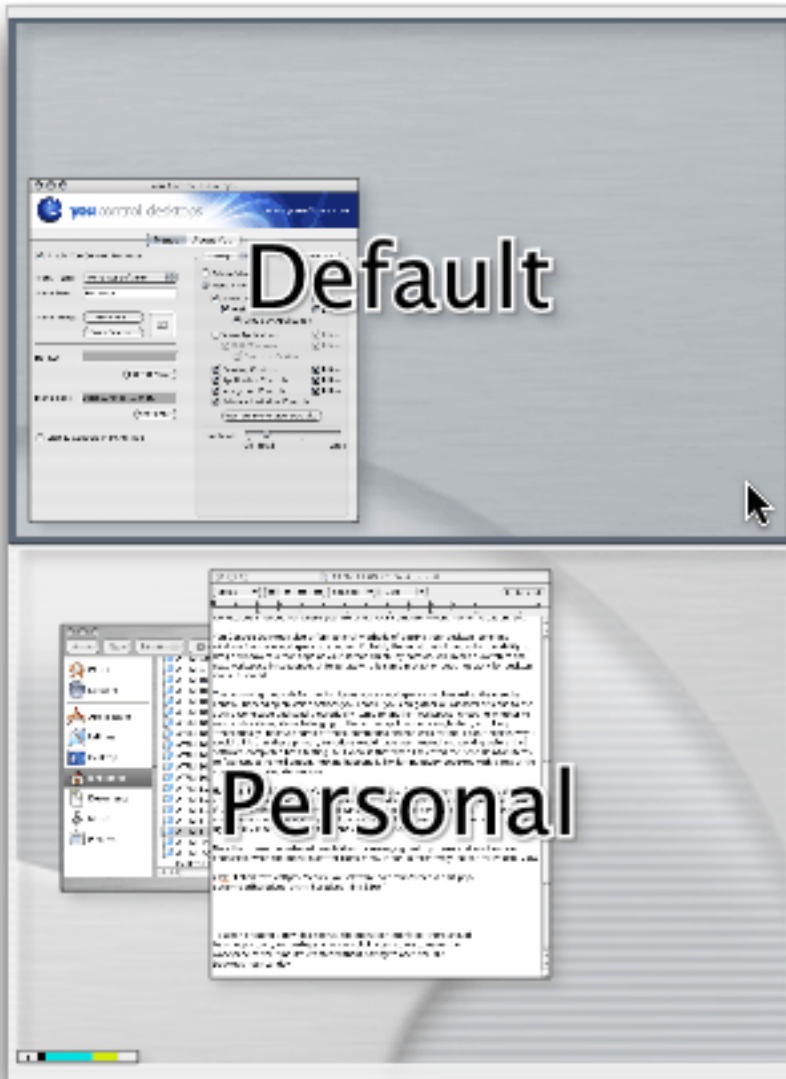
However, I'm holding to my Very Nice rating because, in my opinion, the ability to simply create workspaces and open windows in those workspaces is the core function—the “cake,” if you will. Improved management of windows and desktop items is the “icing.” Yes, these



menu items should be working, and I cannot overlook the possibility that something just isn't right on my machine and the functions work fine for other people. If you try out You Control: Desktops, please [tell us](#) whether all the management functions work for you.

### **Menu View vs. Palette View**

Note that these menu-based possibilities for managing desktop items and windows are accessible when the menu is set for Menu View. It can, alternatively, be set for Palette View which yields a thumbnail view of all workspaces. Clicking a thumbnail switches to that workspace. You can also drag the thumbnail versions of windows from one workspace to another in the Palette View.



If you can't decide whether to set your menu bar control to Menu or Palette View, not to worry. Set it to the view you feel you'll use more often and hold the Option key before accessing it to temporarily use the opposite view.

## **Caveats**

The “wow” factor of You Control: Desktops and the fact that it seemed completely stable and fairly easy to use nearly garnered the utility my highest marks. Even though a few small quirks prevented an Excellent rating, the aforementioned menu commands not working for me notwithstanding, I can still recommend You Control: Desktops as a viable workspace management tool.

### ***Naming New Workspaces***

When creating a new desktop via the menu bar control, there should be an opportunity (or perhaps an Option-click alternative) to name the workspace at the time it’s created without having to open the main configuration window.

