mini'app'les
newsletter
the minnesota apple computer users' group, inc.

From the Editor:

The major news events this month are the release of the iPad 3, iOS5, and Apple's corporate performance.

Tom Ostertag, Publications Director

Meeting Calendar

This information was compiled as this newsletter was being assembled and is subject to change. As always, confirm the Special Interest Group (SIG) date, time, and location with the SIG Leader or the mini'app'les website: www.miniapples.org.

Meeting Calendar – April 2012			
Monday	April 2	6:30 pm	Mac Q&A SIG
Tuesday	April 3	7:00 pm	Mac OS X SIG
Thursday	April 5	7:00 pm	Mac Applications SIG
Monday	April 9	7:00 pm	Board of Directors Meeting
Tuesday	April 10	7:00 pm	iOS SIG
Wednesday	April 11	7:00 pm	VectorWorks SIG*
Wednesday	April 11	7:00 pm	TC Photoshop User Group*
Thursday	April 19	7:00 am	Mac Consultants SIG
Wednesday	April 25	6:30 pm	Mac Q&A SIG
Thursday	April 26	6:30 pm	FileMaker Pro SIG

Meeting Locations and Leaders		
Meeting	**Location**	**Leader**
Board of Directors	Southdale Library, 7001 York Ave. S. Edina	Tim Drenk, 952-479-0891
Mac Applications SIG	Eden Prairie Library 565 Prairie Center Dr., Eden Prairie, MN	Tim Drenk, 952-479-0891
Mac OS X SIG	Plymouth Library, 15700 36th Avenue North, Plymouth, MN	Bob Demeules 763-559-1124
iOS SIG	Brookdale Library, 6125 Shingle Creek Parkway, Brooklyn Center	Joel Gerdeen, 763-572-0148
VectorWorks SIG*	CJR Office, 4441 Claremore Dr., Edina	Charles Radloff, 952-941-1667
TC Photoshop User Group*	Mpls College of Art & Design, 2501 Stevens Avenue So, Minneapolis	Jeff Tranberry
Mac Consultants SIG	Good Day Cafe, 5410 Wayzata Blvd., Golden Valley	Bob Demeules 763-559-1124
FileMaker Pro SIG	Erik's Bike Shop Corporate, 9201 Penn Ave S. #1, Bloomington	Steve Wilmes, 651-458-1513
Mac Q&A SIG	Merriam Park Library, 1831 Marshall Ave., St. Paul	Harry Lienke, qasig@miniapples.org
* This SIG is NOT sponsored by mini'app'les; the listing is provided as a service to members.		

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Q & A SIG Meeting Note:
by Harry Lienke

The St. Paul library is canceling our Q&A SIG meeting on **March 28** because they are planning to host a meeting of their own. Consequently, I've rescheduled the meeting for **April 2** at our usual time of 6:30 pm. I hope the group will be able to attend the meeting in spite of the need to move the meeting to a Monday night.

At the same time the library told me they are "planning to possibly do some remodeling during May" and are clearing out May meetings as well. Because of that, the May meeting has been moved to the Wentworth Library, 199 Wentworth Ave E, West Saint Paul, MN, on the usual day and time. At this time it appears we will still be able to meet on June 27 at the usual time and place.

So far, the April meeting is still scheduled for Wednesday, April 25.

iOS SIG Meeting • 13 March 2012
by Joel Gerdeen

An iOS SIG meeting was held at 7:00 pm on Tuesday, March 13, at the Brookdale Library. This SIG focuses on iOS devices such as iPhones, iPad and iPod Touches. We discussed some of our favorite apps that run on iOS. There was no formal Keynote presentation but just live demos.

We started the meeting with a test of the AppleTV 2 with the new OS update. With this update we were able to connect to the Internet through the library network and were able to preview the iTune Store. Previous tests with the old OS did not support a connection without router password. When we tried to connect to AppleTV from the iPad through AirPlay, it didn't work. The library must block the higher level ports that Apple uses.

We also experimented some with Tether, a web-based service to support tethering one wifi device to another connected to http://tether.com/. We didn't get it all working with an iPhone and a MacBook, but it looked promising.

Next we discussed the new iPad, iOS and Apple apps upgrades. Seems like Apple updated just about

everything on March 7. There is plenty of press on all these updates so more is not included here.

