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FCC and Congress Work to Roll Back Net Neutrality

by Geoff Duncan

In the United States, "net neutrality" has long been one of the guiding principles of the Internet. It means that ISPs like Comcast, Time Warner, and Verizon should treat all legal Internet use with *equal* priority — no playing favorites. Reasonable network management was allowed — ISPs could make quick, operational decisions to work around abuse, illegal use, or problems — but ISPs couldn't downgrade or block particular applications (like Netflix or BitTorrent) or treat traffic from their preferred business partners (like Sony or Microsoft) better than anyone else.

Yet, net neutrality had no solid legal foundation in U.S. law and regulation for most of the Internet's history. The Federal Communications Commission first tried to **set out net neutrality principles in 2005**, but by 2007 they were struck down as unenforceable by a Comcast court challenge. The FCC tried again with **2010's Open Internet Order**, but in 2014 that too was successfully challenged in court, this time by Verizon (see "**Net Neutrality Is Down, but Not Out**," 20 January 2014).

So in 2015, the FCC pulled out its big gun and reclassified both traditional and mobile ISPs as "common carriers" under Title II of the Communications Act of 1934 (see "**FCC Goes All-in on Net Neutrality**," 7 Feb 2015). The FCC *can* tell common carriers what to do, and the agency essentially told them they had to abide by net neutrality principles and not play favorites with Internet traffic. Of course, ISPs took the FCC to court (again), but this time they lost. The FCC's authority to declare ISPs common carriers and mandate net neutrality was **upheld in 2016**, and that decision was effectively **reaffirmed just this week**.

So the irony now is that the FCC, under a new chairman aligned with the Trump administration, is moving fast to undo the net neutrality framework that has been upheld by the courts. Furthermore, the Republican-controlled Congress is moving to strip the FCC of the authority it used to create that legal foundation in the first place, so in the future the FCC would not have the authority to "redo" the "undo." And it's all being done in the name of "restoring freedom."

What The FCC Proposes -- Under new commissioner Ajit Pai (who was originally appointed to the FCC by President Obama in 2012), the FCC is **proposing once again to reclassify ISPs as "information services" rather than common carriers**. This would effectively undo the legal framework under which the FCC successfully implemented net neutrality regulations.

Admittedly, today's Title II regulatory requirements for common carriers weren't born in the Internet age: the concepts come from freight operators in the early 19th century and were later applied to telegraph and phone companies in the 1930s and the Ma Bell monopoly in the 1980s.

But reclassifying ISPs as "information services" would mean that they'd be free to degrade or block any traffic on their network that they dislike (such as that of competitors), as well as introduce paid prioritization schemes (often called "fast lanes") whereby they charge major Internet firms like Amazon, Netflix, Google, Facebook, Microsoft, and Apple for preferred, unfettered access to their networks and customers.

Do We Need Net Neutrality? -- During his time at the FCC, Chairman Pai has consistently characterized net neutrality as a solution looking for a problem, noting that in all the years American ISPs were operating without any enforceable net neutrality regulations, there was no evidence of widespread, systemic harm to consumers or their privacy. Chairman Pai — and most ISPs — argue it's simply contrary to ISPs' interest to block or degrade traffic, even that of their competitors. After all, consumers

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SIG News

The Saturday SMMUG Special Interest Group (SIG) will meet from 10:00 AM to 12:00 Noon, Saturday, June 10, 2017, in the Fire Station 18's meeting room at: 6830 Hadler View (a map is located at the end of this NL). The meeting will be divided in to two parts.

The First part starting at 10:00 will focus on iOS, helping everyone become both comfortable and proficient with their iPhone, iPad, and iPod mobile devices. Starting at 11:00 we will focus on the Apple's Photos program.

All are invited, but new users are especially encouraged to attend this free meeting. Bring your tips and tricks, questions and suggestions.

For more information about Special Interest Groups (SIGs), go to the **SMMUG website**.

Scan this QR code to be taken to our SMMUG web site

Meeting Dates

Our regular monthly meetings are on the second Monday of every month. Upcoming meeting dates are as follows:

June 12, 2017
July 10, 2017
August 14, 2017
September 11, 2017
October 9, 2017
November 13, 2017
December 11, 2017

Missed An Issue?

You can find the previous issues of the Silicon Summit posted in PDF format at the **SMMUG website**.

This Month At Smmug

June 12, 2017
6:00   Q&A Session
6:45   Networking Break
7:00   Mobile Passport by Mark Griffith & Pages by Mike Marus
8:00   Adjourn

Upcoming Presentations & Events:
July 10: Jim productivity/ Automator/ integrated apps by 3rd parties
August 14: Pizza party at Fargo's

Club News

Announcements

Presentation

Mark Griffith will present Mobile Passport at the June SMMUG meeting as Part 1 of a two part presentation. Mobile Passport is a travel app made for IOS devices that saves you time going through US Customs.

Mike Marus will talk about Apple's Pages.

Door Prizes For The June Meeting:

Akvis NatureArt (Software)
$10 iTunes,
Thumb drive
Selfie stick
Gaming mouse
USB charger
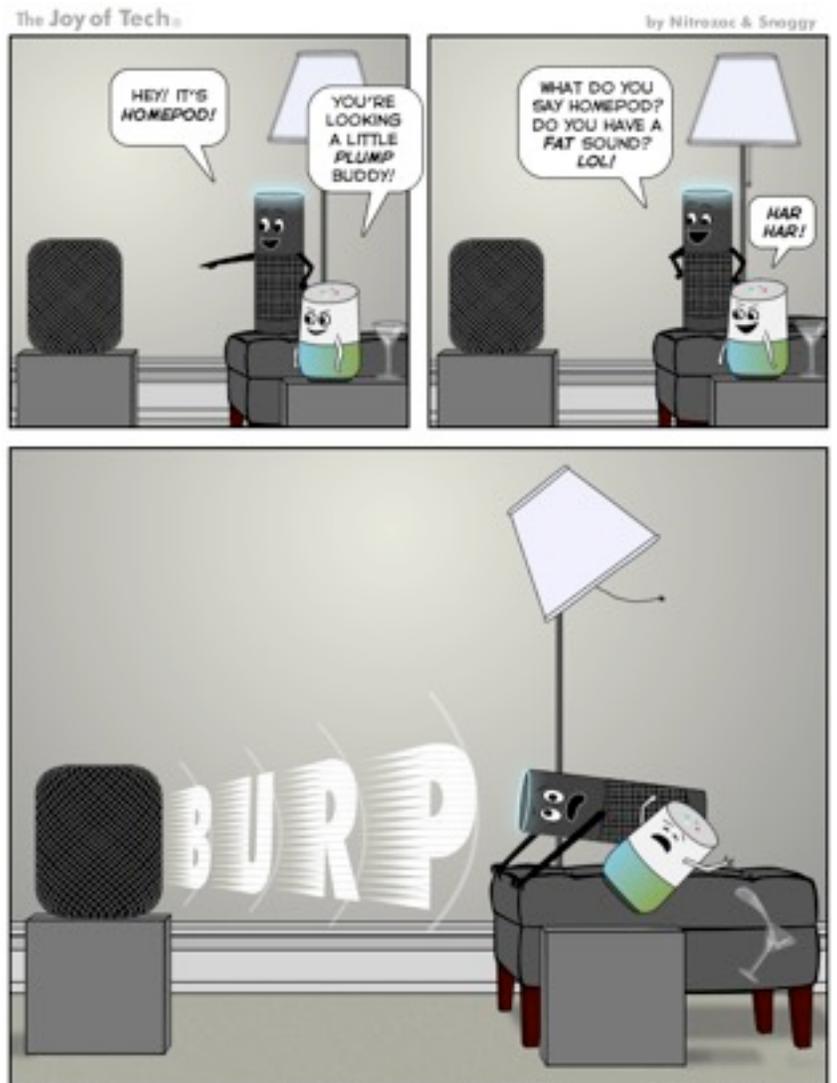
expect an open Internet, wherein they can access any lawful content from any network. If ISPs hindered that, they would be less competitive and consumer backlash would harm their businesses. In short, Pai feels market forces will handle net neutrality better than government regulation.

Pai also claims that eliminating Title II classification will boost broadband deployment and competition in the United States by removing hurdles and enabling major ISPs to open up new revenue streams through business practices like fast lanes. More competition and more revenue will attract even more investment, accelerating Internet development. Since the Title II classification went into effect in 2015, Pai claims the 12 largest ISPs have **scaled back broadband investment by $3.6 billion**, and nearly two dozen small providers have slowed or halted development. Of course, additional investment will, in theory, also create jobs — one of the chief aims of the Trump administration.

Net neutrality advocates would argue Pai's claims don't hold water. For instance, Pai's proposal offers no evidence that the 2015 Open Internet Order's prohibition on blocking or throttling of Internet traffic has harmed users. (The FCC, nonetheless, is now asking for any examples.)

ISPs *have* deliberately degraded lawful Internet traffic in the past. The last decade of debate over net neutrality kicked off in 2007 because Comcast **deliberately blocked and degraded BitTorrent traffic**. In 2014 Verizon and Comcast **deliberately allowed Netflix's performance to degrade at peering points** until Netflix paid for preferred access.

One could argue the reason more ISPs didn't try things like that was because the legal landscape was unclear under previous net neutrality regimes. Under Pai's "Restoring Internet Freedom" proposal, however, the landscape *would* be clear: basically, ISPs would have the freedom to do anything they liked.

The argument that competition and consumer backlash stand in the way of ISPs blocking or degrading popular services can also be questioned. In **2016 the FCC itself found** that 10 percent of Americans lack access to modern broadband (defined as 25 Mbps downstream, 3 Mbps upstream), with those numbers increasing to 39, 41, and 66 percent for rural Americans, tribal areas, and U.S. territories respectively. Even when consumers have access to broadband, the Center for Public Integrity in 2015 **found most Americans have only one or two choices for service** since ISPs appear to divide up territories to avoid overlap. Although these figures represent improvements over previous years — and mobile Internet is a major factor in many areas — it would be difficult to describe broadband competition as vigorous or effective in many U.S. markets.

Further, Commissioner Pai doesn't want the FCC regulating ISP business practices. He sees the Federal Trade Commission (FTC) being the appropriate agency to deal with any complaints of anticompetitive behavior or consumer privacy violations amongst ISPs (for more on Pai's philosophy, see "**Congressional Republicans Kill FCC ISP Privacy Rules**," 3 April 2017).

