Jan 2018
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KEYSTONE MacCentral

printout

Keystone MacCentral Macintosh Users Group ❖ http://www.keystonemac.com

January Program

This month we will start with a video or two covering some of the history of Apple. We will also touch on the recent battery recall and on processor bugs that have given rise to “Spectre” and “Meltdown”, two related vulnerabilities that enable a wide range of information disclosure from every mainstream processor, with particularly severe flaws for Intel and some ARM chips. Given time there will be a quick overview of the Mac Bundle packages.

Meet us at

Bethany Village Retirement Center

Education Room

5225 Wilson Lane, Mechanicsburg, PA 17055

Tuesday, January 16th 2017 6:30 p.m.

Attendance is free and open to all interested persons.

Contents

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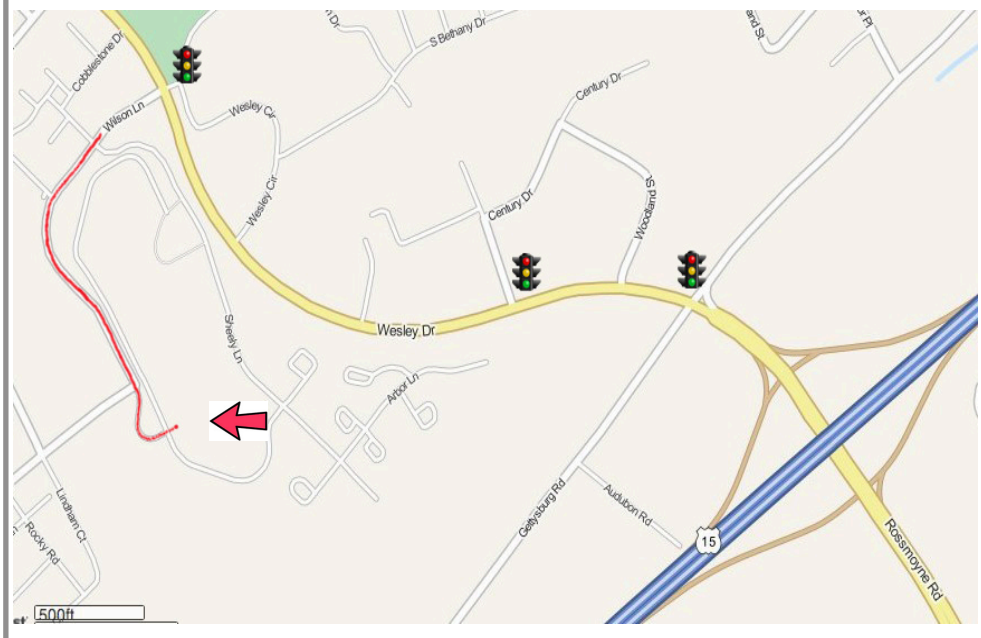


Keystone MacCentral Essentials

Meeting Place
Bethany Village West
Maplewood Assisted Living (Bld 21)
5225 Wilson Lane
Mechanicsburg, PA 17055

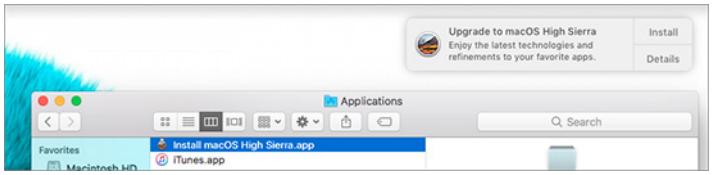
Web Site
http://www.keystonemac.com

Mailing Address
310 Somerset Drive
Shiresmanstown, PA 17011

by Adam C. Engst

Apple Starts Pushing High Sierra on Unsuspecting Mac Users

If you're running macOS 10.12 Sierra or earlier, and do not want to upgrade to 10.13 High Sierra right now, be careful because Apple has started pushing High Sierra to older Macs and making it easy to upgrade inadvertently. In short, if you get a macOS notification asking you to install High Sierra, click the Details button to launch the App Store app, and then quit it.



Here's the story.

I realized this was happening because I'm testing Watchman Monitoring, an app and service used by Apple consultants, managed service providers (MSP), and large Mac-using organizations. Watchman Monitoring sits in the background, looking for events of interest on a Mac and notifying the consultant, MSP, or IT admin who's responsible for keeping that Mac running. I have Watchman keeping an eye on all of our Macs, my parents' Macs, and my aunt and uncle's Macs — in other words, the Macs that I'll have to fix if something goes wrong.

The first hint was an email from Watchman Monitoring telling me that my aunt's Mac had started downloading the High Sierra installer. I was surprised, since she's quite capable on her Mac but never undertakes major upgrades without asking me first. I saw that message while on a plane to MacTech Conference, and once I had landed in Los Angeles, I received additional messages from Watchman telling me that my father's and uncle's Macs had also downloaded High Sierra. That was too many simultaneous instances to be anything but an automatic push from Apple.

COMPUTER HAS CHANGED

Cynthia's MacBook Pro of 6805 Cottontail Lane has reported a change

The computer has begun downloading an OS Upgrade: "10.13 - High Sierra".

