

# **FOSS for All!**

Our September 20 meeting will include a freebie- the FOSS DVD. Just what is FOSS? FOSS stands for Free and Open Source Software and the DVD is a collection of free software divided into categories such as Audio, eBooks, Education, Games, Graphics, Internet, Office Productivity, Utilities, and Video. We will have some DVD's burned and ready for KeyMac attendees but please note our disclaimer: If we run out of DVD's, you will be able to reserve your copy and pick it up at our October meeting. If you would like more information about the DVD contents, please see the President's Corner.

# **Lion Roars**

Our meeting will also include a look at Mac OS X 10.7, otherwise known as Lion. We will look at a video or two describing some of the new features in Lion. We want to know your opinions on Lion if you have made the upgrade, so we hope you can attend. **T** 

Meet us at

### **Giant Food**

Corner of Trindle Road & 32nd St (Route 15) 3301 East Trindle Road, Camp Hill, PA 17011

### Tuesday, September 20, 2011, 6:30 p.m.

Attendance is free and open to all interested persons.

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Keystone MacCentral is a not-for-profit group of Macintosh enthusiasts who generally meet the third Tuesday of every month to exchange information, participate in question-and-answer sessions, view product demonstrations, and obtain resource materials that will help them get the most out of their computer systems. Meetings are free and open to the public. The *Keystone MacCentral Printout* is the official newsletter of Keystone MacCentral and an independent publication not affiliated or otherwise associated with or sponsored or sanctioned by any for-profit organization, including Apple Computer, Inc. Copyright © 2011, Keystone MacCentral, 305 Somerset Drive, Shiresmanstown, PA 17011.

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### Keystone MacCentral Essentials

#### **Meeting Place**

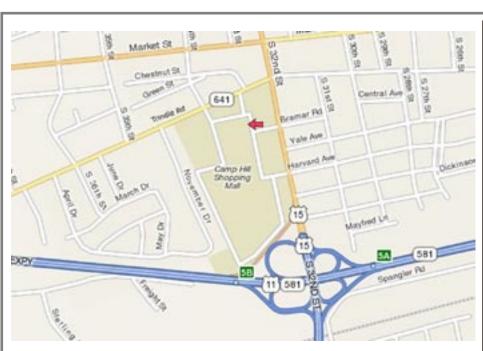
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### by Linda J. Cober

# **President's Corner**

Welcome back to another fun and informative year with Keystone MacCentral! We will continue to meet at the Camp Hill Giant, usually on the third Tuesday of each month, but please check the website as we cannot always get the room on the third Tuesday and sometimes have to switch our date. We stick to Tuesdays, though, and we try to go later in the month rather than sooner when the third Tuesday is not available. Our website www.keystonemac.com will announce the date and the meeting topics, as usual, so please check before you drive to Camp Hill. Also, please feel free to purchase food or drinks downstairs in Giant and bring them up to the meeting, but do not bring in outside food or drinks as that is not permitted by Giant, and we do not want to annoy our hosts. There is an elevator to the second floor if steps are not your forte.

Our September meeting will introduce attendees to Lion, Apple's newest cat, and will also give you an opportunity to celebrate FOSS, Free and Open Source Software day, actually September 17, for OS X by seeing some of the software provided on the DVD called "Spotlight on FOSS," which you can then take home if you like what you see. Here's the small print re. the DVD: If we run out of the burned DVD's, you can request one and pick it up at our next meeting.

As the headline article stated, there are many applications on the DVD and the full list appears here. This DVD is courtesy of KeyMac and AppleUsers.org which is also working on a Special Edition of AppleUsers Spotlight, their free digital magazine, to accompany the DVD. The issue will feature articles about Free and Open Source Software. The goal of this celebration is to educate everyone about the benefits of using high quality FOSS in education, in government, at home, and in business – in short, everywhere!

The contents of the free DVD are as follows:

### Audio

- Audacity
- eBooks
- Calibre
- Jomic

#### Education

- Celestia
- Moodle
- Stellarium

### Games

- \* Aleph One
- Armagetron Advanced
- BZFlag
- Cube 2: Sauerbraten
- PrBoom
- PySol Fan Club Edition

- Scorched 3D
- Wesnoth Zombies

### Graphics

- Blender
- Seashore
- Xee

### Internet

- Adium Blink
- DifficCabos
- Cabos
   Cybordu
- CyberduckFirefox
- Firefox
   Vommonia
- KompozerRSS Owl
- KSS OWISeaMonkey
- SeawonkeSunrise
- Thunderbird
- Transmission
- Vienna,
- WaveMaker

### **Office Productivity**

- AbiWord
- Bean
- Buddi
- FormulatePro
- FreeMind
- OpenOffice.org

#### • Skim Utilities

- Burn
- ClamXav
- Growl
- MAMP (Macintosh, Apache, Mysql and PHP)
- Quicksilver
- SheepShaver
- The Unarchiver
- VirtualBox

### Video

- HandBrake
- Miro Video Converter
- Miro
- Mplayer Extended
- Perian
- Plex
- Video Lan Client (VLC)

### Bonus Videos

- Happy Birthday to GNU
- Elephants Dream
- Big Buck Bunny
- Sintel

You are sure to find something you like on the free DVD, so please join us at our September 20 meeting and bring a friend!

# Keystone MacCentral Minutes

### May 17, 2011

### Business Meeting

Prior to the May meeting, the KeyMac board met and decided to hold an auction of the OnOne plugins at our October meeting. Mail-in bids will be accepted prior to the auction for those who can not attend. We will publicize this on our web site and Facebook page.

President Linda Cober asked for member feedback on a merger with Hershey Apple Core. Jim Carey suggested alternating meeting sites and nights because of the two groups differing schedules.

### Q&A & Comments

Someone mentioned difficulties in printing a table from Outlook, part of the Office for Mac '11 package. Printing worked in older versions. Tables can be forwarded and then seen. Jim Carey mentioned that Amtrak is transitioning to an e-ticket system and that their conductors would be getting iPhones.

### Program Notes

Our May program was presented by Tom Bank II, who demonstrated OnOne Perfect Photo Suite plugins for Adobe Photoshop. The plugins do not work with Photoshop Elements. The suite has seven plugins but they are also available individually for purchase. Five of the titles also work as stand-alone applications. OnOne Software has offered our members a 20% discount off the purchase price of their products with a discount code they have supplied to KeyMac. We will auction off a copy of Perfect Photo Suite at our October meeting, with bidding limited to current KeyMac members. We plan to allow for online bids prior to that meeting for members who cannot attend.