And Congress Too? -- The chairmanship of the FCC isn't the only thing that changed with the 2016 election: the Presidency and the United States Congress are now controlled by the Republican party. From the Republican point of view, undoing the 2015 Open Internet Order is a good start. However, if there were a change in presidential administration — say in 2020 or 2024 — the FCC could, in theory, just hit "redo" on the 2015 Open Internet Order and reclassify ISPs as common carriers again! The agency's legal authority to do so would remain intact.

So, Senator Mike Lee (R-UT) has introduced the "**Restoring Internet Freedom Act**." The full text isn't yet available, but the gist is that it would strip the FCC of the authority to reclassify ISPs as common carriers. The bill enjoys some high-profile co-sponsors like former Republican presidential candidates Ted Cruz and Rand Paul, but still has to wend its way through Congress.

What Happens Next? -- The FCC will vote on the Restoring Internet Freedom NPRM (Notice of Proposed Rulemaking) on 18 May 2017; once that's done, the proposal will **remain open for public comment** until 17 July 2017, followed by a month-long reply period. The 2015 rulemaking proposal attracted so many comments that the system crashed several times; however, the FCC says they've upgraded their systems (and even have an API for taking comments in bulk), so perhaps the commenting system will behave better this time. Or not — comedian **John Oliver's segment on net neutrality**, complete with a custom **gofccyourself.com** link that redirected to the FCC comment page, **encouraged so many comments** that it took the FCC site down again once already. Click the +Express link to add your comment.

However, the writing is on the wall: Commissioner Pai has the votes to roll back the FCC's 2015 Open Internet Order. The real question is what sort of regulatory framework, if any, will replace it. Any rollback of the 2015 Open Internet Order will almost certainly be challenged in court by net neutrality advocates. However, they probably have an uphill fight, as courts have almost always deferred to the FCC on common carrier classifications.

In the meantime, expect ISPs to start experimenting with new business models. These will likely include paid prioritization, granting partners exemptions to any data caps, impeding top-tier services that refuse to ante up, and potentially blocking or limiting access to any sites, apps, or services they believe to be disruptive to their operations.

ExtraBITS

Apple Watch Can Detect Abnormal Heart Rhythms -- The eHeart study at the University of California, San Francisco has shown that a "deep neural network" fed data from the Apple Watch app Cardiogram was 97 percent accurate in detecting the most common type of abnormal heart rhythm, paroxysmal atrial fibrillation. Paroxysmal atrial fibrillation causes about 25 percent of strokes and two-thirds of those strokes are preventable with relatively inexpensive drugs, making this potentially life-saving news. Cardiogram and UCSF plan to further validate the neural network's findings against external data and incorporate the results into the Cardiogram app itself. The team also intends to see if the system can detect health conditions beyond atrial fibrillation.

DOOR PRIZE WINNERS

For The June 2017 Meeting
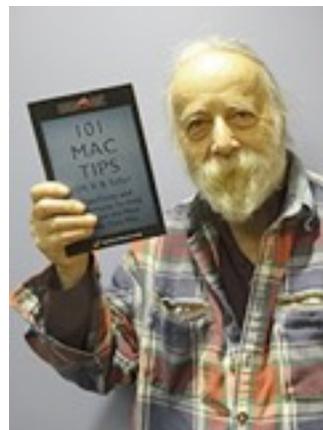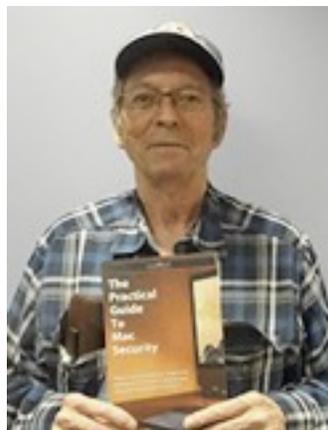
Can't wait for the next newsletter to see what the guys and gals at Joy of Tech are up to? Then simply go on over to their **website** and see past and current cartoons and other things

iPad & iOS

iPad Pro Gets More Professional

by Michael E. Cohen

During today's frenetic **keynote for WWDC 2017**, iPad Pro news came relatively late in the proceedings, but for those of you wondering what you might buy to replace an old iPad, the news was worth waiting for.

First, though, a short requiem for the 9.7-inch iPad Pro, which has been discontinued as of today. It was a great device (full disclosure: I own one), and it will be missed.

iPad Pro Hardware -- But most people probably won't miss it much, for it has been replaced by **a new 10.5-inch iPad Pro, which, along with a refreshed 12.9-inch model**, now resides near the upper end of Apple's iPad lineup.

Most welcome is the new 10.5-inch iPad Pro's screen real estate: its screen offers 20 percent more area than the 9.7-inch tablet's screen, with 2224 by 1668 pixels available at 264 pixels per inch (ppi) compared to the 2048 by 1536 pixels available on the discontinued model. (For comparison, the 12.9-inch iPad Pro offers 2732 by 2048 pixels.) Apple squeezed that display into a package that's only slightly larger than the previous model by reducing the size of the bezel around the screen.

Those pixels are faster, too. Both the 10.5-inch iPad Pro and its bigger sibling, the refreshed 12.9-inch iPad Pro, boast an impressive 120 Hz refresh rate that should make all motion on the screen smoother and more responsive. It should make using the Apple Pencil even more fluid, since the latency is reduced to a mere 20 milliseconds.

That refresh rate won't be in play all the time because all those pixels are smarter, too: the new tablets employ a technology that Apple calls ProMotion, which adjusts the refresh rate depending on the content being displayed. High motion video, or scrolling, will ramp up the refresh rate, while static images will be refreshed less often, saving on battery and processing power. The pixels are brighter as well, displaying up to 600 nits; they're more colorful, using the P3 color gamut; and they're more legible, with a screen reflectivity of only 1.8 percent.

Driving those pixels is a new processor, Apple's new 64-bit 6-core A10X Fusion chip that, aided by a 12-core GPU, can handle 4K video and speed up model rendering. Apple claims the A10X provides 30 percent faster processing than the older A9X processor and the new GPU delivers 40 percent faster graphics.

Also taking advantage of these processing capabilities are the cameras in the new iPads, which now match those on the iPhone 7: a 12-megapixel camera with optical image stabilization and a six-element lens on the back and a 7-megapixel FaceTime HD camera on the front. The rear camera is accompanied by Apple's True Tone flash.

All this comes in a package that weighs only 1.03 pounds (469 grams) for the 10.5-inch WiFi model (add 8 grams if you want a cellular model), or 1.49 pounds (677 grams) for the Wi-Fi-only 12.9-incher (cellular capability adds a whopping 15 grams — about half an ounce). Each offers an estimated 10 hours of battery life.

Unsurprisingly, the 12.9-inch iPad Pro retains its physical dimensions, so current cases should continue to fit fine. However, even though the new 10.5-inch iPad Pro is similar in size to the 9.7-inch iPad Pro it replaces, and is the same thickness, it's 10.6 mm taller and 4.6 mm wider, so most of today's cases for the previous iPad Pro won't fit.

For those deeply into technical specifications (and who among us isn't?), you can find many more details on the **iPad Pro Tech Specs page**.

iPad-specific iOS Features -- But hardware is only half the story, because when iOS 11 comes out (see "**iOS 11 Gets Smarter in Small Ways**," 5 June 2017), it will sport a bevy of features designed with the iPad in mind. Not all of these features may work on older iPads, but Apple hasn't announced details yet. New iPad-specific features include:

- A customizable Dock that provides more than the paltry six icons of previous iOS generations. It even features an area at the right side that predicts which apps you might want to use.

- A brand new App Switcher that you access by swiping up from the bottom of the screen. It makes moving among apps much more convenient. As a bonus, the App Switcher includes app combinations from multitasking sessions.
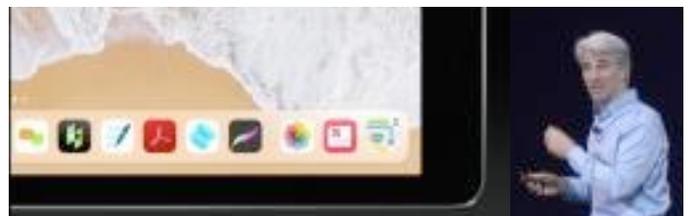
- Files, a new app that lets users peruse locally stored files, iCloud Drive files, and files stored using third-party services such as Dropbox and Box. It looks and works a lot like the Finder on the Mac.
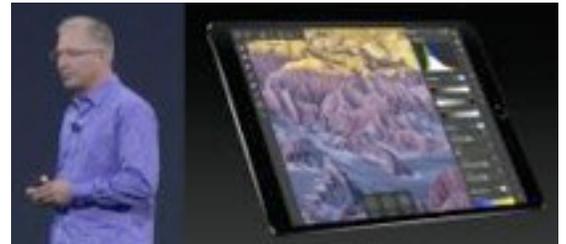
•Drag-and-drop capability between apps so you can drag text, images, and files from one app to another using the improved multitasking in iOS 11.

- A new document scanning feature in Notes that can handle multi-page documents and employs image processing to straighten and sharpen scanned images.

In addition, iOS 11 offers additional goodies for iPad Pro users who also have an Apple Pencil. Aside from the general snappiness increase courtesy of the new processors, the Apple Pencil learns a few new tricks in iOS 11:

- A new Instant Notes feature so you can compose notes instantly by tapping the Pencil on the lock screen
- Markup capability in Notes, Mail, PDFs, and on screenshots
- Inline drawing in Notes and Mail
- Handwritten text recognition — no, not the Newton handwriting recognition of yore, but recognition that leaves your handwritten notes looking as you wrote them but that makes them searchable

Pricing and Availability -- The new iPad Pro models are **available for pre-order now**, and will begin shipping by 12 June 2017 in the United States as well as in 37 other countries. The base model iPad Pros ship with 64 GB of storage but can be ordered with up to 512 GB, a nice jump from the previous 256 GB max. They come in silver, space gray, and gold, and Apple added a rose gold color for the 10.5-inch iPad Pro.
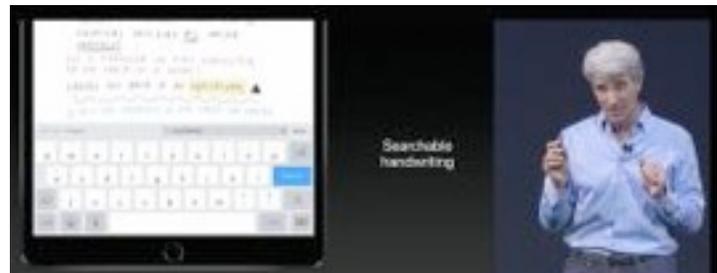
How much would you pay to own one of these bits of future kit? The 64 GB 10.5-inch iPad Pro with Wi-Fi model costs $649; jumping to 256 GB increases the price to $749, and going to 512 GB raises it to $949. For the 12.9-inch iPad Pro, a 64 GB configuration starts at $799, with 256 GB at $899 and 512 GB at $1099. Add $130 to any configuration to get cellular connectivity as well.