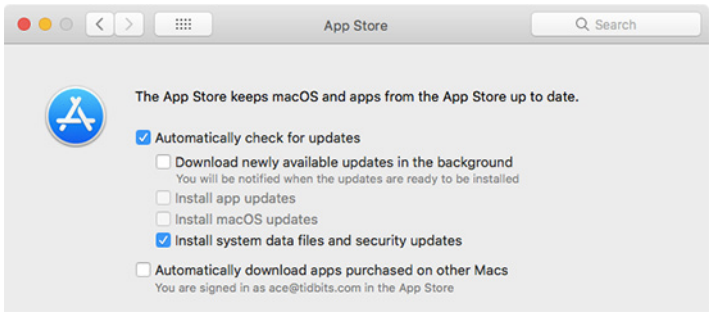
Happily, because I was flying to MacTech, within minutes of arriving at the hotel, I'd run into Watchman Monitoring's Allen Hancock, who confirmed my suspicion that Apple was pushing out High Sierra updates. Additional details became available while talking to Jason Dettbarn, CEO of device management firm Addigy, since Addigy's consultant and MSP customers who had used Addigy to block unauthorized macOS upgrades were scrambling to explain what was going on to their users. (At least they weren't scrambling to deal with a bunch of users inappropriately installing High Sierra!)

What happens is that Apple's Software Update automatically downloads High Sierra in the background and then presents the notification shown at the top of this article to the user, offering just two choices: Install and Details.

If you don't want to install, the only way to cancel is to click Details, which launches the App Store app and displays the High Sierra description, and then quit App Store. That's confusing — Apple should instead present a Cancel button.

You almost certainly don't want to click Install when that notification appears. Regardless of your opinion of High Sierra, installing it will take quite some time — an hour or more — and you should make sure you have a backup before starting, as per Joe Kissell's advice in "Take Control of Upgrading to High Sierra."

This automatic upgrade behavior may be annoying, but it was possible with Sierra as well, although no one I've talked to remembers Apple pushing Sierra in the same way. Apple explains it in a support document — it's tied to the "Download newly available updates in the background" checkbox in System Preferences > App Store. There's no real harm in deselecting that checkbox — you'll just have to wait for updates to download when you decide to install. That may be better than using limited bandwidth for an unexpected 5 GB download.



(Do not disable "Install system data and security updates" because that option is essential for protecting your Mac against patched security vulnerabilities (see "Make Sure You're Getting OS X Security Data," 30 March 2016).)

Since I'm traveling, it has been difficult to verify certain details. However, TidBITS reader Curtis Wilcox confirmed that the full 5.21 GB Install macOS High Sierra app is downloaded to the Applications folder. If you need the disk space back, you can delete it from there, or later launch it manually when you're ready to upgrade to High Sierra.

High Sierra has been out for less than two months and has received two updates so far, as detailed in "macOS High Sierra 10.13 Supplemental Update Fixes Early Bugs" (5 October 2017) and "macOS 10.13.1 High Sierra Offers Minor Fixes and More Emoji" (1 November 2017). Both seemed highly targeted, so it seems likely that the next update will address more bugs and may get to the point where more IT admins and consultants recommend upgrading to it.

Apple is clearly trying to move macOS in the direction of iOS, where upgrades are difficult to avoid. However, macOS is a much more complex environment and one that's usually more important to people's livelihoods, so we recommend approaching upgrades carefully. Presenting people with a one-click install that offers no chance to back up first and that will take hours of time prioritizes ease of use over doing what's best for the user, and that's a dangerous tradeoff.

by Glenn Fleishman

Practical Ways To Use QR Codes

Let me come clean: For way too long now, I've been excited about the 2D optical code format called QR Code. I even convinced TidBITS to put one on every article page for a while. There's just something wonderful about using a digital device to access hidden information in an "analog" form, whether it's printed on a poster, in a magazine, or on a billboard — or shown on someone else's mobile device.

QR codes encode data as a set of error-resistant areas of black and white. The format is designed to work with poor printing, low light, and fuzzy scanning. It's resilient! As a result, its information density is relatively low, but most of the time QR codes contain just a URL, a calendar appointment, a Wi-Fi network connection's details, or the like, so they don't need to take up much space. You couldn't use a QR code to encode the text of "Moby-Dick," though you might create a QR code that has the URL to reach Project Gutenberg's download page for the tome.

I like to think of QR codes as "analog-to-digital glue," because they're useful in situations in which it would be hard to get some data into your mobile device. Google has long taken advantage of this with Google Play, enabling developers to generate a download link as a QR code for the Play app to scan. (Oddly, Android only integrated QR code recognition two years ago. Motorola had built it into their smartphones' camera app previous to that.)

You can imagine how excited I was when Apple announced that iOS 11 would include automatic QR code recognition in its Camera app — primarily because of the need for it in China. If you haven't visited Japan in the last 15 years or China in the last 3, or read about how people in those countries use technology, you might be unaware of just how widely QR codes are embraced in those countries.

Will that happen elsewhere in the world now? I hope so, but for practical reasons, as I'll explain.