The big addition to the iOS app list was iPhoto, a very powerful rewrite of iPhoto from the Mac with even more capabilities. We demonstrated it on an iPad 2 since it won't run on the iPad 1. Too bad, but our meeting was a few days before the new iPad was released. iPhoto supposedly makes great use of the higher resolution, retina display on the new iPad though it runs fine on the iPad 2. It takes a few hours of use to learn all the new capabilities; remember to touch the "**?**" button to get contextual help on each option. Press the ⇨ on each Help dialog for even more help.

The next meeting is planned for Tuesday, April 10, at 7:00 PM at the Brookdale Library again, back in Study Room I. The meeting will cover additions to Garageband and continue discussion of favorite apps. For those interested, the meeting will continue afterwards at the nearby Denny's restaurant.

Q&A SIG • 22 February 2012
by [Harry Lienke](#)

A group of Macintosh loyalists assembled at the Merriam Park Library on February 22 for the Question and Answer Special Interest Group (Q&A SIG). After time for everyone to make sure they had a name tag and a reminder to celebrate the Wearin' o' the Purple for Saint Urho's Day (March 16), we discussed the questions of a club member who had, after a phone discussion with yours truly, updated his 2007 iMac from Tiger to Snow Leopard.

The iMac with Snow Leopard produces many messages when the Disk Utility's Permissions Repair routine is run. We agreed the messages were plentiful but meaningless, and there was no reason for Apple to print rather than suppress them. AppleJack was installed on the iMac but did not put in an appearance when the machine was booted into Single User mode. No one had seen this before so there were no explanations for its occurrence. Resetting the PRAM (booting while holding down

the Command-Option-P-R keys) and booting in Safe mode (pressing the Shift key during boot) were suggested to help diagnose the problem, as was checking the Apple Support website.

The small size of the Airport Express was described along with its capabilities to transfer music from a computer's iTunes library to an audio amplifier through wifi and an audio cable. Driving a printer using an Airport Express was discussed; some printers now have built-in wifi but an Airport Express and a USB cable can also be used to get data to a less-capable printer.

We talked about Onyx as a free utility that can be used to tune up a Mac. With Lion there is a Recovery Partition that can be used to boot into OS X 10.7 so Disk Utility can be used to attempt repair of disk difficulties. Programs like SuperDuper! and Carbon Copy Cloner can create a clone of a disk containing disk repair utilities like DiskWarrior and TechTool Pro to provide good insurance against problems developing on an internal disk drive.

Because the folks at the Merriam Park Library decided they wanted to use the conference room the evening of March 28, the next Q&A SIG meeting will be held on Monday, April 2, instead (Merriam Park Library at 6:30 pm).

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iPhoto Joins iLife for iOS, Apple Updates Other Apps
by Michael E. Cohen

At Apple's iPad event last week, hardware was not the only star: Apple also announced updates for its two current iLife iOS apps — GarageBand and iMovie — and added a third one: iPhoto. Like the original two iLife for iOS apps, the new iPhoto app costs $4.99 and is available now. It is compatible with the iPad 2, the forthcoming third-generation iPad, and the iPhone 4 and iPhone 4S, though apparently not the original iPad or any model of the iPod touch.

iPhoto for iOS -- The new iPhoto for iOS has been designed with a touch interface in mind, and offers

some powerful features. Using a thumbnail grid, it makes browsing photos a matter of easy swipes, but more interesting is its capability to find and display similar pictures when you double-tap one. And, like the desktop version, iPhoto for iOS provides the capability to hide or flag individual photos.

Apple has also implemented multi-touch editing in iPhoto, giving competing photo apps a run for your money. Simple tap and drag motions enable users to adjust saturation, exposure, and contrast, and an automatic horizon detection feature provides an easy way to straighten pictures that are unintentionally crooked.

The app offers a number of effects that users can apply easily, including tilt-shift (for that "this wasn't a scale model I photographed, but I made it look like one" appearance), watercolor, black-and-white, vintage, and others. Effects can be modified with simple pinch, zoom, and swipe gestures.

iPhoto for iOS also comes with a bundle of "brushes" that can be used to apply touch-ups to photos. For example, you can swipe with a de-saturation brush to reduce the amount of color in part of an image, or use a saturation brush to increase it. Other brushes include lighten, darken, soften, sharpen, red-eye, and repair.

Although iPhoto for iOS doesn't seem to provide the capability to order prints, cards, or books, it can produce on-screen photo journals that comprise selected photos arranged attractively and supplemented with captions, maps, and even weather information. These journals (though not individual photos) can also be published as Web pages to iCloud for sharing with family and friends. Photos can also be directly published to Twitter, Facebook, and Flickr, or sent via AirPlay to an Apple TV or other compatible device. Photos can also be beamed over Bluetooth or Wi-Fi to other compatible iOS devices, for those who don't use, or don't want to use, iCloud's Photo Stream, or if you snapped a shot on an iPhone and want to edit it on the larger screen of an iPad.