For the 10.5-inch iPad Pro, those prices may seem to be $50 more than the previous 9.7-inch iPad Pro storage configurations. If you look closely, though, the only storage configuration that matches is the 256 GB size, and the new 10.5-inch iPad Pro is actually $50 cheaper there.

Although Apple's iPad sales have been nothing to cheer about lately, these new Pro models may well reinvigorate this stagnating backwater in Apple's hardware lineup.

iOS 11 Gets Smarter in Small Ways

by Josh Centers

If you were hoping for massive changes to iOS, such as a redesigned Home screen, **iOS 11** will disappoint you, at least on the iPhone. While the iPad will receive many terrific (and much-needed) big-screen features (see "**iPad Pro Gets More Professional**," 5 June 2017), the rest of iOS 11 focuses on UI refinement, artificial intelligence, and developer capabilities. Regardless, some big changes are coming when iOS 11 is released this fall.

Control Center and Lock Screen -- Whenever you install iOS 11, the first big thing you'll likely notice immediately is the new Control Center, which had ballooned to up to three pages in iOS 10. For iOS 11, Apple has compressed it back down to one page, in a grid that takes up more of the screen.

Despite being squeezed into a single page, Control Center will offer more options than before. You'll be able to 3D Touch a Control Center "platter," as Apple called them, or presumably long-press it on devices that don't support 3D Touch, to pop open a panel with more options.

The other big front-facing change is that Notification Center is going away in iOS 11. Instead, you'll be able to scroll through all of your notifications on the Lock screen. It wasn't quite clear how you'd be able to see your older notifications without locking the device.

Messages -- In iOS 11, Apple is finally fixing Messages with Messages in iCloud. Your messages will be synced across devices via iCloud, so you won't have unsynced or jumbled messages. If you delete a message on one device, it disappears on all devices. Also,

your older messages will be stored in iCloud so they won't hog precious storage space on your devices. Of course, your messages will still be end-to-end encrypted to ensure your privacy.

Apple is also redesigning the Message app drawer for iOS 11. The company introduced Message apps in iOS 10, but they've been underwhelming so far. A better-designed app drawer may make these mini-apps more accessible. That will also be key for a new feature coming to Apple Pay…
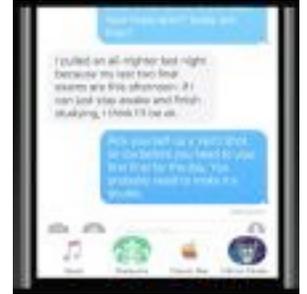
Apple Pay -- Apple is becoming a financial services company of sorts, since Apple Pay will support person-to-person payments in iOS 11. To store the money you receive, you'll have an Apple Cash Card in Wallet, and you can transfer money from it to your bank.

Apple was a bit skimpy on details, but it seems that the primary way of making person-to-person transactions will be with a Message app that can send money via iMessage.

Siri -- Siri will receive some major enhancements in iOS 11. In addition to new, more natural voices and a new look, Siri will now sync the data it knows about you between devices to better help personalize your queries.

Siri is also getting smarter. Thanks to what Apple calls Siri Intelligence, Siri will better understand your interests and the contexts in which you are speaking. For instance, if you search for Iceland in Safari, Apple News will recommend articles about Iceland, and the keyboard will intelligently suggest related terms if you're talking about Iceland.

Apple has spread this intelligence throughout iOS 11. For instance, Calendar can now extract events from Safari. This is one of those features that's difficult to demo or describe, so we're anxious to get our hands on it to see how it works in reality.

Unhappy with the results Siri usually gives you? In iOS 11, Siri will offer alternative answers that you can choose by tapping the screen. Presumably, Apple will use this to tailor its recommendations.

Perhaps the coolest new feature coming to Siri is translation. You'll be able to say something like "How do you say what the most popular dishes in your restaurant in Chinese," and Siri will speak what you said in Chinese. Apple emphasized that this is a beta feature, so we don't quite have the Babel fish from "Hitchhiker's Guide to the Galaxy" yet.
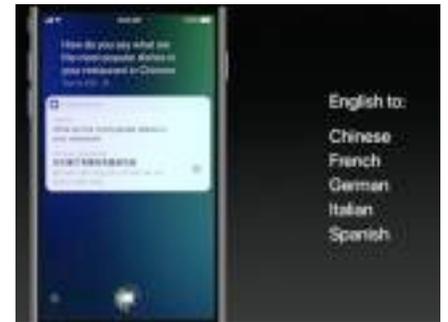
Finally, the SiriKit API for developers is gaining some new features, such as photo search, car controls, task management, and banking. That should mean that we'll be able to use Siri to control many more apps than in iOS 10.
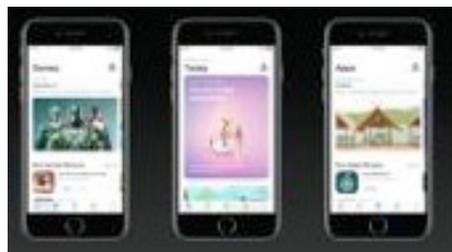
App Store -- Apple is totally revamping the App Store in iOS 11. The old top charts seem to be gone. Instead, there are tabs for daily featured apps, games, and apps.

Apple seems to be moving toward curating the App Store more. Apps featured in the Today tab will include short articles and how-to videos. Likewise, the other new tabs will feature highlighted apps every day. The idea seems to be to get users to check in with the App Store every day to see what's new. That may be great for developers, but we're horrified that Apple seems to think you should waste vast amounts of time browsing the App Store for new apps daily.

Developers will appreciate the App Store's new "phased releases," which roll out a new or updated app slowly instead of all at once. That'll be especially welcome for developers whose apps require a lot of server resources.

Camera -- Have you noticed that the file sizes for photos are growing with each new iPhone model? Apple is tackling that with two new technologies: **HEVC** H.265 video compression and a new image format called HEIF. Apple claims that HEVC compression can cut the size of videos by half. **HEIF**, or High Efficiency Image File Format, is a new standardized file format that will replace JPEG for iOS photos. Apple claims that images in HEIF will be easy to share with others, but we're waiting to see how well that pans out.

Portrait Mode for the iPhone 7 Plus is also getting some much-needed enhancements: improved image quality, better low-light performance, and optical image stabilization.

Photos -- The Memories feature that Apple introduced in iOS 10 is getting smarter and better able to identify different objects and people, but the change you're most likely to notice is that Memories in iOS 11 will be able to switch from landscape to portrait orientation.

But the most impressive new stuff coming to Photos in iOS 11 are all the things you'll be able to do with Live Photos. You'll be able to trim and edit Live Photos, pick a different key photo, and create loops. You'll even be able to reverse the directions of loops if you want a bounce effect. But perhaps the coolest new feature with Live Photos is being able to combine all the frames together to form a long exposure shot.
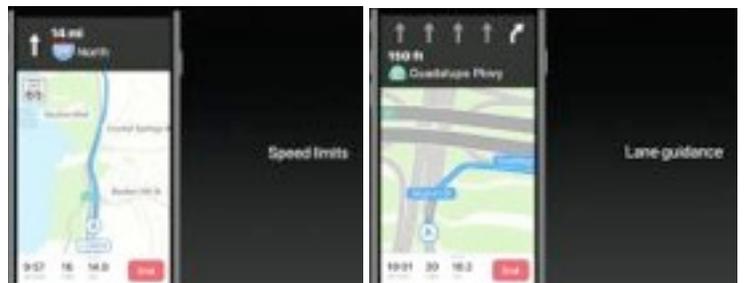
Maps -- As always, Apple's Maps is playing catchup. Maps in iOS 11

will inform you of speed limits and offer lane guidance — standard features on most standalone GPS units.

However, more interesting is that Maps will begin offering indoor maps of large places like malls and airports. Support will be limited to a small number of major cities at first, but that will hopefully grow over time.

CarPlay for the Rest of Us -- Even Apple admits that CarPlay hasn't been widely adopted, so that's why the most interesting new automotive feature will be available to all iOS 11 devices: Do Not Disturb While Driving. When your iPhone detects, either via Bluetooth or the Wi-Fi Doppler effect, that you are in a car, it will shut off notifications to your phone. You'll be able to set an auto-reply text message in case anyone messages you, which the sender can break through by stating that the message is urgent. You can also turn off Do Not Disturb While Driving if you're riding in a car instead of driving. We strongly hope this feature will help cut down on the number of accidents caused by texting and inappropriate iPhone use while driving.

HomeKit -- Apple's home automation platform will gain some more capabilities, but the key thing Apple wanted to discuss is the new AirPlay 2 protocol and its integration with HomeKit. If you have multiple AirPlay 2 enhanced speakers, you'll be able to use the Home app to broadcast music throughout your house. A number of manufacturers have signed on to produce AirPlay 2-compatible speakers, and we presume Apple's own HomePod will do so as well. Apple TVs running tvOS will also be able to act as AirPlay 2 receivers.

I hope this musical HomeKit integration will let me do things like play a song in response to an event or even sync my lights to music.

Apple Music -- Remember Ping? Or Apple Music Connect? Well, Apple just won't give up on the dream of a social music experience, so Apple Music in iOS 11 will let you see what your friends are listening to. We hope you can turn that feature off; there's a reason each of Apple's previous attempts in this area has failed.

Apple is also offering developers an API for Apple Music, so developers of apps like Shazam can tie into Apple Music. It will be interesting to see what developers do with that.