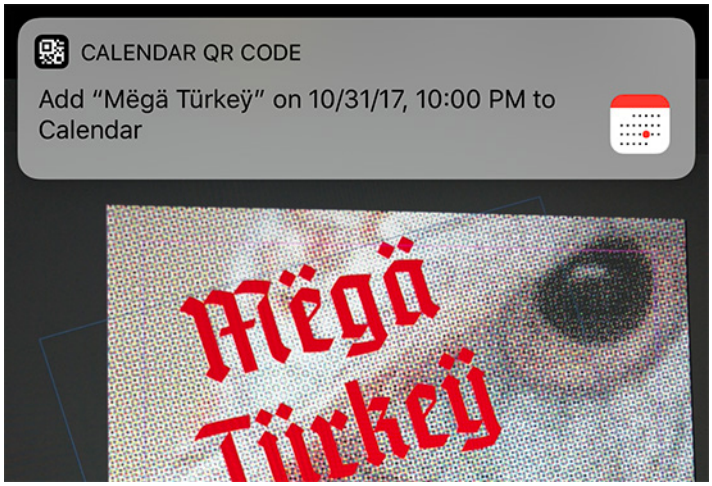
The Current Heavy Use of QR Codes -- Japan is where QR codes were developed and promoted by handset makers, cellular carriers, advertisers, and publishers, leading to early high adoption back in the early 2000s. The QR Code format was developed by Denso Wave, which agreed not to enforce its patent.

More recently, Chinese merchants started using QR codes as a cheap form of touchless payment. Instead of expensive NFC (near-field communications) terminals and a need for smartphones with that tech built in, two giant Chinese Internet and e-commerce companies — WeChat and Alibaba — added QR codes as the payment glue in physical stores. A customer either scans a QR code at the retailer's register and authorizes payment, or they can present a QR code on the phone that the retailer scans to accept payment. In the United States, Walmart has caught on to that concept — see "Walmart Pay Is Better Than You Might Expect" (18 July 2016).

But most uses of QR codes in America and Europe hide their full potential, resorting to simple apps that merely display a QR code for a boarding pass or a rewards club card — Apple's built-in Wallet app does this. Plus, requiring users to download and launch a special app to scan QR codes hurt adoption by being too high of a barrier to widespread use.

But this obstacle falls away with automatic recognition. As of iOS 11, if a QR code appears anywhere in the Camera app's field of vision, you'll get a notification describing the kind of thing encoded. Tap the notification, and the iPhone performs the correct related action, opening a Web page or prompting to add a calendar entry. For a preview, pull

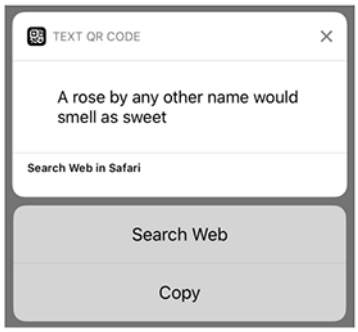
down on the notification. (You can disable Scan QR Codes in Settings > Camera if you don't like this automatic scanning, but it's easier just to ignore the occasional scanned code.)



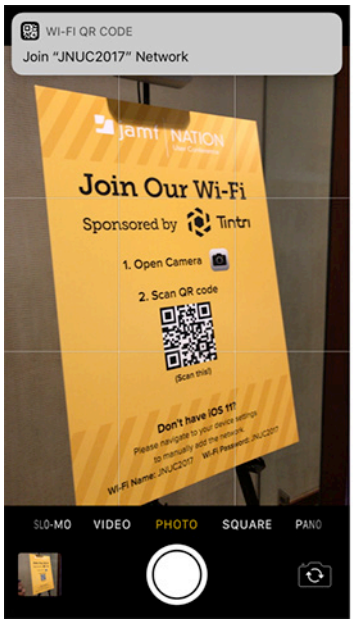
What's interesting about QR codes is that they encode text but don't define what should be done with it. That's entirely a function of the scanning app. Over the years, people have invented more and more uses for QR codes, and iOS 11 supports nearly all of them, as do Android and most third-party QR code apps. Most of the forms of information rely on the URI (Universal Resource Identifier) style format of *protocol://addressing*, as in a URL, which is *http://* plus the domain name, path, and variables.

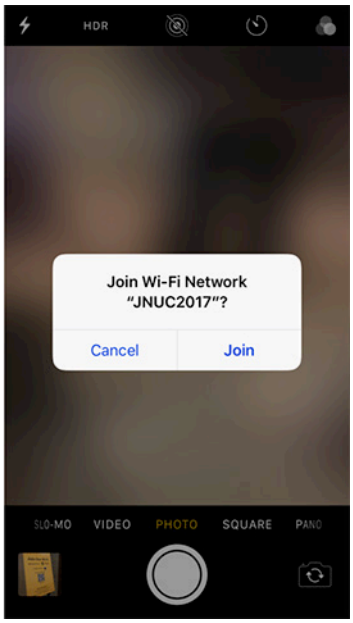
The main types of data that the QR Code format can encode are:

- **URL:** The standard URL is the most basic and useful form of QR code. Apple opens QR code URLs in Safari, as you'd expect.
- **Text:** These QR codes could be useful if you want to pass along some plaintext information. I've even seen enormous QR codes that encode thousands of words. Apple opted to send the text to Safari as a search when you tap the notification, but reader Alex R. discovered that you can instead pull down on the notification to view and copy the text.