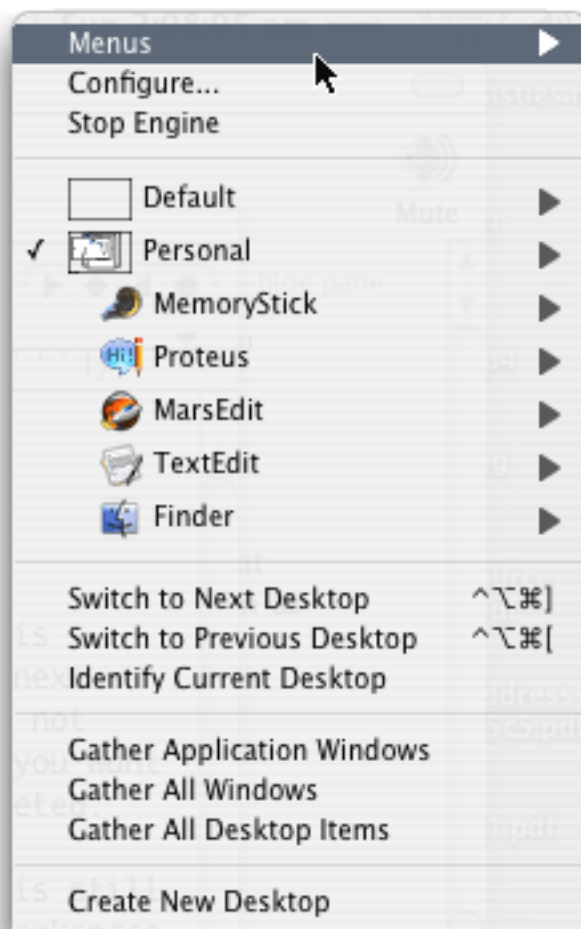
### ***Deleting Workspaces***

If you delete a desktop workspace that is currently active, that workspace remains visible when, instead, the next defined workspace in line should come into view. If the workspace is not empty, perhaps a query box should appear to permit a choice of what you want done to desktop items and windows in the workspace that is being deleted.

Still another quirk is that after a workspace has been deleted, yet is still visible, the keyboard shortcuts I’ve assigned to change to another workspace do not work. The only way to get out of that now-deleted desktop workspace is to switch from the menu bar interface or the main configuration window.

### ***Stray Menu Item?***

Holding the Control key while clicking the menu bar interface adds three additional commands to the resulting pop-up menu. Personally, I don’t see why these items can’t simply appear in the normal Menu View interface. Two of the items allow you to either quickly access the main configuration window or to shut down the You Control: Desktops engine. The first of these items, however, labeled “Menus,” has a hierarchical triangle next to it that produces no content. Perhaps it’s a mistakenly left over item from development.



Into the void!

### ***Dragging Desktop Items***

As previously mentioned, it should be possible to drag items on the desktop in one workspace to another workspace in the same manner that windows can be relocated.

### ***Alternative Finders***

Unlike the caveats above, this last one *should not* be considered a bug. While reviewing You Control: Desktops, I had to re-familiarize myself a bit with Apple's Finder. For quite some time now, I've used Cocotek's Finder replacement, [Path Finder](#). While running Path Finder, most everything appeared to work correctly except the feature for having unique desktop items in each workspace. Initially, I thought I had completely lost the things that were on my original desktop. That was when I learned how You Control: Desktops keeps track of what items are on which desktop.

It's really quite simple. In your home user folder, in addition to the regular Desktop folder, a new "Desktops" folder will be present. Inside are more folders, each named to match your

workspaces. When you switch away from a workspace, all desktop items in that workspace are moved to the corresponding folder. Likewise, items are moved out of a folder and back to your main desktop when you switch to a workspace.

The problem with alternative Finders (or Path Finder, at least) is that if Apple's Finder isn't the active Finder, You Control: Desktops properly moves items into a workspace's Desktops folder when switching away from that workspace, but does not return the items back to the main desktop.

A possible bug that I did notice, however, is that when a workspace is deleted its corresponding desktop items folder is not deleted. Or, maybe this is a good thing so as not to accidentally delete files on that workspace's desktop.

## **Special Offer for ATPM Readers**

The \$30 price tag for You Control: Desktops seems appropriate. It's a powerful utility with a lot of potential and worth every cent. But kudos to You Software for making it an even better value. The developer has extended the introductory price of [\\$9.95 to ATPM readers](#). Enjoy!

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