Disappointingly, there appears to be no direct synchronization between the iPhoto iOS app and your full iPhoto library on the Mac, short of those photos that appear in your Photo Stream. That's unfortunate, since most people will have extensive existing photo libraries that they might want to work on from multiple devices. Only new photos added from a Mac make it into Photo Stream; anything in your library before you started using iCloud would seem to be excluded, as are older photos that drop out of your Photo Stream. However, iPhoto on the Mac can still sync photos with iOS devices via iTunes.

GarageBand and iMovie -- The other two iLife for iOS apps, GarageBand and iMovie, got their share of Apple love as well. (The other two traditional iLife apps for Mac, iWeb and iDVD, were, to absolutely nobody's surprise, not invited to the iOS party. It's safe to assume that they are ex-parrots.)

GarageBand gained some new features, including a note editor and the capability to jam, via WiFi or Bluetooth, with other nearby iOS devices running the app. The smart instruments have become smarter, with the addition of Smart Strings, Smart Bass, and Custom Chords. GarageBand's capability to edit recordings has become more sophisticated as well.

GarageBand is now integrated with iCloud, enabling users to access their compositions from any device they have handy: that is, as long as it is an iPad, iPhone 4 or later, or third-generation or later iPod touch. Finished songs can also be shared via the Internet with Facebook, YouTube, and SoundCloud. Songs can also be shared on the device with the latest iteration of iMovie, with iTunes on a computer, or via email.

iMovie for iOS gains one major new feature: like its desktop sibling, iMovie for iOS now enables users to compose movie trailers. In addition, you can now create a still frame from video by swiping up across the playhead from the bottom.

For those who already own iMovie or GarageBand for iOS, the updates to the new versions are free. For those new to the iLife on iOS world, each of the three apps costs $4.99.

Apple's Other iOS Apps -- Apple also updated the iWork suite of apps: Keynote, Pages, and Numbers (each of which is $9.99). Aside from support for additional charts in all three apps and updated animations in Keynote, the biggest update is support for the new, higher resolution Retina display in the third-generation iPad.

Apple's free apps — Find My Friends, Find My iPhone, iBooks, and Remote — also received improved graphics for the Retina display, along with unspecified bug fixes and stability enhancements. iBooks 2.1 now lets you see page numbers that correspond to the printed editions of certain titles, search for a page number to jump to a specific page with a single tap, use your finger as a highlighter when swiping over text, and more. The Remote app also includes support for iTunes Match on the Apple TV.

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Fixing Find My Mac
by Michael E. Cohen

Although I have numerous Macs buried at various levels of strata in my Midden Heap of Antiquity, I have only one that is running Mac OS X 10.7 Lion: the 27-inch mid-2011 iMac that I purchased last summer. Lion, in fact, was my main reason for buying it; my main machine before the purchase was an older aluminum iMac, a 24-inch Core 2 Duo model that was capable of running Lion. But I wanted to keep that one around to run 10.6 Snow Leopard and, with it, all the Rosetta software that Lion was promising to kick quietly to the curb.

When I got the new machine, though, Lion was not yet out: the new iMac came with Snow Leopard installed, which made (or should have made) migrating to it from my older iMac a snap. As it turned out, though, the Migration Assistant failed repeatedly with both FireWire and Ethernet connections. Instead, for some reason I still don't understand, the Migration Assistant was able to work

only via an AirPort connection, so it took me a couple of days and a few false starts before my new iMac was ready to rock and roll. This all happened right around the time that Apple made the GM ("golden master") version of Lion available to developers for download.

This, in fact, seemed perfect timing: I could see what Lion was like on a Mac that was not a test machine but one that was configured with my usual working environment. Fortunately, the GM release installed without problem, and I was able to try out Lion with all my apps and workflows, but still switch back to my comfortable Snow Leopard iMac at need (such as when I wanted to use my copies of FileMaker 8 or Word 2004 or Photoshop CS 1). When the official release version of Lion came along a few days later, I discovered that the GM I had installed really was the same version, so I had no reason to reinstall: I was already running the real deal, with all the quirks and foibles of a point-zero Mac OS X release.

Why am I taking you on this meander down memory lane? Because of a problem I encountered when Mac OS X 10.7.2 appeared several months later, bringing with it support for Find My Mac via iCloud (see "Meanwhile, Back at the Lion Ranch…," 15 October 2011). The problem was this: the Find My Mac option in the iCloud preference pane was dimmed, with a note saying that I needed to update the recovery system. What's more, the Update button that accompanied this warning launched Software Update, which frustratingly returned with a message that all of my software was up to date.