- **Email Address:** Encoded email addresses can include additional elements, like the Subject line. Scanning an email address QR code creates a new message with the encoded information in Mail.
- **Telephone Number:** It's not that hard to dial a phone number, but scanning one in a QR code is easier because it opens instantly in the Phone app.
- **Contact Information:** QR codes support both the vCard standard format and NTT DoCoMo's preferred and more compact MECARD. Scanning one imports the contact into the Contacts app.
- **SMS:** QR codes that encode SMS text messages can contain both the destination number and message content. They open in Messages as drafts; you send manually once you're ready.
- **Calendar Event:** In a calendar event QR code, you can incorporate all the richness of a typical calendar entry, like start and stop time or all-day event, location, time zone, and description. When scanned, they open in Calendar by default. (These rely on the vCal format, an iCal predecessor that's widely supported, including by Apple.)
- **Location:** These QR codes merely encode a set of coordinates that Maps can display.
- **Wi-Fi:** Popularized by Google with Android, this type of QR code makes it easy to join a Wi-Fi network, complete with the necessary password.





You can generate all these types of QR codes for free via any number of Web sites, like QR Code Generator. Some sites, like QRCode Monkey, let you customize the design without harming the QR code's recognition; there's so much error correction built into QR codes that large portions can be replaced with graphics. Once you generate a QR code on these sites, you can download it in PNG and other graphic formats. Most also support vector formats (like EPS, SVG, and PDF) for prepress or to use as a browser- or JavaScript-scalable element on a Web page.

My TidBITS email

A fancier design for a URL

For encoding private information, such as a Wi-Fi connection code that contains your network password, I recommend JavaScript-based generators instead of Web sites that require a round-trip to a server. I use Pure JS WiFi QR Code Generator for Wi-Fi codes, which does what its name promises: the information never leaves your browser.

You can also turn to an iOS app. I like Visual Codes by Benjamin Mayo for simple uses. It generates codes on-screen for free and lets you share and print them with a one-time $1.99 in-app purchase. Using an app is also a good option for creating QR codes that contain sensitive information.

Now, how might you use these QR codes in practice?

A Visual Shortcut in a Box -- You can deploy QR codes anywhere that you know someone would have to type something in, to help them bypass that effort, while also making it more likely that they will complete a task or capture additional details. Here are some suggested uses:

- **Business Cards:** For a business card, you might want to embed contact information on the back as a code. Alternatively, consider encoding a URL that links to a vCard that someone can download; the advantage of this approach is that you can change details later without updating your business card. At a trade show or other event, posting the same code on a sign enables attendees to grab your details without you handing off a card.

- **Posters:** Given how often I see people taking pictures of event posters to record the details for later, this is an obvious use case. A poster could have a single QR code with a URL, but you might also consider multiple QR codes: one with the URL to a Web site for more information, another with a calendar event, and a third with location information. Or, imagine a poster at a running race with a QR code that links to the page with live results.

- **At home:** When people visit my house in the future, they'll be greeted with a QR code! We already have a little sign in the kitchen with our Wi-Fi network's password. Now we can replace it with a QR code. I'm sure we'll see cafés and other venues that have password-protected Wi-Fi do the same. Don't put it on your doormat, though. Anyone who can take a picture of that QR code has all the information they need to access your network.

- **T-shirts:** I could imagine people putting QR codes on clothing to share information in a subtle way that requires some interaction on the part of passers-by. Such a QR code could be as self-involved as social media details, but it could also promote a band or restaurant, or just lead to a joke Web page.

- **Web Sites:** Before you tell me I'm crazy to suggest putting a QR code on a Web site, let me explain. You might think that if someone can see your Web site, they already have all the information they need or can click a link to get more. That's true on a single device. But moving data among devices, even in Apple's ecosystem, can be tricky — Handoff doesn't always work. For a long time, I had a JavaScript bookmarklet that generated a QR code from the current page on my desktop Mac, and I used a QR code app to scan and open it on my iPhone! When you have visitors who might be using a wide variety of gear, a QR code can help bridge the gap between devices.

Keep in mind how far someone's phone will be from the QR code, relative to the information density in the code. The more information you encode, the more detail the camera has to distinguish. That's no problem close up, like in a book, a business card, or a flyer. When creating QR codes meant to be scanned from far away, as with a billboard or store signage, consider using a URL shortener to make the blockiest, lowest-density QR code possible.

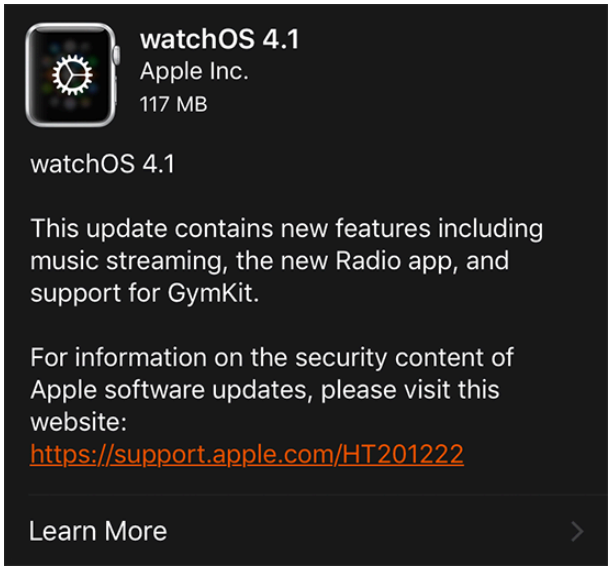
Wide Support Will Generate Emergent Uses -- I've listed a few ways you could deploy QR codes, but I'm sure we'll soon discover other alternatives people come with for QR codes. With iOS 11, hundreds of millions of people suddenly gained access to QR code scanning. And we Apple users aren't alone: Android 6.0, released in October 2015, added native QR code scanning.