Behind the Curtain -- Being a developer conference, Apple of course announced a number of new technologies that will hopefully lead to new, exciting apps. The two most-interesting ones for end users are Core ML and ARKit.

Core ML is a developer framework to make machine learning easily accessible to developers. Developers can use it to handle things like face detection and tracking, text detection, object tracking, palm rejection, and barcode scanning. Apple claims that with Core ML, iOS image recognition will be six times faster than with Google's Pixel phone.

ARKit is a framework to help develop apps using augmented reality, which mixes the real and virtual worlds. The example most people are probably familiar with is Pokémon Go, which lets players capture and battle with pocket monsters around the world (see "**What the Heck Is Pokémon Go?**," 17 July 2016). Apple even demonstrated how ARKit will make Pokémon Go better by showing that a thrown pokéball will bounce around on a real-life sidewalk.

Apple senior vice president Craig Federighi also showed how an ARKit app lets him place virtual objects on a table.

And Alasdair Coull, head of director Peter Jackson's Wingnut AR studio, showed off an entire battle overlaid over the auditorium.
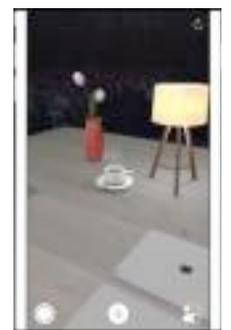
AR is an interesting technology, but it has yet to find a killer app. Pokémon Go seemed to be the app, but its luster has quickly faded. However, if Apple ever did develop a car, AR could be an essential technology.

Where is iOS Going? -- iOS 11 has no marquee feature, but that's not really a problem. As with many recent iOS releases, iOS 11 instead provides a series of refinements, many of which should improve the user experience in real ways. We'll be poring over the beta releases in the next few months to find and share the most useful of these changes.

If there is one central thread, it's that of artificial intelligence, as Siri becomes more powerful and better integrated throughout iOS and independent apps. It's clear that, for Apple, this is a year to establish the building blocks necessary for whatever comes next in technology.

Apple to Deprecate 32-bit iOS Apps

by Adam C. Engst

We're approaching another of those inflection points where Apple leaves some apps — and their users — behind. When you launched an older 32-bit app in iOS 10, it first warned that the app might slow down your device. That was, as far as I could tell, not the case, but it was still disconcerting. With iOS 10.3, however, Apple went further, stating in no uncertain terms that the app would stop working with some future version of iOS. As to when that will be, there's no telling, but iOS 11 would seem to be likely.

The iPhone 5s was the first iPhone with a 64-bit processor, and since it shipped in September 2013, developers have had the option to have their apps run in 64-bit mode. Starting in 2015, Apple has required apps to run in 64-bit mode to receive App Store approval.

The practical upshot of Apple's iOS warnings is that most apps that haven't been updated since 2015 will likely be rendered inoperable by whatever future version of iOS pulls the plug on 32-bit apps. I can't imagine that there will be any way to keep running such apps, short of refusing to update to that version of iOS.

In iOS 10.3, Apple made it possible to see which of your apps will be affected. Navigate to Settings > General > About > Applications. The number next to Applications is the total number of apps installed, but when you tap Applications to see what's inside, you see a list of 32-bit apps that have no 64-bit updates available. Tap any app to see its listing in the App Store, from which you can tap through to the developer's Web site and theoretically ask if there will be an update. In most cases, the answer will likely be no.

To bring that question home to roost, what about the free **TidBITS News** app? When I first published this article, I said we were going to let it fade away for a variety of reasons, most notably that it wasn't used by enough people to warrant updating. However, Matt Neuburg and I have now decided to reverse that decision, and he hopes to have a 64-bit version that's fully updated for iOS 10 available soon. We'll write more when it's out.

At its heart, TidBITS News is an RSS reader dedicated to TidBITS, so you could instead use Apple's built-in News app. To add TidBITS to your
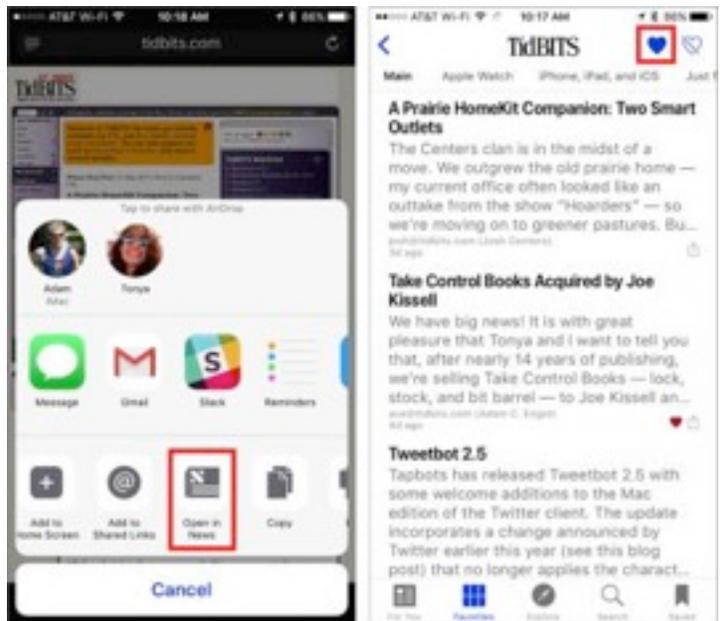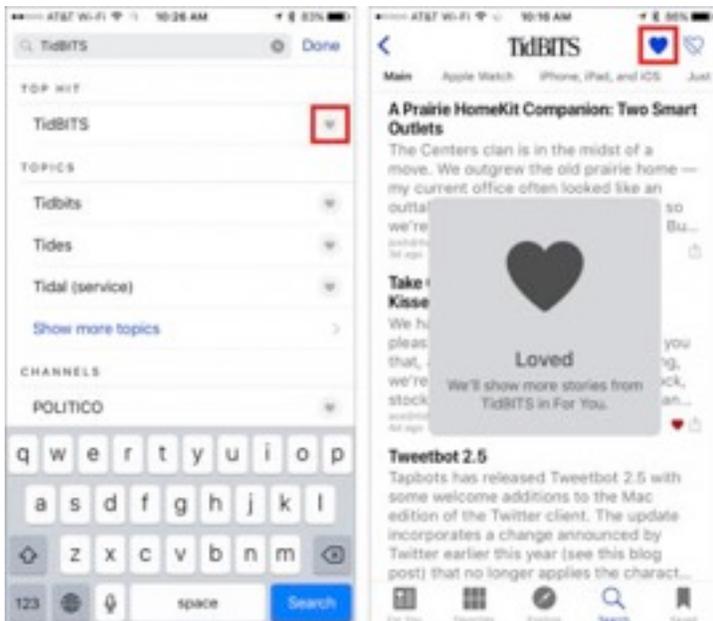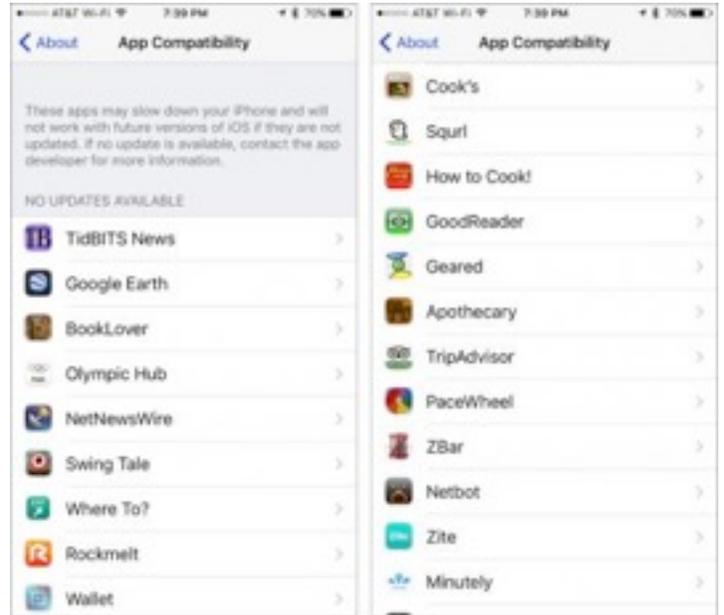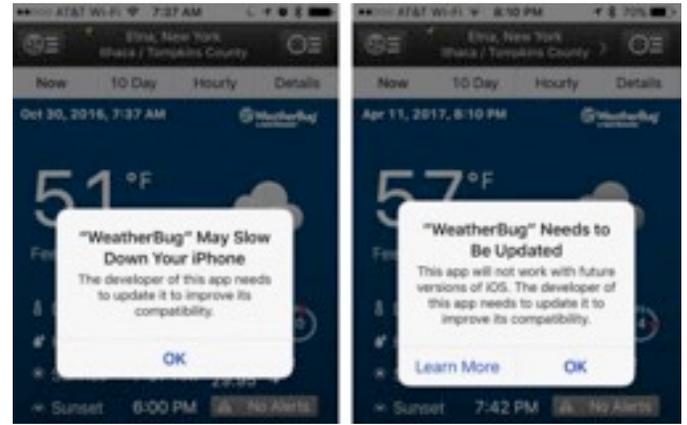
Favorites list in News, search for TidBITS in News and either tap the heart icon next to the appropriate search result, or tap the search result itself and then the heart icon in the upper right corner. From then on, just tap Favorites in the News toolbar and then the TidBITS tile to see all our articles.

If you want to add an RSS feed to News but can't find it with a search from within News, you can use Safari. Navigate to the Web site in question, tap the share icon, and then tap Open in News in the share sheet. Once you're in News, tap the name at the top of the screen to go to the main article list, and tap the heart button there.

Inscrutably, Apple's News app isn't available in countries other than the United States, United Kingdom, and Australia, but **iMore explains that you can get it** by changing your region in iOS to one of those countries. Just navigate to Settings > General > Language & Region > Region. The News app should appear on one of your home screens after that; if it doesn't, try restarting your device. I can't predict what the downsides of changing your region might be, but if you switch back to your actual country, the News app will likely disappear again.

You can, of course, use any other RSS reader like **Feedly** or **Reeder** — click the RSS link in the upper left of our Web site for the URL. However, only logged-in **TidBITS members** get access to the full-text RSS feed for use in other apps.