I figured that my somewhat abortive migration from my older iMac and my subsequent install of the GM developer release of Lion had somehow bollixed things up, but I didn't want to spend the time right then tracking the problem down and possibly having to back up and reinstall everything on my new iMac. After all, aside from the inability to use Find My Mac (a feature that is almost useless for me because my desktop Mac never goes anywhere anyway), everything else continued to function well.

Then, right around the same time, Apple released Lion Recovery Update 1.0, and I thought, "Aha!

This could fix that Find My Mac problem." After all, it was an update for the recovery system itself, which is exactly what the error message was telling me I needed. But it didn't work. The dimmed message and tantalizing-but-useless Update button remained in my iCloud preference pane. It was annoying, but had no real impact on my day-to-day use of the iMac, and I quickly forgot about it.

I remembered it recently, though, when Apple released OS X 10.7.3 (see "Mac OS X 10.7.3 Fixes Bugs, Improves Lion Server," 1 February 2012). I dutifully installed the update and then I thought to check whether this version finally fixed the problem. After all, it was an update, and Find My Mac wanted an update; maybe it was this update for which Find My Mac yearned. But it wasn't. I still had the dimmed message, and the accompanying Update button still mocked me.

Finally, last week Apple released EFI firmware updates for certain recent Macs including my mid-2011 iMac (see "Firmware Updates for iMac, Mac mini, MacBook Air, and MacBook Pro," 24 February 2012). "Aha!" I thought. Maybe what my iMac really wanted was a firmware update to fix the problem. So I installed it, and, lo and behold… nothing. Find My Mac was still missing in action.

"Enough is enough," I thought (well, there may have been a couple of expletives mixed in). I was going to get to the bottom of the problem! I did what I should have done long before and undertook one of the simplest of troubleshooting exercises: I copied the error message and did a Web search for it.

Color me chagrined: the problem was a well-known one, and one that had been long solved. The top hit on my Google search for the phrase "recovery system update required" took me to a post on Apple's discussion boards from October 2011, and, in it, the solution to my unfindable Mac issue.

Here's what I had to do: Reboot my iMac with both the Command and R keys held down so it would boot into the Recovery partition that Lion installs on the Mac. Once booted, I had to run the Disk Utility program included in the recovery system and have it check and repair my system drive. I did so: Disk

Utility found one small problem (a one-block file allocation mismatch) and fixed it.

That wasn't quite all. I still needed to download and reinstall the Lion Recovery Update that I had installed months previously. Interestingly, though the download was hundreds of megabytes in size, when the time came to install it, only a few dozen kilobytes actually had to be installed. Once that installation completed and my iMac rebooted, Find My Mac was finally enabled in my iCloud preferences. The entire fix took about an hour from start to finish.

What did I learn? Nothing that I didn't already know, but I repeat it here because it's an important lesson I relearned: when you see an error message and you aren't sure what it means, it only takes a few moments to do a Web search for that message. In a large number of cases, you'll find others bedeviled with the same problem who have found a solution.

What kept me from doing this earlier was what I think of as toothache terror: one's imagined fear of the dentist (that is, my imagined fear of having to back up, reinitialize, and reinstall all my software on my iMac) can keep you suffering from a toothache far longer than is necessary, and the trip to the dentist usually ends up being much less unpleasant than the weeks of pain you spend avoiding it.

Beware the Morphing Flashback Malware
by Adam C. Engst

As TidBITS Security Editor Rich Mogull wrote in "Gatekeeper Slams the Door on Mac Malware Epidemics" (16 February 2012), the most significant security hole on the Mac stems from users being tricked into installing something malicious, and once OS X 10.8 Mountain Lion sees widespread adoption later this year, Mac users will have additional protection from at least malicious downloaded applications.