Now that nearly everyone with a smartphone made in the last few years can scan QR codes without needing a special app, it's time to put QR codes to use anywhere you need to reduce the friction of passing information from the real world to a digital device.

by Adam C. Engst

watchOS 4.1 Delivers on Promised Features

Apple has released watchOS 4.1, delivering a few features promised for watchOS 4 that didn't make the initial release and fixing a variety of bugs.



Most notable is that the Apple Watch Series 3 can now stream music from either Apple Music or iCloud Music Library. Series 3 users can also now listen to live radio on Beats 1, custom stations, and expert-curated stations with the new Radio app. Plus, Apple's release notes claim that all Apple Watch users will be able to use Siri to find and play songs, playlists, and albums, but that seems to work already in watchOS 4.0.

Also reportedly new in watchOS 4.1 is the promised capability to sync fitness data with GymKit-enabled treadmills, ellipticals, stair steppers, and indoor bikes for more accurate distance, pace, and energy burn metrics.

watchOS 4.1's final new feature is the capability for Apple Watch Series 3 cellular users to use Control Center to disconnect from a Wi-Fi network. That could be useful if you want to force the Series 3 to communicate via cellular rather than Wi-Fi.

watchOS 4.1 also fixes bugs that:

- Blocked haptic vibrations for silent alarms
- Erroneously delivered Heart Rate notifications for the Apple Watch Series 1 and later
- Prevented Stand reminders from being shown
- Prevented the Stand hour indicator and Sunrise/Sunset complication from being displayed
- Caused the first-generation Apple Watch to fail to charge in some situations

There are also a few security fixes, including one for the recent KRACK exploits on the Apple Watch Series 1 and Series 2 (see "Wi-Fi Security Flaw Not As Bad As It's KRACKed Up To Be," 17 October 2017).

As with other updates, you may as well wait a day or two to update to watchOS 4.1, just in case it causes a problem for some users and Apple pulls or replaces it.

watchOS 4.1 is a 117 MB update that you install via the Watch app on your iPhone (in Watch > Settings > General > Software Update). Remember that the Apple Watch must be on its charger, charged to at least 50 percent, and within range of your iPhone, which itself must be on Wi-Fi. Don't start installing if you'll want to use the watch again within an hour or so — watchOS updates take surprisingly long to load.

by Josh Centers

Movies Anywhere Frees Your Films From Platform Lock-In

The digital movie business has been dominated by DRM lock-in since its inception. For instance, if you purchased movies from Apple, you couldn't play them on an Amazon device. (However, you can play your Amazon video purchases on most Apple devices.) Hollywood tried to address this problem early on with the UltraViolet digital locker system, but that was a disaster.

Two years ago, Disney unveiled Disney Movies Anywhere, an ingenious system that linked your accounts on Amazon Video, Google Play, iTunes, Microsoft Movies & TV, and Vudu, so any Disney movies you bought would be available on any of those platforms. Buy on YouTube, and it would show up on iTunes as well. Buy on Amazon, and it would show up on Vudu. I reviewed the service in "Watch Disney Movies on Any Device with Disney Movies Anywhere" (27 October 2015).

I concluded my review with this:

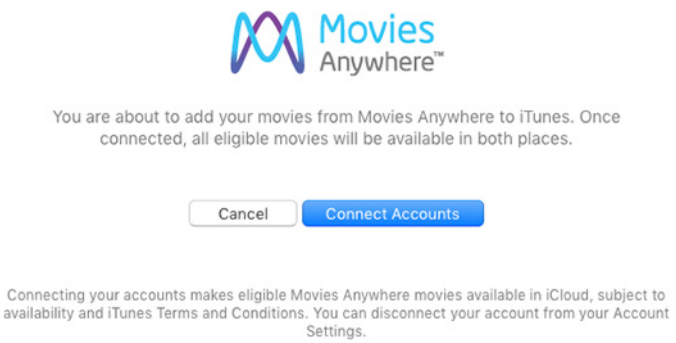
The only problem with Disney Movies Anywhere is that it doesn't work with more movies! In an ideal world, the DECE companies would adopt the technically more successful Disney Movies Anywhere in favor of UltraViolet, although that may be a political non-starter.

That dream has now come true with the new Movies Anywhere service, which supports movies from the five major studios: 20th Century Fox, Disney, Sony Pictures, Warner Brothers, and Universal. Just like Disney Movies Anywhere, Movies Anywhere is only open to U.S. residents — our apologies to the rest of the world.

Movies Anywhere is a brand-new service, so you'll have to create a new account. However, you can link an existing Disney Movies Anywhere account to bring those movies over to the new service. But you'd best do that soon because Disney Movies Anywhere will shortly be replaced entirely by Movies Anywhere. In fact, you already can't create a new Disney Movies Anywhere account, or add any more movies to it.

Once you've created a Movies Anywhere account, you're prompted to link it to your accounts with the four supported retailers: Amazon, Google Play, iTunes, and Vudu.

Unfortunately, Microsoft withdrew from Disney Movies Anywhere before Movies Anywhere was launched.



If you didn't use Disney Movies Anywhere, the way Movies Anywhere works is that once you link a retailer to it, it adds your movies to your purchased list with that retailer. The upside is that if the Movies Anywhere service goes away, your movies remain in your retailer collections. But don't expect playback or anything else to sync, since each movie exists independently in its own digital silo.