PhotoTune goes through adjustments on a step by step basis, allowing you to optimize dynamic range, color, and sharpness. It includes SkinTune to help you get perfect skin tones. PhotoFrame is a collection of design elements, including film edges, borders, textures, backgrounds, and even whole layouts. You can also get new downloads for free each month. You can batch process images, perhaps to add a watermark.

PhotoTools does filtering with hundreds of different presets broken down into categories. These filters are non-destructive. Stylized filters can be used to change your image with one click and effects can be layered. Effects can be painted out with a brush over selected areas of the image.

Perfect Resize allows you to enlarge images to any size while retaining image quality. Mask Pro lets you keep or drop chosen colors to make complex selections easier, allowing you to remove backgrounds or other unwanted items from a photo.

FocalPoint lets you puts elements of a photo in or out of focus or change the depth of field. The suite also includes Perfect Layers, which helps you work with layers in Adobe Lightroom or Apple's Aperture.

Tom's demonstrations of some of the suite's effects and the short videos we watched certainly showed us that Perfect Photo Suite is a great tool. You can go to the **OnOneSoftware**. **com** site for more detailed information and informative videos. They also offer "light" versions of some of the plugins as free downloads. We sincerely thank OnOne Software for their donation of a copy of the suite for the auction at the October meeting. I'm sure bidding will be spirited.

The OnOne Perfect Photo Suite 5.5 - which retails for \$299.95 - consists of the following five components and works with Photoshop CS3, CS4, & CS5 or Photoshop Elements 6, 8, & 9:

- PerfectResize enlarge images to any size
- PhotoTools professional photographic effects (does not work with Photoshop Elements)
- PhotoFrame layouts, edges, and adornments
- FocalPoint create realistic selective focus, vignette, and and depth of field effects

• PhotoTune - optimize dynamic range, color, and sharpness of your photos

• MaskPro - remove unwanted backgrounds or clip individual images from your photos 🖸

# The Steve Jobs Resignation FAQ

When important Apple news bubbles up to the mainstream media, it's often distorted – or flat-out incorrect – by the time it pops out at the surface. Steve Jobs's resignation from Apple made the front pages of major news outlets, and the amount of ill-informed "analysis" is piling up.

So here's an overview of the facts, broken down into questions and answers, to make it easy to answer a friend, family member, coworker, or anyone else who doesn't follow Apple and has only heard quick news snippets. Feel free to send them this article by clicking the e-mail button if you're reading on our Web site, or by copying this link and pasting it into your favorite e-mail program: http://tidbits. com/article/12447

Question: Is Jobs no longer involved at Apple?

**Answer**: Although he has stepped down as CEO, Jobs was elected by Apple's board of directors to be Chairman of the Board. Apple has said that he will continue to contribute to Apple's products and directions, no doubt on his own schedule.

**Q**: Who is replacing Jobs? Is he any good?

**A**: Apple's board of directors announced that, following its succession plan, Jobs will be replaced by Tim Cook, previously Apple's chief operating officer. Cook has worked at Apple for 13 years, and each time Jobs has taken a medical leave of absence, Cook has ably taken over Apple's reins. Apple thinks highly enough of Cook to give him 1,000,000 shares of Apple stock, contingent on him remaining at Apple through 2021.

**Q**: Does this mean the iPhone 5/iPad 3/Mac Pro will be delayed?

**A**: No. Apple has been functioning without Jobs as the active CEO since January 2011, and they've done quite well, both in terms of releasing products and in continued stellar financial results. (See "Apple Reports Q3 2011 Record Financial Results ," 19 July 2011.)

**Q**: What about future products? Can anyone replace Jobs's vision?

**A**: No one can be the "next Steve Jobs," and neither Jobs nor Apple seems interested in finding one. Instead, new CEO Tim Cook and the rest of the executive team will guide Apple according to their own strengths. As John Gruber so aptly put it, "Jobs's greatest creation isn't any Apple product. It is Apple itself."

**Q**: Is Steve Jobs's health suddenly dire?

**A**: We don't know, and frankly, extensive speculation is unseemly. It's possible that Jobs is pulling back to focus on other things, or that his health has gotten worse. Jobs has received treatment for pancreatic cancer and undergone a liver transplant, and he stepped away from active duty as CEO in January 2011 due to health reasons. But he also appeared on stage to introduce the iPad 2 in March 2011 and at Apple's Worldwide Developer Conference in June 2011.

According to an **article** by Walt Mossberg in the Wall Street Journal, "To be very clear, Jobs, while seriously ill, is very much alive. Extremely well-informed sources at Apple say he intends to remain involved in developing major future products and strategy and intends to be an active chairman of the board... His health is reported to be up and down, and even an active chairman isn't the same as a CEO."

**Q**: Is this The End of Apple as We Know It?

**A**: Certainly not. The executives that Jobs has surrounded himself with have been with the company for many years and have been executing Apple's vision both while Jobs has been the day-to-day CEO and during his leaves of absence.

Also, if you look at Apple's recent history of products, you'll see that years of groundwork were laid to reach the point we're at now. Consider the iPad. Apple began work on the iPad well before 2007; the multi-touch interface and a few initial apps showed promise, but the company chose to take that work and develop the iPhone instead. The lessons learned from the iPhone, and the foundation for creating and running the App Store, led to the iPad in 2010. Compare that to companies like HP and RIM, who have unsuccessfully rushed tablets to market since the iPad was introduced.

We're certain Apple has a secret roadmap that extends a few years into the future. And the company has been actively working to sustain its unique corporate ethos. In 2009, former Dean of the Yale School of Management Joel Podolny joined Apple to head Apple University, which, according to an **extensive feature in Fortune magazine** is an internal program that documents and teaches how the company functions and makes important decisions.

Of course it's possible, even likely, that Apple will change over the years, but that's to be expected. The Apple of today is significantly different from the Apple of 1985, when Jobs last left Apple, the Apple of 1996 when he returned to Apple, and even the Apple of 2006, before the iPhone was released. But change is one of the things Apple has done best.

As ever, we wish Jobs the best possible health, and if you have any other questions, please ask them in the comments and we'll address them as is feasible.  $\Box$ 

# **Finding a Replacement for Quicken**

**Unlike** the death of the classic Mac OS, which came with a full-blown funeral service officiated by Steve Jobs himself, the passing of Rosetta, Apple's software that allowed PowerPC applications to run on Intel-based Macs, took place without any public acknowledgement from Apple at all.