But even Gatekeeper won't protect from malware that worms its way into Macs in other ways, such as Flashback, malware that may have started out life masquerading as a Flash Player installer but can now infect Macs through sneakier means. (Thanks to TidBITS sponsor Intego for many of the details in this article, which Intego was the first to publish in its Mac Security Blog.)
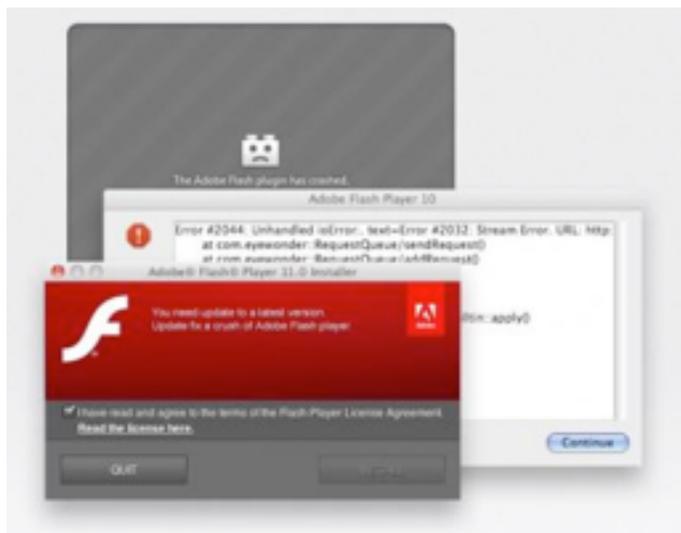
Infection Vectors -- In Flashback's original approach (variants Flashback.A, Flashback.B, and Flashback.C), a malicious or hacked Web site would display what looks like a Flash error, and if you were to click it, an installer package pretending to be Flash Player would be downloaded. If "Open 'safe' files after downloading" is selected in Safari's General preferences, the bogus installer would be launched automatically, and your Mac would be infected. (Tip #1: Disable that option in Safari!)

The new Flashback.G instead employs a two-pronged approach that's completely different from the fake Flash Player installer, though the malicious code that's installed is essentially the same (hence the continued use of the Flashback name). First, it attempts to install code on your Mac silently through one of two known Java vulnerabilities. (Luckily, Macs running 10.7 Lion don't have Java installed by default, and those who have installed all available Java updates in either Lion or 10.6 Snow Leopard are immune from such attacks.) Failing that, Flashback next attempts to download and run a Java applet that displays a self-signed certificate

purporting to be from Apple Inc.; if you were to click the Continue button, you'd be giving the applet permission to run and your Mac would be infected.

It's clear that Flashback is in active development, not just from the arrival of this new attack vector, but because it intentionally tries to avoid detection. Some variants check to see if the user is running Mac OS X in VMware Fusion and won't execute if so. They do this because many security researchers test malware in virtual machines, rather than risk infection of full installations of Mac OS X, since it's easier to delete a virtual machine and start over with a clean copy. The most recent Flashback.G variant won't even attempt to install if Intego's VirusBarrier X6 or certain other security programs are present, presumably since there's no point in bothering with Macs that are already protected.

Infection Effects -- Flashback's goal is to capture user names and passwords, which it accomplishes by inserting its code into Web browsers like Safari and Firefox and other network applications like Skype. It monitors network traffic and looks for connections to a number of domains — sites such as Google, Yahoo, CNN, PayPal, numerous banks, and many others. Presumably, the bad guys behind Flashback are looking for user names and passwords that they can exploit immediately — such as for a bank Web site — and those that may be reused across different sites. (Tip #2: Don't use the same password for all Web sites!)

Because Flashback's code can interfere with its host programs, it tends to cause crashes. If a network-

related program starts crashing regularly, that may be a clue that your Mac has been infected.

Flashback needs both a way to transmit these stolen login credentials back to the mothership and a method of updating its code. It does this via a set of command and control servers that were initially inoperable when Intego discovered Flashback in late September 2011. They were brought online at some point in October 2011 and have been sending updates to infected Macs since. In theory, Flashback can also download additional software, although Intego hasn't yet seen such activity.

Exactly what code Flashback installs on infected Macs has changed over time. At first, it installed a dynamic loader library and auto-launch code into a file at ~/Library/Preferences/ Preferences.dylib. That backdoor code communicated with remote servers using RC4 encryption and sent information such as the infected Mac's unique hardware ID, version of Mac OS X, hardware architecture, and more.

Subsequent variants of Flashback moved away from the easy-to-delete Preferences.dylib file and instead install the backdoor code inside the application package for Safari and Firefox, modifying the app's Info.plist file with the location of the backdoor and storing the actual code at /Applications/ Safari.app/Contents/Resources/ UnHackMeBuild. (For Firefox, replace "Safari.app" with "Firefox.app" in all the commands and paths below.)