For a limited time, you can get up to five movies for free just for registering with Movies Anywhere. Connect to one retailer to get "Ice Age" and the 2016 "Ghostbusters" remake. Add a second retailer to get "Big Hero 6," "Jason Bourne," and "The Lego Movie." The movies are added to your accounts automatically.

Signing up takes only a couple of minutes. The vast majority of my iTunes movie purchases immediately became available to watch via my Amazon and YouTube accounts (Google Play movie purchases are also available on YouTube under Purchases).

The only exception seems to be "The Interview," a Sony movie, which for some reason did not transfer from Google to iTunes, but did show up on Amazon. (I don't particularly care since it's not a very good movie, but the principle still matters.) There are apparently known issues with linking and syncing, so hopefully they get resolved soon.

Of course, many movies don't come from one of the five participating studios. Films from Lionsgate, MGM, Paramount, and others won't sync between services,

though they could in the future. (And given that the largest studios are on board, I'm willing to bet that these smaller studios will join at some point.)

So while the James Bond movies from MGM won't sync with Movies Anywhere, all of the Star Wars movies do, as do films in the Alien, Back to the Future, Batman, Jurassic Park, Lord of the Rings, and Marvel franchises. Not bad!

Why is this important? Chiefly, it means you're no longer locked into a single ecosystem to watch many of the movies you've bought. In real-world terms, if you decide to purchase an Amazon Fire TV instead of an Apple TV 4K, you won't be locked out of much of your movie collection. Or if you buy a smart TV and wish to use its built-in Amazon Video app, you can watch many of your movies in it without having to connect an Apple device. Also, if one service goes down, you can still watch your movies.

Movies Anywhere costs nothing, is easy to set up, and gives you greater access to your movies. The only downside is that during signup, you have to agree to let Movies Anywhere share your video data (including titles, descriptions, and video activity) with each digital retailer you link to, participating studios, and service providers. All par for the course these days, and frankly, if you're that protective of your viewing habits, you're better off watching stuff on discs. (Dear Hollywood: You've undoubtedly noticed that my son watches a lot of Jurassic Park. That doesn't necessarily mean we want more Jurassic Park movies, but we could stand some high-quality original movies that also feature dinosaurs. Also, stop doing creepy stuff.)

While it's hard to applaud Hollywood for much these days, I do give Movies Anywhere a big thumbs up. Finally, we have access to cross-platform digital purchases that work with the services and devices we prefer. Kudos to Disney for pioneering it and to the rest of the industry for adopting it.

by Frank Petrie
phranky@mac.com [TMC-NLC]

Freshly Squeezed Reviews: Another Step Goes Boom

I was introduced to Boom when it first launched at Macworld. After speaking with the developers for a bit, I received a review copy, That evening I returned to my room, installed it on m MacBook Pro and put it through it's paces. The concept was to provide heft to your Mac's laptop's tiny speakers to make them listenable.

Considering the speakers that it had to work with, it performed admirably. I immediately wrote a favorable review and posted it that night.

The next day I returned to Global Delight's booth and told them how impressed I was. Several years later they released Boom 2. Now, they have added a bit of a twist with Boom 3D.

Boom is a system-wide volume booster and equalizer app that is designed to make everything sound louder, clearer and better! Since its release, Boom has always continued to be in the limelight after winning the Macworld's Best of Show 2011 while it simultaneously remained as an inseparable part to enhance audio on Mac.

And now, next in line to Boom 2, Boom 3D is an all-new pro audio app that delivers rich and intense audio with 3D surround sound that makes any kind of headphones sound better!

I tested Boom 3D on two pair of headphones: a pair of Sennheiser's Magnum cans and Apple's AirPods. I also ran it through my iMac's speakers.

To begin, you choose your output device in Settings. Choices range from 'In Canal' to 'External Speakers' and everything in-between.

Initially, I tried my over-the-ear headphones, listening to music. What could it do with a stereo recording? Well, quite a bit actually. I was very surprised. Even more surprising was just how wide a dynamic range it was able to produce on my AirPods. Impressive.

I have decompressed all the CDs that I have ripped. What Boom 3D provides numerous ways to enhance and personalize your audio experience. The beauty is that the results didn't sound like technological hocus-pocus. The sound was very natural.

Access to the app is quickly accomplished through the Menu Bar. From there you can adjust the volume, the intensity of the surround sound, access the equalizer or choose a preset, open the app or quit the app.

The app is highly customizable. Adjustable audio effects include Ambience, Fidelity, Night Mode, Spatial and Pitch (I haven't figured out when you would want to use this option; Global Delight says that it allows you to adjust the

song to your pitch so that you can sing-along). All of these effects can also be accessed via hotkeys.

There are factory presets and equalizers to tweak to your heart's content. The first preset was unexpected, however. You tell the app what device you're using and it calibrates a preset to that specific device.

Precisely tailoring the surround sound set up was impressive. When you click on the arrow by the Surround Sound icon, you are presented with a representation of how you would physically position the speakers of a 5:1 system in a room. From here you can turn on/off specific tweeters and woofers, adjust the volume of the subwoofer and the overall intensity.

Want to compare and contrast the quality of the sound between iTunes and that of Boom 3D? Click on the logo in the upper left hand corner of the pane. You can toggle between the two and fine tune the sound to your liking.