The first that many people learned of Rosetta's demise was when they installed OS X Lion and, upon attempting to launch a PowerPC application, saw a rather distressing dialog like this one:



Though many PowerPC applications have newer Intel-based versions that will live happily in Lion-land, one popular application, Quicken 2007, does not. Sure, Intuit offers a version with a reduced feature set, but Quicken Essentials isn't a direct replacement for Quicken 2007. Instead, it's just another alternative financial package, one that may or may not be a suitable replacement for Quicken 2007, depending on your needs. Intuit itself makes this very clear.

So what is a long-time Quicken user, with years of accumulated financial records stored in Quicken, to do?

**Two Preliminary Pieces of Advice** – My first piece of advice is obvious: Don't panic. There are a lot of personal finance packages to which Quicken users can turn. For nearly all Quicken refugees, one or more of them is probably right for you.

That said, my second piece of advice is the crucial one: Don't upgrade to Lion until you have exported your Quicken data, imported it into a replacement, and tested it. That's because the export feature in Quicken 2007, unsurprisingly, requires Rosetta to run. Although some Quicken alternatives may be able to read Quicken data directly, many more require that information in Quicken Interchange Format (.qif) files. You don't want to lose your ability to run Quicken until your financial data has found a new home, moved in, unpacked, and had a little time to get comfortable. Lion can wait.

**Some Candidates** – Ah, but which new home? That's not an easy question to answer. Among the many candidates

that might replace Quicken for you are the following, listed in order of decreasing cost:

- QuickBooks 2011 for Mac from Intuit (\$183.96)
- MoneyWorks from Cognito (\$99 to \$1,999, depending on package)
- iBank 4 from IGG Software (\$59.99)

• YNAB (You Need a Budget) from Jesse Mecham Steine LLC (\$59.95)

- Fortora Fresh Finance from Fortora (\$49.99)
- Liquid Ledger from Modeless Software (\$49.99)
- Quicken Essentials from Intuit (\$49.99)
- Moneydance from The Infinite Kind, LLC (\$49.99)
- Moneywell from No Thirst Software LLC (\$49.99)

• **moneyGuru** from Hardcoded Software (\$30 suggested contribution)

- SEE Finance from Scimonoce Software (\$29.99)
- iFinance from Synium Software (\$29)
- **PocketMoney** from Catamount Software (\$19.99 for computers, \$4.99 for iOS and Android)
- Money 4 from Jumsoft (\$18.99)
- GNUCash (Free)
- Xero Personal (online, \$19 per month)
- Mint.com (online, free)

These are not, by any stretch of the imagination, the only possible Quicken replacements around, merely the ones I've taken a quick look at or that readers have suggested.

Also note that you can keep your Rosetta-requiring Quicken 2007 if you are willing to partition your hard drive so you can reboot and run Snow Leopard when necessary; you could also transition to Quicken for Windows if you are willing to run Windows in Boot Camp or a Parallels- or VMware-based virtual machine. These seem like stopgap options to me, but if you want to learn more, Joe Kissell discusses them in "Take Control of Upgrading to Lion."

But, in any case, I'm not going to recommend any one of these replacement options in this article. Instead, I have a bunch of questions for you to answer. Your answers to these questions will put you in a much better position to examine the available alternatives and find the one that's right for you.

Quicken 2007, its predecessors, and its Windows-based edition, all offer a variety of features and capabilities. It's a rare Quicken user who needs all of them. What you need to figure out is how you use Quicken, which of its features are essential to you, and which you can live without.

**Where You Come In** — But wait! We need your help! First, if you know of viable Quicken replacements not in the list above, please share that information in the comments, so we can add them. Second, after you've read the rest of this article and thought about the questions suggested, let us know in the comments if you have any additional questions for people to consider.

Here's why. We're planning something new with this article. Once we've compiled a full list of products and questions, we'll be contacting the developers of each of the products and asking them to explain how their products will meet your needs. We'll then make an edited version of each developer's response public for everyone to read.

On to the questions!

# Do you use Quicken primarily as a smart checkbook register?

If so, most available packages, including Quicken Essentials, may fill the bill. Questions related to this category include the following:

• Do you reconcile your checkbook with your bank statement each month? No, don't laugh: lots of people don't. In fact, I don't (a brief pause while my mother, a retired bookkeeper, stops sobbing in shame); as long as my bank thinks I have more money than I think I have, I'm not worried about any small discrepancies. But if you are wiser than I, and your bank enables you to download monthly statements and import them so you can reconcile your records, you need to find a package that allows such imports and that provides the capability to reconcile your information with the bank's.

• Do you tag or categorize various expenditures and deposits? Many people don't, but I do. It makes my life much easier come tax time if I can find my deductible business expenses quickly and hand them to my accountant. If this matters to you, you need to find a package that can import Quicken's categories and that can present you with a report of your transactions sorted or filtered by those categories.

• Do you use Quicken to print checks? If so, and if you can't live without this feature, you need to find a package that supports check printing.

• Do you use Quicken to pay your bills online? If so, you may need a package that provides this capability. But you

may not if your bank (like mine) offers such a service online and you don't mind flipping between your finance software and a Web browser when you're paying bills. A tip here: if your bank supports OFX (Open Financial Exchange) protocols for online bill paying, look for a package that also supports those protocols.

• Do you use Quicken's reminders? I use them, but I don't rely on them; I know when my rent is due without Quicken's help, and my estimated tax payment dates are already in iCal, so Quicken's reminders are a convenience only. But if you can't live without them, you have to find a package that has a similar feature.

• Do looks matter? Surprisingly, they do for some users. If the financial software package is hard on the eyes — the type is too small, the layout is confusing, the color scheme is obnoxious – that might be enough, all else being equal, to disqualify a contender from being your Quicken replacement.

### Do you use Quicken to track investments, loans, budgets, and net worth?

Now we're getting into some serious financial stuff, stuff that's beyond my personal experience. Fortunately, my younger brother has a complex financial portfolio, and he has clued me in on some of the questions to ask related to this overarching question.

• Do you need to track the details of your investments? For example, Quicken Essentials can track the values of specific holdings and their overall value, but it won't track individual purchases or sales and calculate things like capital gains nor manage stock splits. If this sort of thing is essential to you, then you need to look elsewhere.

• Do you have one or more outstanding loans that you need to track? Loans come in all shapes and sizes: credit cards, mortgages, personal loans, business loans. If you need to track outstanding loan balances, and principal owed versus interest, and if you want to coordinate your loan information with your checkbook ledger, you need to look for a package that offers such amenities.