Apple Watch

watchOS 4 Focuses on Fun and Fundamentals

by Julio Ojeda-Zapata

watchOS is in its infancy compared to Apple's more mature operating systems, which gives Apple more leeway to change even core behavior. At its Worldwide Developers Conference keynote, Apple announced a bunch of new features for watchOS 4, due this fall and slated to run on all models of the Apple Watch.

While none appeared revolutionary, the changes should nudge the Apple Watch forward in substantive and useful ways. These refinements include improvements to the Apple Watch as an information console, fitness tracker, music player, and payment maker. Plus, the Apple Watch will be more fun to wear and show off thanks to new faces and bands.

Information Flow -- One knock against the Apple Watch is its awkwardness in delivering information users need in ways that are simple and convenient.

Apple is taking another swing at this issue with the new Siri watch face, which blends the company's intelligent assistant with its highly customizable watch interface.

With the raise of your wrist, you'll be fed information that is relevant based on time of day, regular activities, and data generated by the watch's various apps, such as Activity, Alarms, Calendar, Maps, Reminders, and Wallet.

Similarly, the Apple Watch will regularly display news headlines from Apple News with an emphasis on your interests. You'll able to tap any story for a summary, or to save the full article for later iPhone reading.

This approach bears a striking resemblance to Google Now, which feeds a similar information stream to iPhone and Android smartphone owners, as well as Android Wear smartwatch users. If the Siri watch face proves at least somewhat comparable to Google Now in how it unearths relevant, actionable information, Apple Watch users are in for a pleasant surprise.

Music Machine -- As a music-control device, the Apple Watch has mostly been an awkward remote control for an iPhone. With watchOS 4, Apple is hoping to improve the experience a bit.

An updated Music app on the Apple Watch will sync over from the iPhone your most-listened music. If you subscribe to Apple Music, you'll also get your My Chill Mix, My New Music Mix, and My Favorites Mix. Apple hopes this will make it easier for Apple Watch owners to leave their iPhones behind — as when working out — and rely directly on AirPods for listening to music.

Intelligent Coach -- Fitness tracking may be the Apple Watch's most popular feature, so it made sense for Apple to give its watchOS Activity app serious attention.

For instance, Apple wants to help you fill your activity rings with more consistency. To do this, it will now send morning notifications to suggest how you can match the previous day's activity levels, or pull off particular Achievements.

It will nudge you again in the evening as a reminder to close your circles, if you are tantalizingly close to doing so. You will receive monthly challenges that are unique to your exercise circumstances, as well. You'll even be rewarded with the digital equivalent of pinwheel fireworks when you nail your fitness goals.

The Workout app got some attention, too, and may be more interesting to athletes than in the past. Updates include an option for pool athletes

to track sets and rests, pace for each set, and distance for each stroke type.

Apple also has added motion and heart-rate algorithms for those engaged in High Intensity Interval Training workouts.

Similarly, those doing back-to-back workouts or training for triathlons can easily switch from one workout type to another, and then combine that data into one session to better analyze calorie and time measurements.

Workouts users also can designate a favorite workout type and later access it with just a tap. There's a Do Not Disturb option for distraction-free workouts, too.

Gym-equipment manufacturers are joining the Apple Watch party, as well. At properly equipped health clubs, Apple Watch users will be able to pair their watches to treadmills, ellipticals, indoor bikes, or stair steppers from vendors such as Cybex, Life Fitness, Matrix, Schwinn, StairMaster, Star Trac, and TechnoGym.

The point of this exercise: gym-equipment and Apple Watch workout data like calories, distance, speed, incline, pace, and floors climbed will be kept in sync. Apple claims that 80 percent of gym equipment already supports this capability, although we suspect that's overly optimistic given the cost of replacing gym machines.

Person-to-Person Payments -- The Apple Watch has long served as means for making purchases at brick-and-mortar retail outlets via touch-to-pay terminals that support Apple Pay.

Now Apple is offering more Apple Pay options, including person-to-person payments within Messages or using Siri. If you get paid in this fashion, you can see that money added to your new Apple Pay Cash account. You can then use that moolah for Apple Pay retail purchases and person-to-person payments, or transfer it to a bank account.

Person-to-person payments will be available only in the United States, at first, and will work on iOS devices as old as the iPad Air 2 and the iPad mini 3.

More Faces, New Bands -- In addition to the highly utilitarian Siri face, Apple is providing more whimsical faces. Pixar characters Woody, Jessie, and Buzz Lightyear are joining veteran Mickey Mouse and recent arrival Minnie Mouse.

A different watch face dubbed Kaleidoscope is exactly that – an endless series of static images transformed into mesmerizing patterns.

Lovers of complications get some goodies, as well. New options include Now Playing and Apple News.

Apple also (big surprise) has a batch of new bands. These include Sports Bands in new colors, a bright yellow Classic Buckle, and Nike Sport Band options that color-coordinate with the company's athletic footwear. And, "as a celebration of diversity and inclusion," Apple is now making publicly available a rainbow-colored Pride Edition Woven Nylon band that used to be an option only for Apple employees.

The bands are **available in Apple's online store** now, and in brick-and-mortar outlets by next week.

Core Bluetooth -- Last, but certainly not uninteresting, was Apple's announcement that watchOS 4 would support Core Bluetooth. That means that you'll be able to connect more Bluetooth devices directly to the Apple Watch without having to go through the iPhone.

Apple suggested that this might be useful for continuous glucose monitoring, analyzing your tennis swing via a sensor on a tennis racket, or recording wave height and calorie burn via a sensor on your surfboard. Yeah, I don't have a sensor-enabled surfboard either.

Incremental but Solid -- The announced updates to watchOS 4 are only half of the story. New Apple Watch models, possibly due within just a few months, could prove more dramatic than this week's incremental announcements. Even so, Apple Watch users wanting evidence that their beloved gizmos will see regular improvement via software updates have reason to cheer.

ExtraBITS

Belkin Adding HomeKit Support to Wemo – Last year, Belkin, which makes the popular Wemo line of home automation accessories, rejected adding HomeKit support because it would require new hardware. Now Belkin has reversed course, telling 9to5Mac, "Wemo is committed to bringing HomeKit support to our line of smart home solutions and will be providing more details soon." Belkin didn't say what caused the change of heart, but it's possible that Apple will announce loosened HomeKit restrictions at WWDC.

Apple Spends $200 Million on Lattice Data to Improve Siri – Apple's Siri was the first voice-driven assistant of its kind on the market, but in some ways, it is being overshadowed by Amazon's Alexa, Google's Assistant, and Microsoft's Cortana. To boost Siri's capabilities, Apple has acquired artificial intelligence company Lattice Data for $200 million, largely for the expertise of its 20 engineers. Lattice Data converts so-called "dark data" like free-form text and images into structured data that computers can understand and use in Siri's responses.
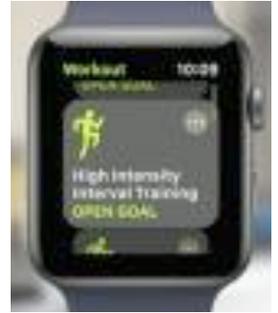
Macs & Mac OS X

Tripping to macOS 10.13 High Sierra

by Tonya Engst

If you're Apple, and you're looking for a name for your new version of macOS, which is aimed at being a refinement to the previous version, what do you do? Name it High Sierra and make stoner jokes about how it's fully baked.

For film buffs, like our own Michael Cohen, Apple could instead have gone with a quote from the 1941 flick "High Sierra," in which a character named Big Mac says, "Times have sure changed."

The rest of us might identify with Humphrey Bogart's character, Roy Earle, who replies, saying "Yeah, ain't they? You know, Mac, sometimes I feel like I don't know what it's all about anymore."

Under the hood, **macOS 10.13 High Sierra** will usher in the new APFS file system, H.265 HEVC video, and Metal 2 graphics. These changes will upgrade the Mac to a modern file system, bring a new industry standard for video compression to the Mac, and provide significantly enhanced graphics processing. They show that Apple is serious about the Mac's future and about making necessary upgrades for Mac users in graphics-intensive creative fields like animation and virtual reality. Apple also announced a few welcome tweaks to its core apps.

Apple developers can access the High Sierra developer preview now, and a **public beta** should be available later in June. Apple expects to release High Sierra to the general public this fall (expect September or October). The upgrade will be free and run on all systems that support macOS 10.12 Sierra.

It's All About Speed -- The new 64-bit file system, called APFS, stands for Apple File System, and it's not just for the Mac — it's already in iOS 10.3 and will become part of tvOS and watchOS. Because APFS is decades newer than the HFS+ file system that the Mac uses currently, it was designed with modern-day concerns in mind, such as how to best work with solid-state drives.

APFS won't make the Finder look different, but it should provide better performance: a task like displaying the size of a folder or duplicating a large file should go far more quickly. You can also look forward to features such as native encryption, faster backups, and better behavior in the case of power outages or system freezes (see "**What Apple's Forthcoming APFS File System Means to You**," 24 June 2016).

The new HEVC (High-Efficiency Video Coding, also known as H.265) provides 40 percent better video compression for 4K video than the previous H.264 standard, as well as hardware acceleration when used on certain newer Macs and with Apple's Pro tools. In essence, in High Sierra, video should take up less space and stream better.

Metal 2 replaces the previous Metal API and is a big deal for developers — and by extension for anyone who wants the Mac to be taken seriously as a high-end creative platform. **Apple's description of Metal 2** lists the goodies expected in Metal 2, including GPU-driven pipelines, enhanced machine learning, and support for virtual reality rendering on external GPUs. Apple also announced an External Graphics Developer Kit, but details are still fuzzy. We're still bummed that Apple passed on the opportunity to call it Heavy Metal.

App Enhancements -- Apps that will see improvements in High Sierra include Safari, Mail, and Photos.

The Safari Web browser will, to be blunt, show Web pages that look and sound less trashy. Safari's Reader view is enabled automatically for every Web article that supports it, removing ads, navigation, and distractions. Autoplay Blocking will stop media playback from occurring when you open a page — Macworld, we're looking at you! Safari's new Intelligent Tracking Prevention will remove tracking data that allows third parties to access your browsing history. In addition to enhancing your privacy, this feature may cause you to see fewer ads based on products you've researched or purchased in the past.