And it's not just your music files that benefit. The sound from Skype, You Tube and any films that you may own or stream are upped a notch or two. I recently purchased the most recent remaster of 'The Wizard of OZ' from iTunes. The new audio mix was done in 5:1 surround sound. I was impressed with the new mix when playing it through iTunes. But when I ran it through Boom 3D the results were incredible!

And to go that extra mile, they have included a panel where you can set the volume levels individually for separate apps.

As impressed as I was with it's performance on the headphones, I found that using 3D Boom with the iMac's speakers improved the sound of the iMac a tad. Although an improvement was noticed on my external computer speakers. Not as impressive of a leap but it was designed for your headphone experience after-all.

And as a bonus, at the bottom of your equalizer pane, you'll find a bar. Drag any music file onto it and you'll automatically launch 3D Boom's mini player. (During my tests, I could get it to play most files except, for example, .mp4 or .aiff files.)

The one problem that I encountered and could not find a solution to involved the equalizer. When left in regular mode, you get a 10-band equalizer. When you click on the advanced button, you are presented with a 31-band equalizer which would revert to the former within 2-3 seconds. I couldn't find an answer in the manual as how to overcome this issue.

Will this replace my audiophile software? Honestly, no. But I use that primarily for my HD audio tracks that have a much higher bit rate (my aforementioned .aiff files).

When playing my ripped CDs on iTunes, Boom 3D held it's ground. And if you're not an audiophile, this will more than surpass your expectations. For listening to my iTune's library, I would be most satisfied using this app.

If so far, nothing that I have told you of this app's capabilities has convinced you to get it, let me ask you to do this. Launch your browser and go to You Tube's site, then watch and listen to 2 Cello's rendition of Michael Jackson's "Smooth Criminal" using the free trial. This should seal the deal!

Boom 2 is available at Global Delight's store for USD $14.99 and requires OS X v 10.10.3 or later. (Should you wish to upgrade from Boom 2 to Boom 3D, there is a special upgrade price.). Boom 3D is available for USD $16.99. (As of this writing, there is a special 33% discount. With a bit of luck, it's still available as you read this.)

If Boom 3D impressed you, Global Dellght also makes Boom for iOS () available for free on the iOS Store! It requires iOS 8.4 or above.

Naturally, there is a free trial available. As always, download it and see what you think. I'm betting that you'll want this app on your Mac and iOS devices.

by Thomas R. Bank, II

Specifications for a Hackintosh or FrankenMac

Last month we covered how Apple has come from underdog status to must-have mobile accessory, but at a possible cost to those who depend upon robust desktop machines.

We discussed some of the reasons one may want a traditional tower desktop over the all-in-one desktop or laptop offerings that Apple has gravitated towards lately – the ability to select and upgrade components, particularly graphic cards and storage media; the ability to select a wider range of hardware components such as PCIe cards and RAID for storage; and basic housekeeping of keeping everything together in one box rather than "pulled along behind" by an attachment of a maze of cables.

We concluded last month at the point where graphics acceleration issues were the main point that had me searching for upgrade options a year ago. Options came down to an expensive PCI-e expansion chassis tethered to a Mac with a Thunderbolt cable for the necessary Nvidia cards,

changing my entire workflow over to a Windows machine that would support the Nvidia cards, or buying a separate Windows machine just for rendering - then having to maintain two machines.

As none of these seemed ideal, my ultimate solution was to modify a Mac to suit my needs and thus allow me to continue with my Mac workflow while offering the flexibility and components needed by that workflow.

Follow along to see if a Hackintosh (hacked Macintosh) or FrankenMac (like Frankenstein, built from assorted components) might suit your needs.

First, although the main goal was to allow use of current Nvidia graphics cards in a Mac system, there were a few other considerations to address including processors, storage, memory, and peripherals. Although people have started with PC motherboards and fully customized a computer to run OS X, I wanted to start with an actual Macintosh to build and expand upon for my first foray. To accommodate these considerations as well as for the housekeeping issues of keeping everything in one package, I selected a 2010 Mac Pro Tower (5,1) as a starting point. These models offer two external 5.25" optical drive bays, four internal 3.5" drive bays, three PCIe 2.0 slots, five USB 2.0 ports, four Firewire 800 ports, dual Gigabit Ethernet, AirPort Extreme (802.11a/b/g/n), Bluetooth 2.1+EDR, and are supported up through the current macOS High Sierra. As this was a starting point, the slight speed bumps and higher prices the 2012 models commanded served little benefit to me as the 2010s and 2012s are identical otherwise.

Starting with processing power, the general thought had been that most software applications only make use of a single core and thus multi-core machines are generally overkill. In recent years this has changed as even though most applications don't have (or need) multi-core support, "higher horsepower" applications generally have been modified to make use of available processors. Software applications optimized for multiple cores range from Apple's own MP3 encoding in iTunes and iPhoto import to graphics applications such as Adobe's Photoshop and further to 3D modeling and rendering applications. More importantly, macOS assigns every task it's given to the core with the most power to spare. Put simply, if you're running four applications on a four core machine, macOS will assign each application to an individual core and each additional application will continue to be assigned to the least loaded core.

With today's digital lifestyle, even someone not running "high horsepower" applications will likely have multiple applications open at once in addition to all the background applications being run by the system.

Having both "high horsepower" applications as well as a multi-application workflow, I picked a dual-processor 2010 Mac Pro.