• Do you use Quicken to set up and stick to a budget? Some packages can show you where your money has gone; with others you can set up one or more budgets and track your expenditures and income against them. Ask yourself just how much a budget feature matters to you, and how fine-grained the reports have to be.

• Do you need to know readily what your current net worth is? Some packages provide enough information for you to figure this out, others do not, and some actually do it all for you. If knowing your net worth at any given time

### Continued from page 7

### Finding a Replacement for Quicken

is of critical importance to you, find a package that provides it.

# Who else needs access to your financial information?

It turns out that there are several audiences who may have to be considered when you adopt any financial software: yourself (obviously), a spouse or significant other, possibly an accountant, almost certainly the Internal Revenue Service in the United States (residents of other countries have similar governmental organizations who may have a burning need to examine your finances from time to time).

• Do you do your own taxes with the aid of tax-preparation software? If so, you need to make sure that your chosen Quicken replacement and that software can play nicely with one another. At the very least, you need to make sure your replacement for Quicken can export the necessary data in a form that the tax software can handle.

• Do you and your life companion maintain separate accounts, but need to use the same software (possibly because you file joint tax returns)? If so, look for a package that can handle multiple accounts without mingling the information. Surprisingly, some don't. Also consider whether you can maintain separate account information that your companion can't easily access: although many couples don't like to keep secrets from one another, you may not want your spouse to discover the purchase details of the holiday or birthday gift you bought.

• Do you have an accountant with whom you exchange financial information electronically? If so, find out what your accountant needs to be able to get from you and give to you, and look for a package that can handle such exchanges. Possibly you can get away with being able to export and import Excel files or even tab-delimited or CSV (comma separated value) text files. (I give my accountant paper. Paper is always good, but, of course, you will probably get charged more if your accountant has to engage in manual data entry tasks that an electronic transfer of information could have avoided.)

• Is the IRS watching you? I have a cousin who recently published several well-received novels and who just got audited by the IRS. She told me that the IRS agents were astonished and a little appalled to discover that she kept all of her records manually on paper. They told her that electronic financial records were, if not essential, strongly encouraged in the case of audits. While there may be no official government mandate that requires taxpayers to keep electronic records, when you choose a Quicken replacement you may want to consider choosing something that won't make the government angry at you. A package that can export your information in a standard format, such as previously mentioned QIF files, or Excel spreadsheets, can help you get through the trouble of an audit more easily.

**How to Choose** – Okay, you've answered all my questions (and, I hope, others that have occurred to you). Now what?

First, prioritize the features you need based upon your answers. Some features may be essential, some may be nice to have, some are almost certainly irrelevant.

Next, you may want to wait until we've published the developer responses to our questions to start looking for a replacement. If you'd rather get going right away, or if you've read the developer responses and need to move on to personal testing, start with the list of products I provided above. Explore the Web sites for each of the candidates you have in mind, just to see if they offer the features that you need. Focus especially on the ones that offer a free trial version: With the exception of Quicken Essentials, all of the ones in my list do.

After that, download one or two candidates that offer free trials and try to import your exported Quicken data into them. If that works out, try them out for a couple of weeks, putting them through their paces, while still maintaining your "real" information in Quicken.

Once you have found your replacement, do a final export of your Quicken data, purchase the replacement, and bring your data into it.

With only a small amount of luck, you should be able to cut your ties to Quicken and finally move on to Lion.







# Lion Security: Building on the iOS Foundation

It has long been a truism among tech pundits that Apple users suffer few security attacks due to relatively low market penetration making Macs uninteresting to professional cybercriminals. That may have been true five to ten years ago, but thanks to the iPhone, iPad, and iPod touch, we can now say with assurance that obscurity is no longer Apple's primary defense against attacks.

With over 220 million iOS devices sold, Apple dominates the tablet market and is one of the major players in the smartphone market, placing the company on the front lines of the security wars. Since the initial release of the iPhone, Apple has continually added to iOS important security defenses lacking in OS X to keep up with both attacks and jailbreaks. (Every jailbreak is technically a security attack used to circumvent Apple's iOS restrictions.)

How does this relate to Lion? Before Apple formalized the name as "iPhone OS" and then "iOS," the operating system on Apple's handheld devices was simply "OS X" or sometimes "OS X for iPhone." Apple representatives made the distinct point that it was merely a variant of OS X, and this was reinforced once people started jailbreaking (and later developing for) the platform. While not identical, iOS and OS X are more alike than different.

Apple has been extremely clear that a key goal in OS X 10.7 Lion was to incorporate lessons learned on iOS back into OS X. While many of these changes were focused on the user experience – gestures, Launchpad, and so on – Apple also migrated significant under-the-hood security improvements from iOS into Lion.

With Lion, Apple has focused on three significant security improvements that have been put to the test in iOS and closed one longstanding gap in how memory is protected, along with some smaller changes.

To be clear, all of these features existed in OS X before Lion in one form or another; the way Apple has combined and enhanced them to change the entire Mac application and OS ecosystem clearly shows the influence of iOS.

**Hardened Memory** – As I discussed in my review of the security aspects of 10.6 Snow Leopard ("Peering Inside Snow Leopard Security," 27 August 2009), Apple failed to implement ASLR completely. ASLR, which stands for Address Space Layout Randomization and is called Library Randomization by Apple, is a powerful security control that, when used in concert with other memory protection technologies like Data Execution Protection, makes it much harder for an attacker to compromise the operating system. To review quickly, ASLR randomizes the memory locations of operating system and application components. This slows or stops attackers because even if they use a buffer overflow (or other memory corruption vulnerability) there are no known locations to hook into and exploit. It's kind of like a burglar crawling through an open window without knowing whether it opens into a bedroom or a sewage tunnel.

In Snow Leopard, Apple's ASLR implementation failed to randomize all operating system pieces, especially the important dynamic loader process, giving attackers a solid location from which to launch exploits. Lion addresses this failing, and adds other memory protections to make exploitation quite a bit harder. (This is the one area where Lion is ahead of iOS, which is still improving its ASLR).

ASLR isn't perfect, though. Many applications still use static memory locations, and if an application isn't compiled as a "position independent executable" (PIE), it, as opposed to the operating system, can be the target of the exploitation. Attacking non-ASLR applications on an ASLR-enabled operating system is a serious source of exploits on operating systems like Windows 7 that have used full ASLR for years. On the upside, compiling an application as a PIE is the default in Apple's Xcode development environment for 64-bit executables targeted to Lion. Since Lion is available only for 64-bit hardware (which includes additional security protections that are supported by Lion too), it's now much harder to exploit Macs via memory corruption attacks.