You'll be able to customize all these features on a per-site basis, and the same applies to page zoom, location services, notifications, and content blockers.

Search in the Mail app will be faster and feature a Top Hits area in the results that will attempt to display the "most relevant" results. This feature is designed to learn from your actions, so the more you use it, the better the results should
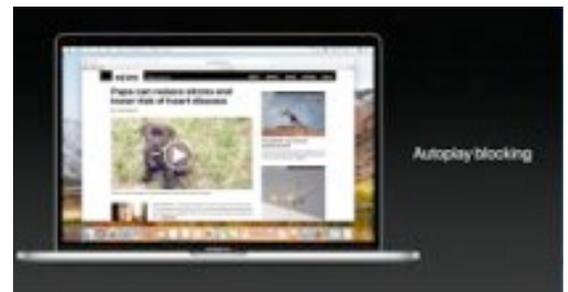
get. Mail will also have a new full-screen split view that puts the compose window next to your messages and better message compression, allowing it to consume less disk space.
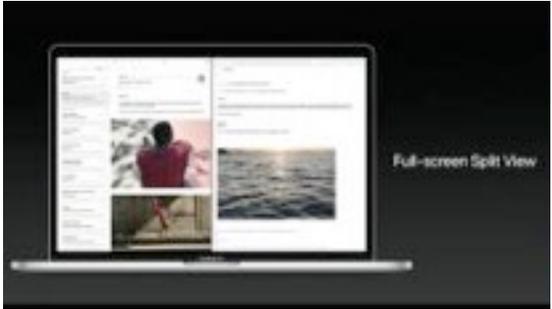
Photos receives important tweaks that should interest many types of users. The interface will include a persistent sidebar and a redesigned Edit view. Facial recognition training you perform on one device will now appear on all your devices, the Memories feature has new categories, and new editing tools will help with fine-tuning and color saturation.

In the fun department, you'll be able to edit Live Photos like the mini-movies that they are, with looping, reversing, trimming, and picking a key frame. You'll also be able to turn a Live Photo into a long exposure to blur movement.

Photos will also finally bring back integration with external editors such as Photoshop and Pixelmator that was last seen in iPhoto. It will support third-party extensions so you can export projects to non-Apple printing services, such as Animoto and Shutterfly.

Other changes that Apple announced include more natural voices for Siri, simple tables in Notes, flight information in Spotlight, Siri music recommendations in Apple Music, and the capability to share a link to a file stored in iCloud Drive with anyone. The last feature noted on Apple's **Web page about High Sierra** mentions iCloud storage plans for a family; presumably more details will be forthcoming.

Tripping to High Sierra -- Perhaps we at TidBITS can be accused of inhaling, but reactions to High Sierra were generally positive. We're always in favor of Apple refining existing features that seem, well, half-baked.

In the end, High Sierra adds timely improvements that will make every day use of apps like Safari and Photos more enjoyable while simultaneously adding foundational enhancements to enable previously unimaginable capabilities on the upcoming iMac Pro and promised Mac Pros. Apple even demoed some of this during the keynote by showing off a real-time virtual reality creation environment that was used to create a Star Wars experience. It may or may not have been the sort of thing anyone could do, but it was impressive.

Mac Peripherals

Apple Will Enter Smart Speaker Market in December with HomePod

by Adam C. Engst

With the **announcement of the HomePod** during the WWDC keynote today, Apple finally put the brakes on the endless speculation about whether the company would release a smart speaker to compete with Amazon's popular Echo and its Google Home competitor.

However, Apple didn't just wade into the fray with a me-too product. In fact, during the announcement, the whole "smart" part of the "smart speaker" didn't warrant mention until near the end. Instead, Apple focused its attention on the "speaker" features of the **HomePod**.

Apple's Senior Vice President of Worldwide Marketing Phil Schiller said that Apple has been working for years to reinvent the way we enjoy music in the home, and to that end, the company first designed the HomePod to be a great speaker.

It's just under 7 inches (17 cm) tall and is covered in a 3-D mesh fabric. It features an array of seven beam-forming tweeters, each with its own driver, and precision acoustic horns that can direct sound in any direction. Bass comes from a 4-inch Apple-designed woofer that faces upward to move a lot of air, and software provides automatic bass equalization to avoid distortion as the volume increases.

All this is powered by Apple's A8 chip, which the company first used in the iPhone 6. It provides real-time acoustic modeling, audio beam-forming, and multi-channel echo cancellation.

Since speakers live in different rooms with radically different acoustic properties, the HomePod has spatial awareness, in that it can detect its surroundings and adjust the music to match. It even knows if there's a second HomePod in the

room, and if so, it changes how it emits sound to provide the best possible listening experience.

Apple is also using the HomePod's processing capabilities and its array of six microphones to let you control it via Siri. Control what? Music, of course, and Apple assumes that you'll have an Apple Music subscription. To that end, Apple has expanded Siri's vocabulary when it comes to music. Plus, the HomePod will connect directly to Apple Music, so you won't have to play music through another device, although we expect that will be possible as well.

What about all the other stuff that people have become accustomed to asking of the Echo and Google Home smart speakers? Apple got to this at the very end, almost as an afterthought. You'll be able to ask Siri for news, unit conversion, stock info, weather forecasts, traffic reports, sports scores, and more. You'll also be able to send messages, make reminders, set alarms and timers, and control HomeKit devices.

Apple emphasized the privacy aspects of the HomePod. Until you say "Hey, Siri," all recognition happens only locally. Only after you utter that trigger phrase is any data sent to Apple, where it's associated with an anonymous Siri ID. All communications are end-to-end encrypted.

Why didn't Apple plug the virtual assistant features of the HomePod more? We have a few theories:

- It's possible that Apple's research shows that what people do most with smart speakers is listen to music. That's certainly been our experience. Many of the things these smart speakers can do are better done elsewhere or are trivial examples. They're good at bar trivia questions like who won the Super Bowl in 1967, but how often do you really wonder about such questions?

- Although Apple would never admit this, it's also possible that Siri doesn't work as well as Amazon's Alexa and the Google Assistant technologies. Evaluating this would be difficult, and it's likely that each has its own strengths and weaknesses.

- The HomePod will cost $349, which is a lot more than the smart speaker competition. The Amazon Echo Dot is $49.99, the Echo is $179.99, and the Echo Show is $229.99. The Google Home runs $129 but can be found for under $100. Apple instead suggested that we should compare the HomePod against the cost of quality Wi-Fi speakers, which are $300 to $500, plus the $50 to $200 cost of a smart speaker. It's all about how you frame things.

Regardless of why Apple chose to focus more on the audio quality of the HomePod than its Siri-driven smarts, we won't be able to evaluate how well it does at either until it ships, which Apple promised for December 2017 in the United States, UK, and Australia. With other companies, that would be too late for the holiday shopping season, but since Apple sells so much directly, early to mid December should still work. Other countries will have to wait a little longer.

Apple TV to Get Amazon Prime Video and Unspecified Changes Later in 2017

by Josh Centers

The first big announcement from Apple's WWDC keynote is that the Apple TV will at long last get an Amazon Prime Video app. That's huge for fans of Amazon-exclusive shows like "Bosch," "The Man in the High Castle," and "Transparent." In a tweet, **Amazon confirmed** that the new app will also integrate with the TV app in tvOS.

That's the good news. The bad news is that the Amazon Prime Video app won't be available until later this year. Worse, Apple had nothing else to say about the Apple TV until, again, later this year.

This is a bittersweet announcement for Apple TV fans. Amazon Prime Video has been on the top of many users' wishlists since the debut of tvOS, but it's disappointing that Apple didn't show the platform much love at WWDC. Developers haven't shown much interest in tvOS, in part because users haven't jumped on the tvOS app bandwagon, which might have dampened Apple's enthusiasm for talking about tvOS at a developer conference.

We hope that Apple has more in the works for the Apple TV in 2017, such as integration of Netflix in the TV app and two-way integration with the new Siri-enabled HomePod smart speaker that Apple also announced during the WWDC keynote. You should be able to control your Apple TV via Siri through the HomePod, and the HomePod should be able to play audio from the Apple TV, much as Google is doing with its integration of Google Home and Chromecast devices ("**Google Aims to Attract Apple Users with Google I/O Announcements**," 22 May 2017).

Reviews

Akvis NatureArt 9

by L. Davenport

In a perfect world you would be able to get that "perfect" shot/photo every time. But this isn't a perfect world, so sometimes your photo needs a little tweaking to get the look that you want. That's where Akvis NautreArt comes in handy. Need a rainy sky with magnificent lightning bolts - no problem. Need a burning field or fire for your camp fire pit - again no problem. Akvis NatureArt can add these plus many other nature effects to your photos.

NatureArt comes as either a stand-alone application and/or as a plug-in for your photo editor.

The Akvis NatureArt interface (Figure 1) is easy to use. There is a Before and an After view that lets you preview the effect before applying it. Off to the right is the "Effect" area. Different tools appear depending on the chosen Effect. At the bottom of the Effect area is a
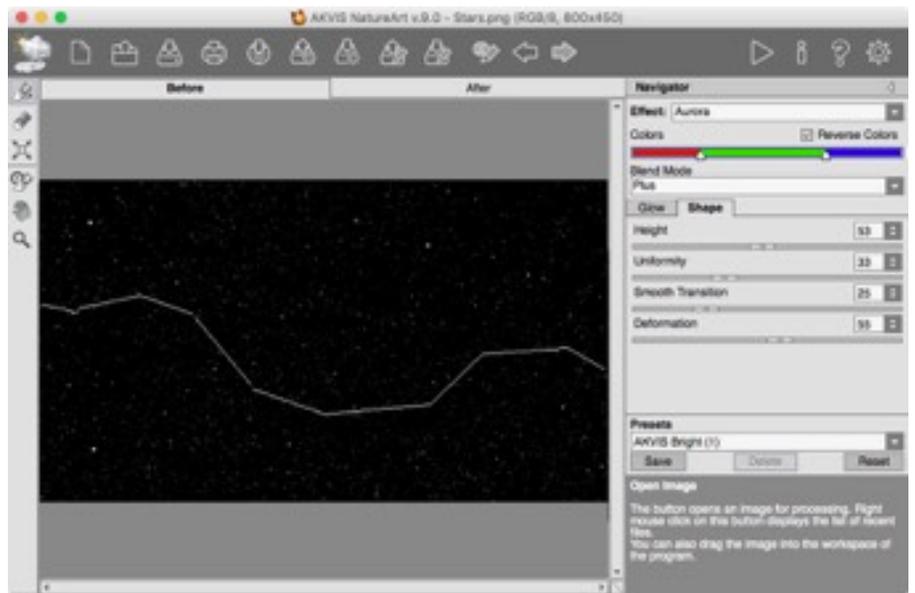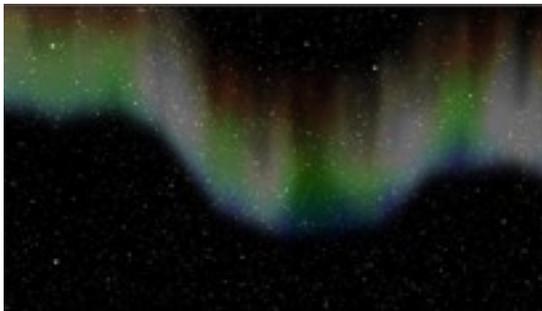
Figure 1. The aurora shown to the left was created by drawing a squiggly line and then picking one of the Aurora presets. The one I chose was only one of the 21 available Aurora presets.