Just removing that file from within the app isn't sufficient to eliminate the infection; it's also necessary to delete the following lines from the Info.plist, and to do that, you must either open it in BBEdit, or first convert the file to XML with this Terminal command:

```
plutil -convert xml1 /Applications/
Safari.app/Contents/Info.plist
```

Once that's done, look for and delete these lines.

```
<key>LSEnvironment</key>
```

```
<dict>

    <key>DYLD_INSERT_LIBRARIES</key>

    <string>/Applications/Safari.app/
Contents/Resources/UnHackMeBuild</string>

</dict>
```

But Flashback didn't stop there. According to Intego, a later variant installs an executable file in the /tmp directory, applies executable permissions, and then launches the executable. The Flashback backdoor thus becomes active with no indication that anything untoward has happened.

Intego has determined that the most recent Flashback.G variant changes approaches yet again, installing itself into an invisible file in the /Users/ Shared directory. This file can bear many names, but all the ones seen so far have a .so extension. Unfortunately, it seems likely that Flashback will continue to rotate the names and locations of where it stores its backdoor code, making it difficult to provide reliable removal instructions.

This latest variant also creates a file at /Users/ Shared/.svcdmp and a plist file, used to patch applications, at ~/.MACOSX/environment.plist, along with a log stored at ~/Library/Logs/vmLog.

Some of Flashback's early variants (but not Flashback.G) go beyond just patching network-aware applications, and intentionally damage system files. In particular, these early variants of Flashback disable Mac OS X's built-in XProtect malware detection system by deleting some key files:

- /System/Library/LaunchDaemons/ com.apple.xprotectupdater.plist
- /usr/libexec/XProtectUpdater

This intentional file deletion is particularly concerning not just because it prevents XProtect from working (Apple has updated XProtect to detect the earlier variants of Flashback), but also because it means that antivirus software cannot repair the damage; doing so would entail installing entirely

new copies of the affected files, rather than just restoring them to their pre-infection state.

It is possible to repair the damage manually, by restoring files from Time Machine or another backup program, but it's essential to do so from within the backup program to get the original permissions, which likely wouldn't happen with a simple Finder copy.

Our Advice -- Intego tells me that the rate of infection by Flashback has increased significantly since it started using the combination of the Java vulnerabilities and the fake self-signed certificate. What I don't yet have a sense of is how easy it is to run across a Web site that hosts Flashback, but there are both ways that users can be fooled into visiting such sites and ways legitimate sites can unwittingly end up hosting such malware.

Regardless, it is certainly possible to avoid infection by Flashback. Apple's own XProtect has been updated to detect and protect against Flashback's early variants, so as long as that's active, you're probably safe from any of those that may still exist. Nonetheless, to guard against the later variants, you must make sure you have either not installed Java in Lion, or kept your Java installation in Lion or Snow Leopard up to date. And barring that, if you get a prompt to approve a self-signed certificate from Apple, you must deny it.

Similarly, it's possible to remove Flashback infections manually, if you have a fairly high level of technical sophistication (the information above should give you what you need to know, though I'd also recommend searching the Web for updated information about future Flashback changes).

But I must admit, just as with the MacDefender situation, I'm driven to say that anyone who doesn't feel they have the technical awareness to detect Flashback's infection attempts or to repair an infected Mac manually should be running up-to-date security software like Intego's VirusBarrier X6.

(There are of course other antivirus tools available for the Mac, some of which are free, like ClamXav and Sophos Anti-Virus for Mac Home Edition, but

VirusBarrier provides additional security-related capabilities, such as a configurable port-based firewall, the capability to detect spyware activity and prevent software from "phoning home," network traffic monitoring tools, network attack detection, anti-phishing protection, cookie filtering, and more.)

Much as I would like to say that users should just be careful out there, it's simply too easy for someone who doesn't know what a self-signed certificate looks like to click through such a prompt, and even allowing a fake Flash Player installer to run is the sort of thing that many less-experienced users wouldn't think twice about doing.

Piracy and Big Media
by Adam C. Engst

"Everything is deeply intertwingled," declared Ted Nelson in his 1974 opus "Computer Lib/Dream Machines." While many of Nelson's ideas about how a networked hypertext system ought to work (automatic bi-directional links, per-byte ownership, and fragmentary royalties) never came to fruition, every now and then, his statement about intertwingularity rings resoundingly true.

The most recent instance of this for me started with a blog post by David Sleight, a Web designer in Brooklyn, NY. It turned out to be one of a number of responses to a trenchant point about why people use BitTorrent to download unauthorized copies of movies and TV shows. Allow me to reconstruct a path through the hypertext so you can follow along with my thoughts about the role of unauthorized copying and big media companies.