**Sandboxing and Privilege Separation** – OS X has long supported sandboxing – optional mechanisms in the operating system that restrict what an application can do on your system. In recent years, Apple even used sandboxing to better protect some of their more vulnerable applications, like QuickTime. (Video players are notoriously difficult to secure due to all the different encoding methods they need to support and their high performance requirements.) Sandboxing in Lion is improved in two major ways, both of which we first saw in iOS.

First are many under-the-hood improvements in sandboxing and much more robust support for applications. Lion supports over two dozen "entitlements," which are the things an application is allowed to do. Entitlements include functions like writing to the file system (including different entitlements for temporary files), accessing the network, and interacting with hardware like the camera and USB *Continued on page 10* 

### Lion Security: Building on the iOS Foundation

connections. To make this work, developers design and compile their applications for sandboxing and give either an entire application, or different subprocesses, only the minimally required entitlements to work. Should an attacker exploit an application, they are thus restricted to the entitlements that application has, unless they can in some way break out of the sandbox.

Ideally, developers break their applications into separate processes, with major components sandboxed to use only minimal entitlements. Called "privilege separation," this approach provides security controls inside an application. For example, reading PDF files, rendering Web pages, viewing videos, and using browser plug-ins like Flash are all notorious sources of bugs and vulnerabilities. Apple has separated and sandboxed the rendering processes from the core applications for Safari, QuickTime, Preview, and all Safari plug-ins (back with Snow Leopard). Adobe has already sandboxed the Acrobat and Reader applications on Windows, although they haven't announced plans to do the same for the OS X versions.

In QuickTime, when viewing a video file, the rendering engine is sandboxed and restricted from writing files. So an attacker who exploits QuickTime would also need to find a way to break out of the sandbox before they could, for example, install malware on your hard disk.

Applications on iOS are heavily sandboxed, but a quick check on my Lion system shows that not a single application I'm running, other than those provided by Apple, uses sandboxing. Even Apple's own Aperture isn't sandboxed.

This will all change in November 2011 when Apple implements the second major change to sandboxing and requires it for all Mac App Store apps. We don't know how carefully Apple will review individual sandboxing implementations, but at a minimum all apps submitted to the Mac App Store starting in November will have to enable sandboxing and will be less useful as a launch point for attacks. These sandboxed applications will be able to interact with your Mac only through entitlements.

Developers aren't universally thrilled with this change. Sandboxing is intrusive, and can be difficult to implement on existing code. It will even be impossible to sandbox certain applications that require features for which Apple has not yet designed entitlements. Those applications will still run on Lion, but Apple won't allow them to be distributed through the Mac App Store, and that in turn may negatively affect sales, given the Mac App Store's rapidly growing popularity as the source for Mac software.

**Code (Application) Signing** – A software publisher can digitally sign an application using cryptography to

assure the operating system that the application hasn't been changed, and that it comes from a "trusted" source. A digital signature isn't merely a few bits added to the end of an application saying "I made this"; it creates a secure cryptographic hash of the entire application binary that the operating system can use to detect tampering.

Thus an attacker can't modify a signed application without breaking the chain of trust for its digital certificates – which means OS X would refuse to launch the tampered application. To upload a compromised application to the Mac App Store, an attacker would need to sign their compromised version with the publisher's private key and resubmit the "update" to Apple for approval (which would of course be withheld).

Application signing has been used since 10.5 Leopard, on an optional basis, for a mix of security and usability functions. For example, certain permissions (like accessing the keychain) are managed on a per-application level. Once an application is granted access to a keychain item, OS X records its signature for future access to that same item. If the application is upgraded but signed with the same signature, the keychain does not need to prompt again to allow access from the new version. In Leopard, application signing played a similar role in managing per-application firewall privileges.

Code signing is mandatory for all Mac App Store apps, just as it is for all iOS apps. However, unlike iOS, there is no system-wide requirement for code signing. But code signing does assure users that apps from the Mac App Store haven't been tampered with. The key here is not that code signing is new, but that, thanks to the Mac App Store, developers have significant incentive to implement it, and the more apps that do, the fewer can be exploited through modification.

Apple is also now using code signing more extensively for its own applications and operating system components, and it has enhanced code signing in Lion to tie it more tightly to sandboxing. Developers now have more flexibility in how they sign their code and different code components, and how those tie into sandboxing.

**FileVault 2** — FileVault is another longstanding feature of OS X, but probably the one where we see the most dramatic changes with Lion. Previously FileVault would encrypt your home directory, thus protecting any sensitive files and other personal information. Combined with another feature that also encrypted virtual memory, FileVault offered reasonable protection.

But that protection came at a cost. FileVault encrypted home directories by converting them to encrypted sparse image (and later, sparse bundle) files. Each encrypted home directory was thus stored on disk as a single large encrypted file, and was highly prone to corruption. This approach also broke many backup applications, or forced them to use ugly workarounds. For example, Time Machine could back up encrypted home directories only when the owner was logged out.

Many users turned to third-party products to close this gap, but there weren't many on the market, and some (especially PGP; see "PGP Whole Disk Encryption and PGP Desktop Professional 10.0," 14 May 2010) had a habit of breaking with even incremental operating system updates. Contrast this to iOS, where full-device encryption has been standard since the iPhone 3GS, albeit with a few implementation flaws.

Whole-drive encryption won't stop a network attacker, but it protects your data in case of physical loss of your drive. I recommend full device encryption for anything mobile to all my enterprise clients, but options for consumers on Macs have been pretty limited.

This situation changes completely with FileVault 2. The only thing FileVault 2 seems to share with its predecessor is a name, and use of the word "encryption."

FileVault 2 now encrypts your entire boot disk completely transparently. You choose which users are allowed to unlock it, and only those users can boot the computer. It's fast (unnoticeable to me), works in the background (even the initial encryption, unlike the original FileVault, which would lock your system for hours if you had a lot of files in your home directory), and works well with all backup tools.

Aside from your boot drive, you can now partition and encrypt new drives with Disk Utility. And, best of all, Time Machine even includes a checkbox to encrypt your backups.

You still need to be extremely careful with FileVault 2; if you forget your password, you are locked out of your drive forever. When you initially encrypt your system, Apple gives you **two recovery options** based on a 24-character code. You can write it down and use it as a recovery password, and you can store it with Apple and recover it via AppleCare after answering three user-defined security questions.