"Presets" drop-down-menu that lists anywhere from 6 - 21 different ready-made presets for your chosen effect. These are very helpful if you don't want to adjust the controls manually or to give you a different starting off point for your further modifications.

Available Nature Effects

- **Aurora**: I don't know of anyone who doesn't enjoy watching the beauty of the northern lights/auroras. Well now you can easily add auroras to your photos (Figure 1).
- **Rain/Snow**: You can set the rain's Density, Length, Scale, Angle, and Transparency. So you can make it look like a light sprinkle or a torrential downpour (Figure 7). You can even make the drops appear slanted, as if they were being blown by a strong wind. The Snow preset increases the size, transparency, and density of the rain drops to
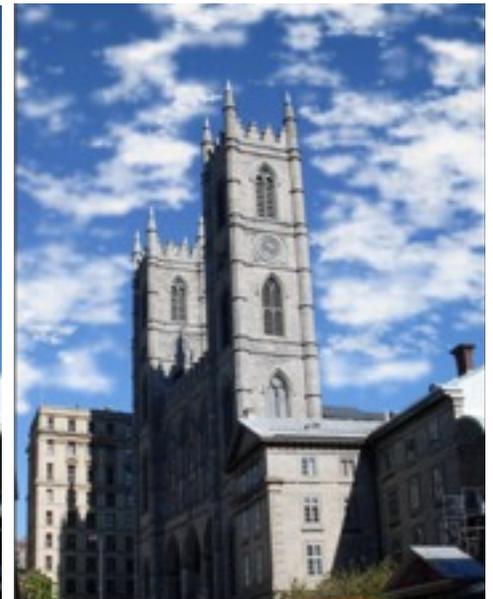
Figure 2. Instead of adding thick clouds, I decided to add thin high flying clouds to this photo.

Figure 3. Adding rainbows is very easy. The provided semicircular frame has three control points that you can use to change the length, width and angle of the rainbow. Afterward, you can leave its coloring as-is, or choose one of the other eight color presets.

simulate snow.

- **Lightning**: Simply draw a skeleton of straight lines and watch a nice squiggly lightning bolt replace the skeleton (Figure 6). You can set the lightning's Thickness, Branching (the number of branches off the main lightning bolt), the Glow, Dispersal, Curvature, and Distribution of the Branches. BTW: If you don't want to draw the lightening skeleton yourself, there are ten "Line Set" samples that you can use. They have a lot more branches than the simple lightening bolt that I drew in the Figure 6 example.
- **Sun**: The Sun effect has many presets that change the look of the sun along with the length and number of rays that can radiate from it. There are additional presets that you can use to change it to an eclipse, a moon, a star, or a comet.
- **Rainbow**: There is a semicircular frame that has three control points that you can use to change the length, width, and angle of the rainbow Figure 3). Afterward, you can leave its coloring as-is, or choose one of the other eight color presets
- **Clouds**: The Clouds effect lets you add to your image thin wispy clouds all the way up to dense clouds (Figure 2). The included presets also lets you add haze and fog to your image (Figure 8).
- **Water**: You can add a body of water to an image by dragging a horizontal line up or down (Figure 5). This sets the height of the water's horizon. Afterward you can set the Wave's: Density, Height, Length, Direction, Dispersal, Depth, Color, Glare, Color, and Horizontal & Vertical Shift. There is a History brush that you can use to bring back something in the foreground that was covered by the water, such as a large rock that you want protrude from the water.
- There are presets that you can use to make the water Transparent, Reflective, change the Color of the water, or set the waves height from Ripples to Waves.
- **Frost**: You can make frost crystals appear on windows or even on long thin objects like branches, eyelashes, etc. This is easily applied by first drawing a selection line over the object that you wish frost to appear on. You are given controls to set the Expansion, Fill, Branching, Freezing, Shadow, Uniformity, and Color of the frost.
- **Ice**: You can cover a surface (like the surface of a lake) with ice that you can see through or be so dense that it becomes opaque. You can set the Relief, Illuminance, Glare, Transparency, Color, Density, Length of the needles, Branching of the needles, etc.
- **Fire**: You can place fire anywhere within your image (Figure 4) or even make flaming text. There are presets for various types of fires such as: Campfire, Candles, Wildfire, Twister, Fire Snake, Magic Blue (this creates a blue flame), Mystic, Blaze, etc. You can set the flame's Width, Height, Blur, Distortion, Transparency, and Color.

Figure 4. The Fire effect can be used to add large brush fires (to a boring scene), all the way down to a small candle flames. Notice that each candle flame looks different. That's due to my tweaking the controls.

If all of the controls sound overwhelming, remember there are pre-defined presets for each effect. Simply choose one from the Preset drop-down-menu.

Testing:

Figure 5. If you want, you can add a body of water to your image such as making a lake in the left images or flooding a downtown street in the right image. Besides adjusting the wave height, you can also set the color of the water and the amount of light that reflects in the water.

I was able to create quite a few interesting effects using Akvis NatureArt as you can see from all of my screenshots. I don't have room in this review to talk about them all, so I will talk about a several of the tests that I had fun with:

In Figure 5's left set of images, I made a lake in front of a hill. In the right image, I took a photo of a downtown city block and made

Figure 6. Lightening bolts are created by drawing the lightning skeleton (first image on the left), picking one of the lightening presets (middle image), and then tapping the "Run" button. Of course you can further tweak the Lightening's color, its number of branches, strength, glow, etc.

it appear as if it was flooded so only the buildings and the tops of the cars showed.

Toward the end of my testing phase, decided to combine several effects into one image (I started with a render created from a 3D program). Though I had made the crystal at the end of the staff glow (enough to cast shadows) in my 3D program, I wanted it to be more impressive. So I added a sun (with the Star preset) to it; I used the Lightening effect to shoot a energy blast from the man's finger tip; I added flames to the fire beast's shoulder and feet - in addition to his previous steps; and I finished by using the Cloud effects's Fog preset to add a thin layer of fog to the ground. I was quite pleased with the results.

My last test was just for fun. I followed Akvis': "**Fiery Girl: Drawing with Flame**" tutorial." My before and after images can be seen in Figure 9. I must admit that it did require that I use Akvis' Sketch plugin to make the sketch, plus I used the Akvis NatureArt plugin in conjunction with Photoshop (so I could have layers). The coloring was accomplished by having a wall of fire under the sketched image (plus a few other tweaks). It was a lot of fun to do.

Figure 7. This image has both the Rain and Lightening effects added to it.

Figure 8. The Akvis NatureArt effects are not limited to photos. They can also be use to make 3D renders more interesting. The illustration on the right has four effects added to it: A star with rays on top of the staff, a lightning bolt protruding from the man's finger, fire on the fire beast shoulder and feet (along with its previous steps), and a thin layer of fog on the ground.

If my review peaks your interest, I suggest that you go to the **Akvis web site** and check-out all of the examples that they have. After that, I suggest that you take the trial copy for a test run.

Akvis NatureArt comes in four versions:

Home Plugin, Home Standalone, Home Deluxe, and Business. They are basically the same but there are a few differences between them. First, the Home Deluxe and Business versions come with both the plug-in and the stand alone application - the Home versions don't include both - you can buy just the stand alone version or the plugin. The second difference is that the Fire and Ice effects and the History Brush are only available in the Home Deluxe and Business versions. The third difference is that the Home and Home Deluxe versions are for non-commercial personal use whereas the Business version is for people/business who want to sell their final artwork.

Figure 9. The image to the right was created using the Fire effect to colorize a sketch of the woman and her outfit.

The Skinny

Evaluation: Akvis NatureArt is very easy to use. About the only problem I had was trying to figure out how to change the size of the cursor (I finally stumbled upon it by accident). I am really excited about using Akvis NatureArt to improve the look of my 3D renders.

I have always had trouble manually adding realistic looking clouds to photos. It is nice to have a program that will create them for me.

Requires: Mac OS X 10.7 0 10.12 (Sierra), 32 or 64 bit; Plug-in version: a photo editor that supports plug-ins - including Photoshop CC 2017 (Please go to the **Compatibility web page** to see a list of compatible photo editing programs along with the exact version numbers); Supports Ultra HD Displays.

Company: **Akvis LLC**

Price:

Home Plugin $72, Home Stand Alone $72 (for non-commercial use)

Home Deluxe: Plugin & Stand Alone versions: $106 (for non-commercial use)

Business: Plugin & Stand Alone versions: $189

Academic discounts: 30% off for Home and Home Deluxe licenses

Available 10 day demo

The Internet

4 Things to Consider Before Enabling iCloud Photo Library

by Mike Matthews

The ability to take beautiful photographs — and look at them immediately — on a device that fits in your pocket has removed much of the friction surrounding storing, organizing, and sharing your personal works of art.