Begin with the Oatmeal -- It all started, at least as far as I can tell, with a comic strip from the Oatmeal, written and drawn by Matthew Inman. If you haven't seen it before, the Oatmeal can be hilariously funny, and is a good example of a comic format that likely wouldn't have existed before the Internet. In this

particular comic, the Oatmeal's protagonist just finished reading "A Game of Thrones," the first title in the ongoing "A Song of Ice and Fire" fantasy series by George R. R. Martin.

The strip's protagonist wants to watch the HBO TV series "Game of Thrones," spawned from the books, so he looks for it — using a MacBook Pro — first on Netflix. When Netflix reports "DVD and Blu-ray availability date unknown," a little red devil on his shoulder suggests pirating it. A little blue angel pops up on his other shoulder to present the argument against piracy, so our protagonist tries to do the right thing and watch it through a commercial service, checking on iTunes, then Amazon, then Hulu Plus, none of which have it. The show is available on HBO's Web site, but only with a full cable subscription, not by itself, and he ends up downloading it from BitTorrent. (The strip was drawn several weeks ago — "Game of Thrones" is now available on the iTunes Store and from Amazon.)

Point made — the big media companies are losing customers because there's a basic market disconnect between how video is sold and how people want to consume it, even when there's agreement about the fact that a commercial transaction should take place.

Andy Ihnatko, Grown-Up Facts, and Time-Shifting -- Our inimitable buddy Andy Ihnatko gets this intentional point, but he also takes the opportunity to shine a light on the "simple, grown-up fact" that if you torrent something now because it's not available for whatever reason (and the TV and movie studios manufacture plenty of reasons), you should still buy it in some form when it does become possible. Otherwise, he notes, "you're just one of those people who prefer to steal things if they think they can get away with it."

Seemingly a bit harsh, Andy's statement raises interesting questions about how we should interact with business models that rely on artificial scarcity based on time. Is it acceptable to torrent "Game of Thrones" two weeks before it comes out on iTunes, Amazon Instant Video, and DVD if you buy it from one of those places as soon as you can? What about

a TV show whose first few shows you missed on cable, but which isn't available via online subscription services? How about the second season of a show that has aired, and will be watchable via your Netflix subscription eventually, but isn't there yet?

All these questions make me think of the seminal "Betamax case" of 1984 (Sony Corp. of America v. Universal City Studios, Inc.) in which the U.S. Supreme Court ruled that making individual copies of television shows for the purpose of time-shifting deserves a fair use exemption from copyright infringement. Much is made of that case's effect in relation to devices and services that have both infringing and non-infringing uses, but what may be more interesting is how it clearly defines time-shifting as fair use:

> The question is thus whether the Betamax is capable of commercially significant noninfringing uses. ... one potential use of the Betamax plainly satisfies this standard, however it is understood: private, noncommercial time-shifting in the home. It does so both (A) because respondents have no right to prevent other copyright holders from authorizing it for their programs, and (B) because the District Court's factual findings reveal that even the unauthorized home time-shifting of respondents' programs is legitimate fair use.

and

> when one considers the nature of a televised copyrighted audiovisual work, and that time-shifting merely enables a viewer to see such a work which he had been invited to witness in its entirety free of charge, the fact that the entire work is reproduced does not have its ordinary effect of militating against a finding of fair use.

The question, then, becomes what "time-shifting" means in a digital world where nearly everything is available at some time and where making a copy is far simpler than programming a VCR. I have no answers here, but it's an interesting train of thought to follow. Does your cable subscription entitle you to watch — at any time — absolutely everything that

ever aired during the time you pay for it? Certainly your Netflix subscription entitles you to watch everything Netflix carries during the time you pay them.

Right versus Pragmatic -- Marco Arment of Instapaper fame was the next to weigh in, responding to Andy's "simple, grown-up fact." Wending his way through an amusing analogy of poor restroom design that resulted in lots of paper towels being thrown on the floor near the door, rather than in the trash can on the other side of the room, Marco acknowledges that Andy is correct, that the "right" thing is either to wait for video content you want to watch to be made available to you or to pay for it as soon as it becomes possible.

But Marco, ever the pragmatist, doesn't feel that pointing out what's "right" will solve the problem of people downloading unauthorized copies of TV shows and movies. And although he doesn't say exactly this, the reason it won't is that it hasn't already. Society as a whole isn't going to become more attuned to business models based on artificial scarcity when the tools for making that artificial scarcity disappear are so readily available.

The only solution, Marco feels, is to address the demand so people can get what they want, when they want it, for a fair price, legally. That's largely what has happened in the music world, thanks to the iTunes Store initially, and now with alternatives from the likes of Pandora and Spotify. Music is still copied, but there's no Napster-like service that's as well or better known than the legal outlets.