Encryption is also important for remote system wiping, one of the key security features of iOS accessed via Find My iPhone. Instead of having to format the entire drive, you just have to delete the encryption key. According to **leaked information**, a Find My Mac service is in developer beta and includes a remote wipe option.

### Improving the Ecosystem, Not Just the System -

As I mentioned earlier, none of these changes is necessarily new to OS X, and some predate iOS. Developers have long been able to sandbox and code sign their applications independently, ASLR is stronger in Lion than the current version of iOS, and FileVault 2 is a major change from FileVault, but, again, stronger than its iOS sibling.

I've also glossed over a number of other changes, including the XProtect anti-malware checks recently added to Snow Leopard ("Apple Responds to Increasingly Serious MacDefender Situation," 25 May 2011), which appear unchanged in Lion, and an additional Privacy screen in the Security & Privacy preference pane that lets you control what information your Mac sends to Apple and your location services preferences.

General FleVault	Frenal Printly
Send diagnestic & usage data to Apple You can help Apple improve its products automatically send Apple information from time to time about how it's working and how you use it. • This information is callected anonymously in a framethic close mu personally identify you. • Clock on the guestion mait for more information in the type of data sen: • The learn more about Apple's Privacy fulley, set http://www.apple.com/orkey	✓ Enables Locations Services Allow the apps before to determine your location
	<ul> <li>Indicates an app that has requested your location within the last 24 hours.</li> </ul>

But it's when we take a step back that the pieces fall together and show how Apple is building security into the entire ecosystem, much as it did in iOS.

The most profound change is the combination of memory protection, sandboxing, and code signing updates with the Mac App Store. While users can still install whatever they want on their Macs, those who choose software from the Mac App Store will know (or at least benefit from the fact) that their applications enforce a security baseline that's currently rare in even major packaged applications. Compromising applications is a major vector of attack. Almost all of the recent major attacks against users (as opposed to business applications) I'm aware of rely on flaws in applications like Safari, Microsoft Excel, QuickTime, and Adobe Reader.

While I don't see Apple forcing all Mac users to use only the Mac App Store, I could see a future – either a system preference or even a special Mac – where some users are restricted in this fashion. Those users would be protected from malicious downloads and other tricks used to install malware. It wouldn't work for everyone (me, for example, or any developer), but the popularity of iOS devices and the iOS App Store proves there is a very large user base that can be more than satisfied choosing applications from a walled garden.

Remember the recent MacDefender attack, which tricked users into installing a malicious application? Imagine if instead of just asking for an administrator password, a dialog informed the user that a new application was not approved by the Mac App Store, and directed them to System Preferences to override the block. Some people

### Lion Security: Building on the iOS Foundation

would still fall for it, but over time, as users are trained to focus on the Mac App Store for trusted applications, I bet the numbers would be far lower.

Some enterprises already do something similar with special "whitelisting" tools to restrict what employees can install, thus preventing malware. This strategy can be highly effective, albeit often hard to manage, depending on the habits of those employees and how strictly the rules are enforced.

Let's be clear about Apple's motivations here. This is clearly a case where Apple will profit from security since they get a share of every application sold in the Mac App Store. But, as someone who had to spend part of a recent weekend cleaning a relative's Windows-based PC of malware, I don't care that much as long as it works for users who are otherwise at risk.

The changes in FileVault 2, and the impending Find My Mac, show that Apple also recognizes the demand for better security on mobile computers. Apple has sold many more laptops than desktops in recent years, and this trend has continued even after the release of the wildly popular iPad. Although the combination of encryption and remote wiping has long been an option for enterprise users, Lion is the first time we've ever seen it built into a consumer operating system (even Microsoft's BitLocker full-drive encryption is an option only in its Ultimate and Enterprise versions).

In the end, Lion is significantly more secure than Snow Leopard even without the Mac App Store ecosystem. Combine the two, and we can see a future where we have security options never before available to consumers, and, more important, where security is an integral part of the overall ecosystem such that even those who know nothing about security are well protected.

Although you must take many factors into account when deciding when to upgrade to a new version of OS X, from a security standpoint, the sooner you upgrade to Lion, the sooner you can benefit from Apple's security improvements.  $\mathbf{\nabla}$ 

### by Glenn Fleishman

### iCloud Storage Upgrade Pricing Announced

**iCloud** will come with 5 GB of storage as part of a free account, but Apple said when it announced the MobileMe replacement that you could buy additional gigabytes. The fees and storage sizes have **now been disclosed**. Adding 10 GB, 20 GB, or 50 GB of iCloud space (for totals of 15, 25, and 55 GB) costs \$20, \$40, or \$100 per year, respectively. (For background on iCloud, see "**iCloud Rolls In, Extended Forecast Calls for Disruption**," 6 June 2011.)

iCloud storage doesn't count the storage of apps, nor any music nor books you purchase from the iTunes Store. It also excludes photos uploaded via the upcoming Photo Stream service, which could run into the gigabytes for the last 30 days' worth of up to 1,000 photos. But music you sync using the forthcoming \$24.99-per-year iTunes Match service runs up your total, except songs matched in the iTunes Store, apparently. Any documents or files stored by iOS apps, as well as OS X apps, also count against the total. (Videos aren't synced via iCloud, but require local iTunes Wi-Fi or USB sync to connect to computers and iOS devices.)

The iCloud fees aren't excessive compared to similar sync and storage services. **Dropbox charges** roughly \$120 per year (in \$9.99 per month installments) for 50 GB of storage, while **Amazon charges** just \$50 per year for that amount of storage on Cloud Drive. **Google is cheap** at \$20 per year for 80 GB for storage that's shared across all Google services, and that ostensibly includes its still-in-beta music locker offering. However, all three companies count everything you upload against their storage quotas. That could be a significant discrepancy. (All three services offer larger amounts, and Amazon and Google have smaller quantities, too.) **♥** 







# September Software Review

#### Ghostery 1.0.0 http://www.ghostery.com/ Free

A significant number of paranoid iPhone users got really upset last April when researchers discover that the iPhone maintains a database of nearby cell phone towers. This was interpreted to mean that the iPhone was tracking the user's every move.

Be aware that many internet companies track connected users via embedded scripts and invisible images. These are used to track your online behavior and, usually, provide that information to ad networks and other Web-usage trackers. Ghostery has list of over 200 companies that it checks.