From there, I began by filling the available drive bays. Each 5.25" optical bay came with an 18x SuperDrive with double-layer support. The four 3.5" internal drive bays were filled with a 500Gb SSD boot drive and three 4Tb SATA hard drives. Then 64Gb of RAM (8x 8Gb cards) was installed. Finally the three PCIe slots were filled with a Sonnet Technologies Tango 3.0 PCIe card to add an additional two USB 3.0 ports and three Firewire 800 ports and two EVGA GeForce GTX 680 graphics cards. Unfortunately, each of these cards requires two 6-pin PCIe power feeds – and the Mac Pro only offers two such feeds total. More on that later.

Next was processing power. Intel had offered the Xeon "Westmere" processors used in the 2010/2012 Mac Pros up to hex-core 3.46Ghz versions, but the dual-processor Mac Pros offered by Apple topped out with hex-core 3.06Ghz processors. I had saved some money by opting for a quad-core 2010 model over a speed-bumped 2012 model mainly because I knew I was going to use a pair of these top-of-the-line hex-core 3.46Ghz X5690 processors.

Although not quite for the faint of heart, swapping a processor is not outside the realm of someone comfortable with basic electronics work and can be done to breathe new life into single or dual-processor machines. With some basic tools, it is a straightforward operation involving the removal the heat sink(s) from the processor(s), unclipping and removing the processor(s), inserting and clipping in the new processor(s), applying thermal paste, and reattaching the heat sink(s). To see the basics of such a swap (on a single-processor tray), check out the video at https://youtu.be/5p08Oh--TaU

Typically, the W-series Xeon processors are meant for single-processor machines while the X-series Xeon processors are meant for dual-processor machines and changing from quad-core to hex-core of either type is possible.

It is also possible to swap a single-processor tray with a Dual-processor trays can be found on eBay and from other sources, but unless you already have a single-processor machine in hand it is easier to start with a dual-processor machine if you're looking at buying a machine with the intent to upgrade.

At this point, other than the processor swap and the issue of power feeds for the dual-graphic card setup, this has been a fairly straightforward and typical Mac Pro setup. If you have a Mac Pro that could use some "freshening up," an SSD boot drive, additional higher capacity drives, updated (single) graphics card, and additional memory could give your machine new life. The Sonnet Tango card could also offer more connectivity if needed. From there, upgrading from quad to hex-cores, going to faster processors, and possibly adding a second processor could add additional capability to your machine. However, if you're looking to go beyond "typical," stay tuned for our next installment where we will put the Mac Pro under the knife and go beyond the normal constraints of plug and play upgrades.

Addendum: Since starting this series, Apple has released the iMac Pro. Although it offers options of 8 to 18 cores and

up to 128Gb of RAM, it still only offers two (proprietary) AMD graphics options and 1, 2, and 4Tb SSD options. The base configuration of a 3.2Ghz 8-core processor, 32Gb RAM, 1Tb SSD, and Radeon Pro Vega 56 graphics comes in at just under $5000 and quickly rises to more than $13,000 with options.

In the iMac Pro press release, Apple also mentioned the coming updates to the Mac Pro: "In addition to the new iMac Pro, Apple is working on a completely redesigned, next-generation Mac Pro architected for pro customers who need the highest performance, high-throughput system in a modular, upgradeable design, as well as a new high-end pro display."

Software Review

Pro Video Formats 2.0.6
Dec 14, 2017 — 7.3 MB

System Requirements
– OS X 10.11

Pro Video Formats includes support for the following professional video codecs:
- Apple Intermediate Codec
- Apple ProRes
- AVC-Intra 50 / 100 / 200 / 4:4:4 / LT
- AVC-LongG
- XAVC
- XF-AVC
- DVCPRO HD
- HDV
- XDCAM EX / HD / HD422
- MPEG IMX
- Uncompressed 4:2:2

Pro Video Formats also includes the following MXF support:
- Play MXF files in QuickTime Player and other supported macOS applications
- MXF plug-in and presets for use in Compressor 4.3 and earlier

AirPort Base Station Firmware Update 7.7.9 Information
Dec 12, 2017

System Requirements
– AirPort Extreme and AirPort Time Capsule base stations with 802.11ac.

Firmware update 7.7.9 improves the security of your base station and is recommended for all AirPort Extreme and AirPort Time Capsule base stations with 802.11ac.

AirPort Base Station Firmware Update 7.6.9 Information
Dec 12, 2017

System Requirements
– AirPort Express, AirPort Extreme and AirPort Time Capsule with 802.11n.

Firmware update 7.6.9 improves the security of your base station and is recommended for all Apple 802.11n Wi-Fi base stations including AirPort Express, AirPort Extreme and AirPort Time Capsule.

iTunes 12.7.2
Dec 6, 2017

The new iTunes focuses on music, movies, TV shows, podcasts, and audiobooks.

macOS High Sierra 10.13.2 Combo Update
Dec 6, 2017 — 3.02 GB

The macOS High Sierra 10.13.2 update improves the stability, compatibility and security of your Mac, and is recommended for all users.

This update:
- Improves compatibility with certain third-party USB audio devices
- Improves VoiceOver navigation when viewing PDF documents in Preview
- Improves compatibility of Braille displays with Mail

Security Update 2017-002 macOS Sierra
Dec 6, 2017 — 765.6 MB

System Requirements
– macOS Sierra 10.12.6

Security Update 2017-002 is recommended for all users and improves the security of macOS.