Is Advertising Like a Network Outage? -- As long as we're talking about business models, what about advertising? Web designer Jeremy Keith makes a quick point that advertising is another one of those models that worked in the past because people didn't have a choice — you had to watch the ads in a TV show because there was no way to skip or otherwise avoid them. On the Internet now, it's possible to consider advertising like a network outage, and just route around it via BitTorrent.

As someone who grew up with over-the-air television, I was always confused by why cable

television shows had ads — after all, weren't you paying for the cable service? That confusion has returned now that we can pay to watch TV shows on iTunes, Netflix, and Amazon Instant Video, all without ads. Cable is much more expensive than Netflix, and yet I have to pay both for the service and with my time watching the ads. Certainly, Netflix lacks current shows, sports, and news, but I didn't watch much of those when I had cable anyway, so I prefer to pay far less for Netflix and avoid ads.

Everyone reading this undoubtedly understands the commercial tradeoffs with advertising, but Patrick Rhone has a wonderful anecdote that illustrates just how artificial and forced advertising feels in this age of Internet video. His family is much like ours, in that everything we watch, we watch online from Netflix or another streaming service. But he has a four-year-old daughter, and he tells the story of just how confused she became when she first encountered ads during a movie playing on cable TV during a trip, and then again in a hotel when faced with a commercial advertising a movie available only in theaters. The solution? The Netflix app on an iPad, streaming over the hotel's free Wi-Fi.

In short, the world is changing, and those who are growing up in it now have different expectations about how things work. This is nothing new — back in 1995, the economist Brad De Long wrote a delightful article for us about taking his five-year-old and two-year-old to the University of California Museum of Paleontology and discovering that the museum's online presence was better than its physical presence (see "Ontological Breakdown, or, Pretending to be a Help System," 21 August 1995). (That may or may not still be true; it's a research museum and not generally open to the public.)

I wonder just how differently Brad's son, who is now 22, views the world after having grown up with an increasingly fuzzy barrier between the real and the virtual. The next major shift — one where consumer behavior is being stymied by business models built on an ever more tenuous artificial scarcity — is well

under way. Big media companies will have to adjust to this new reality if they want Patrick Rhone's daughter as a customer by the time she's 22. Or else she'll just find a different route to that reality.

Back at Big Media -- And that's what leads back to the very first post that sent me down this path, David Sleight's comments about how those who download unauthorized movies and TV shows are essentially customers in waiting, people who have expressed their desire for the content in question.

Basing his comments on time spent inside big media companies, he suggests that media companies stop trying to shoehorn everything into existing internal systems, give up on segregating customers into "silos" based on devices and forms of access, refrain from trumpeting piracy numbers based on specious assumptions, and construct revenue models based more on content rather than advertising. Luckily, he says that many media executives individually acknowledge these points, so with some luck, we'll see more corporate movement in this direction.

Then we can get down to rotting our brains with television, rather than reading interesting arguments and honing our rhetorical skills on the Internet. Hey, wait a minute!

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Need Help? Have a question the manual doesn't answer? Members Helping Members is a group of volunteers who have generously agreed to help. They are just a phone call or an email away. Please call only during the appropriate times, and **only if you are a current mini'app'les member** and own the software in question.

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- A variety of Mac Special Interest Groups (SIGs) that meet each month.

- Multi-SIG meetings and workshops to help members with computer problems. You can bring your equipment to these events and receive support from knowledgeable Mac users to help diagnose your problem(s).

- Participation in drawings for computer hardware, software, and other computer related materials.

- Discounts from vendors and manufacturers. Refer to the on-line forums for current offers.

mini'app'les

the minnesota apple computer users' group, inc.

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Submissions — We welcome contributions from our members. Perhaps you're using new software that you just can't live without. Maybe you have a new piece of hardware that you find extremely useful and of high quality. On the other hand, you might be struggling with problematic software or hardware. Why not share your experience with other members by writing a product review? Doing so may steer others towards quality products or help them avoid the problems you may be having.

Submissions must be received by the 15th day of each month to be included in the next month's newsletter. Please send contributions directly to our post office box (mini'app'les, PO Box 796, Hopkins MN 55343), or email them to miniapples@mac.com.

The deadline for material for the next newsletter is the fifteenth of the month. An article will be printed when space permits and, if in the opinion of the Newsletter Editor or Publications Director, it constitutes material suitable for publication.

This newsletter was produced using Apple's Pages word processor.

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