Ghostery, a browser extension available for Safari, Firefox, Chrome, and Internet Explorer, provides a sort of Who's-There and Do-Not-Call functions. Click the Ghostery icon in Safari's toolbar, and you get a detailed list of each of those service along with the specific script(s) each is using on that Web page. Click a script to view it in a new Safari tab or window. Click the More Info link next to a service to view Ghostery's page for that company, which includes information about the company; contact information; a link to the company's full privacy policy; and a summary of the types of data the company collects, how that data is shared, and how long it's retained.

If you don't want to be another statistic, you can enable Ghostery's "Enable Bug Blocking."

### **Apple Updates**

### Digital Camera RAW Compatibility Update 3.8 August 31, 2011 - 6.91 MB

System Requirements

- OS X 10.6.5 or later
- OS X Lion 10.7 or later

This update adds RAW image compatibility for the following cameras to Aperture 3 and iPhoto '11:

- Konica Minolta DiMAGE A200
- Olympus PEN E-P3
- Panasonic LUMIX DMC-G3
- Panasonic LUMIX DMC-GF3
- Samsung NX11
- Samsung NX100

- Sony Alpha NEX-C3
- Sony Alpha SLT-A35

### Boot Camp Software Update 3.3 for Windows August 24, 2011 - 199.75 MB

System Requirements

- Win7-32 bit, Win7-64bit
- Boot Camp 3.2

The Boot Camp 3.3 update includes critical bug fixes and hardware support. It is recommended for all Boot Camp 3.2 users.

#### iMac Graphic FW Update 3.0 August 24, 2011 - 482 KB

System Requirements — OS X Lion (OS X 10.7 or later)

This firmware update fixes a graphics issue that may cause an iMac to hang under certain conditions.

### Epson 2.8 Printer Drivers August 23, 2011 - 961.5 MB

System Requirements

— OS X Lion

— OS X 10.6 or later

This download includes the latest Epson printing and scanning software for OS X Lion and OS X v10.6

### Boot Camp Software Update 3.2 for Windows 64 bit August 23, 2011 - 121.25 MB

System Requirements

- XP
- Vista64bit SP2
- Win7-64bit
- Boot Camp 3.1

This update adds support for the ATI-Radeon HD 5870 graphics card, Apple USB Ethernet Adapter, MacBook Air SuperDrive, and addresses critical bug fixes. This update is highly recommended for all Boot Camp 3.1 users.

### iTunes 10.4.1 August 22, 2011 - 90.26 MB

# August 22, 2011 - 90.26 MB (Mac) 77.47 MB (Win 32) 78.32 MB (Win 64)

System Requirements Software:

— OS X version 10.5 or later

Continued on page 14

### September 2011

# September **Software Review**

- QuickTime 7.6 or later; Support for HE-AAC requires OuickTime 7.6.4 or later
- Safari 4.0.3 or later

iTunes 10.4.1 provides a number of improvements, including:

- Fixes a problem where the media keys on some thirdparty keyboards work inconsistently with iTunes
- Addresses issues with adding artwork to songs and videos
- Resolves an issue which may cause iTunes to become unresponsive when purchasing an HD movie
- Fixes a problem where iTunes may take longer than expected to open after waking your Mac from sleep
- Addresses issues with VoiceOver support

### OS X Lion Update 10.7.1 (Client) August 16, 2011 - 79.29 MB

### System Requirements

— OS X Lion

The 10.7.1 update is recommended for all users running OS X Lion and includes general operating system fixes that enhance the stability and compatibility of your Mac, including fixes that:

- Address an issue that may cause the system to become unresponsive when playing a video in Safari
- Resolve an issue that may cause system audio to stop working when using HDMI or optical audio out
- Improve the reliability of Wi-Fi connections

• Resolve an issue that prevents transfer of your data, settings, and compatible applications to a new Mac running OS X Lion

### OS X Lion 10.7.1 Update for MacBook Air and Mac mini 2011 (Client)

### August 16, 2011 - 68.86 MB

System Requirements

- OS X Lion
- MacBook Air or Mac mini 2011

The 10.7.1 update is recommended for all users running OS X Lion and includes general operating system fixes that enhance the stability and compatibility of your Mac, including fixes that:

- Address an issue that may cause the system to become unresponsive when playing a video in Safari
- Resolve an issue that may cause system audio to stop working when using HDMI or optical audio out
- Improve the reliability of Wi-Fi connections
- Resolve an issue that prevents transfer of your data, settings, and compatible applications to a new Mac running OS X Lion

- Resolve an issue where MacBook Air may boot up when MagSafe Adapter is attached
- · Resolve an issue causing intermittent display flickering on MacBook Air
- Resolve an issue that causes the SD card slot in Mac mini to run at reduced speed with SD and SDHC media

### **Migration Assistant Update for OS X Leopard** August 10, 2011 - 4.98 MB

System Requirements — OS X 10.5.8

This update addresses an issue with the Migration Assistant application in OS X Leopard that prevents transfer of your personal data, settings, and compatible applications from a Mac running OS X Leopard to a new Mac running OS X Lion.

### **Lion Recovery Disk Assistant** August 08, 2011 - 1.07 MB

System Requirements

- A Mac running OS X Lion with an existing Recovery HD
- An external USB hard drive or thumb drive with at least 1GB of free space

Built right into OS X Lion, Lion Recovery lets you repair disks or reinstall OS X Lion without the need for a physical disc.

The Lion Recovery Disk Assistant lets you create Lion Recovery on an external drive that has all of the same capabilities as the built-in Lion Recovery: reinstall Lion, repair the disk using Disk Utility, restore from a Time Machine backup, or browse the web with Safari.

### Logic Express 9.1.5 August 08, 2011 - 138.84 MB

System Requirements Mac OS X 10.5.8

This update improves overall stability and addresses some minor issues including the following:

- All instrument and effect plug-ins that use LFO's synced to the beat now behave correctly.
- The Toggle Zoom key command now returns to previous zoom level as expected.
- Improved compatibility with Apogee's Duet 2.

This update is recommended for all users of Logic Express 9.

### Logic Pro 9.1.5 August 08, 2011 - 192.55 MB

System Requirements

— Mac OS X 10.5.8

This update improves overall stability and addresses some minor issues including the following:

• All instrument and effect plug-ins that use LFO's synced to the beat now behave correctly.

• The Toggle Zoom key command now returns to previous zoom level as expected.

• Improved compatibility with Apogee's Duet 2.

This update is recommended for all users of Logic Pro 9.

### HP Printer Drivers v.2.7 August 03, 2011 - 494.47 MB

System Requirements

— OS X v.10.6.1 or later

— OS X Lion

This download includes the latest HP printing and scanning software for OS X Lion and OS X v10.6  $\,$ 

### QuickTime 7.7 for Leopard August 03, 2011 - 68.85 MB

System Requirements

— OS X v10.5 through v10.5.8

### by Christopher Breen

QuickTime 7.7 improves security and is recommended for all OS X Leopard users.

### Samsung Printer Drivers v2.2 August 03, 2011 - 26.86 MB

System Requirements — OS X 10.6 or later — OS X Lion

This download includes the latest Samsung printing and scanning software for OS X Lion and Mac OS vX 10.6.

#### Brother Printer Drivers v2.7 August 03, 2011 - 136.55 MB

System Requirements

- OS X 10.6.1 or later
- OS X Lion

This update installs the latest Brother printing and scanning software for OS X Lion and Mac OS vX 10.6.

# Mac 911

## Lion, Time Machine, and the death of the iPhoto interface

Reader Ian Martin is perplexed by one of Lion's "features." He writes:

I recently installed Lion and dutifully backed up my hard drive with Time Machine. Yesterday I opened iPhoto and, using the Time Machine interface, attempted to restore a picture I'd deleted. Time Machine didn't behave the way I expected. Instead of the iPhoto interface remaining, I'm shown a Finder window. Assuming this is the way Time Machine and iPhoto now work, how am I supposed to restore individual iPhoto images?

Regrettably, what you're seeing is The New Way under Lion. You can no longer enter the iPhoto interface with iPhoto. Instead, Apple tells us that you must restore your entire iPhoto library. Like you, I consider this a huge step backwards, but Apple doesn't do this kind of thing for the fun of it. If there weren't a problem with The Old Way in regard to Lion and Time Machine, I'm certain Apple wouldn't have abandoned it.

So, you can do it Apple's Way, navigate to your user folder and then to your Pictures folder (the iPhoto Library directory's default location), fire up Time Machine, and restore your iPhoto Library. Or you might consider the Sneaky Way.

Before we don our sneakers, I suggest that you first launch iPhoto and select its Trash folder. Unless you've explicitly emptied that Trash, your image is still there. If you have emptied iPhoto's trash and the image is truly gone, follow along.

The Sneaky Way is to Control (right) click on the iPhoto Library, choose Show Package Contents from the resulting contextual menu, locate the Masters folder, and navigate down through the nested folders (they're nested by Year, Month, Day, Some Oddly Named Folder, and then the images for that day). Now fire up Time Machine and go back to a point before you tossed the images. Locate the images you want (you can use Quick Look within Time Machine to find just the images you desire) and restore them.

When you return to iPhoto, your images won't be there. You'll have to dig into the newly updated Masters folder and locate the images you've restored. Pull them out of the folder they've been moved to and then add them back to iPhoto by dragging them in.

"But wait!" the sneakiest of you suggest. "Why not also restore all the files within the iPhoto package that have been updated. That way your iPhoto library will return to the state it was in when you first tossed the images!"

Nicely stated, and this could be a workable solution if you haven't added any images to iPhoto since you deleted those now longed-for photographs. But if you have added images I can't help but think that Bad Things could ensue if *Continued on page 16* 

### Mac 911

you're working with an iPhoto library that has new images and an old database.

No, best to just leave it at recovering your deleted images and flinging them back into iPhoto as if you were adding new images.

### The workings of a Stationery Pad

*Reader Jake Tesler has a question about a long-standing OS X feature that few people use. He writes:* 

Can you tell me what "stationery pad" does? It's that little checkbox in a Finder's Get Info window. I've always been curious, but I can't figure it out.

The Stationery Pad feature has been around for years. Helpful though it can be, very few people I know use it. And that's too bad.

It's a way of creating a template document. For example, create a blank TextEdit document, save it to the desktop, select it, press Command-I, and enable the Stationery Pad option. Double-click on that document and you generate a copy of it, complete with all of the original document's content. The original file remains untouched.

You can do it with any file type but, of course, it's not useful for all files. For example, it doesn't do you a lot of good to save most image and movie files as stationery pads.

### **Killing Lion's autocorrect**

A reader who wishes to remain anonymous may desire that anonymity because he or she doesn't care to be corrected. The nameless person writes:

I upgraded to Lion when it first came out and the feature I like least is autocorrect. When typing, my Mac routinely corrects my spelling and often inserts incorrect words. How do I turn this feature off?

Helpful as I find autocorrect on my iOS devices–where typing is tricky because of a smaller keyboard with no physical feedback–I too find it distracting on my Mac. I can offer a couple of bits of welcome news for those who don't care for this feature–not all applications support it and, for those that do, it can be turned off.

To do so, launch System Preferences and select the Language & Text preference. In that preference select the Text tab and disable the Correct Spelling Automatically option. Before you uncork the champagne and go on a tear of intentional misspelling, however, take note: Any applications currently open that support autocorrect will continue to correct your spelling and suggest words to you. To prevent them from doing this you must quit the applications. Relaunch them and autocorrect will be disabled.

### Viewing an old Address Book archive

Reader Bob Trudeau would like to preview Address Book archives. He writes:

Is it possible to view an Address Book archive without importing it to Address Book? A while back, I lost all my Address Book content, and since then I've been rebuilding and adding manually. I recently discovered an old Address Book archive that might have information I'd like to use in my current Address Book data. But I don't want to import that old archive at the risk of destroying a lot of new data I've added manually.

Although I'm certain that there are geekier ways to go about this, I'd keep it relatively simple and do this:

Move your old archive file to the root level of your hard drive. Launch System Preferences, go to the Accounts (Snow Leopard) or Users & Groups (Lion) preference, and create a new account. Log into that new account, launch Address Book, choose File -> Import. You'll be asked if you're sure you want to replace the contacts currently in Address Book. As you've just created this account, you will have no contacts here other than Apple Computer and your own user card. Go ahead and replace this with the contents of the archive.

You can now look through the contacts that appear in Address Book. Select those you want that aren't in the list of contacts within your regular account and drag them to the Desktop to create a vCard that contains these contacts. Then drag that vCard to the root level of your hard drive so that you can easily access it. Now switch back to your regular account and import that vCard.

The broader lesson here is that having an extra user account to do this kind of thing can be helpful. Whenever you want to perform an action that may endanger the data in your regular user account, switch to the Mucking Around account and do what you will there.

"OS X 10.5 Leopard Essential Training (video)" from lynda. com Find Chris' books at www.amazon.com and www. peachpit.com. Get special user group pricing on Macworld Magazine! Subscribe today at http:// www.macworld.com/ useroffer