But this sea change in photography has created new issues, such as:

- Pictures are easier to take and retain. Your iPhone doesn't swell like an overstuffed photo album if you keep all those blurry photos that would be better off consigned to the dustbin of history.
- Camera capabilities have improved steadily over time, radically increasing storage requirements. Did you ever think you'd be able to shoot high-definition video on something like an iPhone?
- Thanks to the increased space requirements of photos and videos, our iPhones and iPads, not to mention some Macs, can't handle the size of our photo libraries.
- We want to access our photos and videos from any of our devices, at any time, and have any edits we make reflected everywhere.

iCloud Photo Library is Apple's solution to these issues. There are competing options, such as **Google Photos**, **Lightroom mobile**, **Mylio**, and **Amazon Prime Photos** (all explained in Jeff Carlson's "**Take Control of Your Digital Photos on a Mac**"), but the idea behind all of them is basically the same:

- Provide more space to store our photos and videos in the cloud
- Allow us to access these photos and videos from any of our devices

This cloud-based approach has a couple of welcome byproducts. Although it shouldn't be seen as *the* backup, a cloud-based photo library certainly does provide another copy of everything in a location that's safe from fire, flood, or theft. Also, sharing photos with family and friends becomes a bit easier.

If you decide to use iCloud Photo Library, here are four things to think about before you flip that switch and turn it on.

Cull Photos First… Or Not -- Many of the features of Apple's Photos app — automatic albums like Selfies and Screenshots, facial recognition, Memories, and searching for photos by generic categories like Mountains or Snow — eliminate much of the tedium of organizing photos and help us avoid throwing things away.

After all, why toss any photos when Photos can organize most of them automatically for later reference? It's much more fun to keep shooting than to engage in the chore of trashing photos that, upon further review, you'd be ashamed to admit you took.

How does this apply to iCloud Photo Library? If you have time now, you might want to delete unnecessary photos like the eight nearly identical photos I apparently just took of my sleeping cat (who, like most sleeping cats, didn't move the entire time). That will reduce the upload and download times for iCloud.

On the other hand, if you're thinking that it would be way more fun to clean up your photo collection while lounging on the couch with your iPad in the future, just leave all the cruft in place for now — you can always trash it later.

Start with the Host with the Most -- It may take quite a bit of time to upload all your photos and videos to your iCloud Photo Library: days or

even weeks, depending on your upstream Internet speed and how many photos and videos you have.

In my case, the vast majority of my several thousand photos and videos were stored on my Mac. Many were duplicated on my iPad and iPhone because I had manually synced them there at some point in the past. So I started with the Mac, and even with the library culling that I performed, it still took several days to finish.

But there are plenty of people who have all or most of their photos on an iPhone or iPad, or maybe don't even own a Mac. If you're in that situation, start from the device that contains most of your photos and videos. Once that first upload is done, you can repeat the process with your other devices.

Happily, to make sure you don't chew through your monthly data limit uploading photos, iOS devices won't upload to the iCloud Photo Library using a cellular connection, just via Wi-Fi.

If you find your Mac or iOS device is getting bogged down, or your Internet connection has slowed considerably as a result of all the uploading, you can pause the upload. It will resume automatically after a day, or you can start it again manually before bed. On the Mac the Pause button is in Photos > Preferences > iCloud; in iOS look for it in Settings > Photos & Camera.

Optimize Photos Where Appropriate -- iCloud Photo Library always stores your photos and videos in the cloud at their original full resolutions.

But you likely don't have enough space on your iPhone or iPad, or even possibly on a MacBook Air, to store all that data. That's why Apple gives you the option to instead store "optimized" versions (small thumbnails) on any of your devices. When you want to work with an optimized photo, Photos downloads the original.

Think carefully about where you store full-resolution and optimized versions of photos. I opted for optimized copies on my iPhone and iPad, but I chose to keep the full-resolution versions on my Mac. The Mac is where I tend to exercise my meager photo-editing skills, and I would prefer not to wait for each photo to download before I edit it.

In addition, I back up my Mac both locally via Time Machine and via the online service **Backblaze**, which puts my full photo library in four different places — iCloud Photo Library, my Mac's drive, my Time Machine backup drive, and Backblaze. Should disaster strike, I'm confident that I won't lose any precious photos.

Space Is Money -- My Photo Stream was Apple's initial foray into syncing a limited number of user photos via the cloud, and the photos it syncs do not count against an iCloud account's storage limits (it doesn't work with videos). In contrast, all the photos and videos in iCloud Photo Library do count against that storage limit.

A free iCloud account gives you 5 GB to get started. But, particularly if you're backing up an iOS device or two, a photo library of any decent size won't come close to fitting in that space.

Fortunately, Apple notifies you before you start uploading if your iCloud account needs more storage space, and you can **buy additional iCloud storage** at a relatively low cost: $0.99 per month for 50 GB, $2.99 for 200 GB, $9.99 for 1 TB, or $19.99 for 2 TB.

In my case, I needed to do only a little bit of editing to whittle my photo library down so it was comfortably below the 50 GB mark, giving me some room for short-term growth and saving me a couple of bucks a month. For me, it wasn't worth paying for the extra space up front with an eventual goal of taming the photo library later, especially since I hadn't been especially motivated to do so for several years. In addition, there are three other members of my family with their own iCloud accounts, so walking the talk was a factor in my decision.

That said, most people probably can't drop their library size significantly enough to fit comfortably into a lower pricing tier. And remember, at 2–3 MB per iPhone photo, library size can grow quickly. Still, there's no reason to pay more than necessary; Apple will happily tell you if you need to upgrade again in the future.

Annoyingly, there's no way to buy iCloud storage for a year at a time, so you'll be getting and accounting for a small iCloud storage payment every month no matter what.

Flip the Switch -- Once you've thought about these things and are ready to go, turn on iCloud Photo Library in Photos > Preferences > iCloud on the Mac, or in Settings > Photos & Camera in iOS. Then reward yourself with a favorite beverage, particularly if you've done any pruning of your photo library.

While you wait for your photos to upload, which will take days or even weeks, you can still use your Mac or iOS device normally. Do *not* stare at the progress count or try to second-guess what's happening. And in particular, do *not* turn iCloud Photo Library off and back on, since that will force the system to evaluate every photo again, slowing the process further. Just let it run and it will finish eventually.

In the meantime, can I recommend a relaxing hobby that will get you away from the screen, like maybe photography?
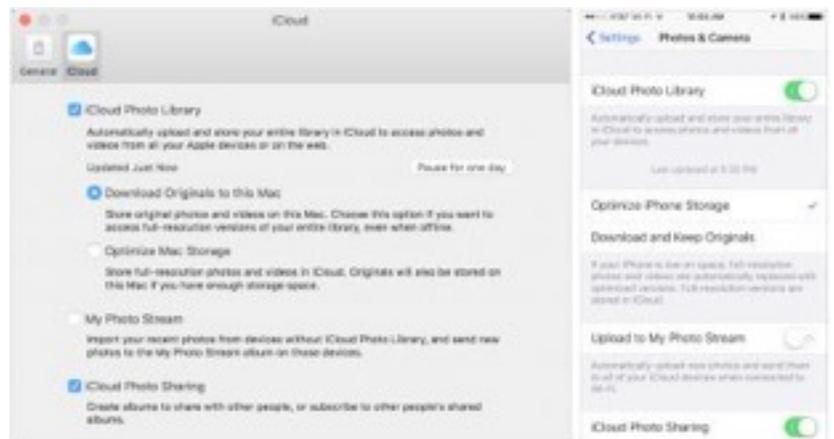
Gary's Insights

[Newsletter editor: This article was created several years ago, but its information is still relevant]

Using iCloud Drive

Prologue: With OS X Yosemite you can use iCloud Drive as a place to store your files. iCloud Drive syncs between Macs and the files can also be accessed by the appropriate apps in iOS 8 on the iPhone and iPad. You can also create your own folders in iCloud Drive on Yosemite and access files on iOS 8 from outside of the normal app folder for that type of document. iCloud Drive can also be used to store other types of files, even if the app does not support iCloud Drive. On iOS 8, you can import media from iCloud Drive and export files to it as well.

This is a transcript of Gary's [Using iCloud Drive video](#):

Hi this is Gary with MacMost.com. On today's episode let's take a close look at iCloud Drive.

Now previously you may have stored all of your files in the Documents folder. In your User folder and the Documents folder you can create any kind of hierarchy of different folders with project names and put any type of file you want in there. That's kind of where your documents lived.

That is still there and still available. But another option is to use iCloud Drive now for the same sort of thing. If you have already been using iCloud Drive, say with iOS 8, then you will probably notice folders here for things like Pages, Numbers, and Keynote. These are the classic iCloud applications that have been using iCloud documents for a long time. What we haven't seen up until now is the ability to look in the Finder to see what is inside these folders.

So I can see here what is in my Pages folder. This is equivalent to what I would see if I was looking in Pages in iOS 8 and just going to open a document there. I would see those same files there. So this is the Pages document's area for iCloud. Now we can see it with iCloud Drive and the same for any other iCloud documents application whether it is Numbers, Keynote, or some third party app.

You are also going to see apps like TextEdit that use iCloud but there is no iOS 8 equivalent. There is no TextEdit app on iOS 8. So this is only really for sharing between Macs. If I were to use TextEdit to open a document in another Mac, say my laptop, then I would be able to see the same files that are in here in the TextEdit space.

But in addition to that with iCloud Drive I can also create my own folders like I have here or just put files here at the main level. So really use it just like the Documents folder and put my own set of folders here and put any file I want into them. I can put images into them. I can put files that don't have a supporting iCloud app like some design documents or things like that where they don't fit Pages, Numbers, or Keynote. I can put Microsoft word documents in here if I wanted to.

Your iCloud Drive documents stay in sync with your other Macs. So, for instance, here I'm looking at my desktop Mac and I've got the iCloud Drive folder open. I've got Screen Share here showing my laptop, my MacBook Air which is sitting next to it. You can see I've got that open also to show iCloud Drive.

On my desktop here, my local drive, I've got this Testing.txt file. So I'm going to drop this test file into iCloud Drive and it will appear here in iCloud Drive and then if I give it just a few seconds it will also sync over and appear here on the MacBook Air. You can see there it is and you can even see a progress bar as it adds it. So I've got that now added automatically and you can see these two folders, these two iCloud Drive folders, which are the same folder but this one exists on my local drive and this one is on another Mac. They will stay in sync.

All the files are really in three places here. They are on my local desktop drive, they automatically sync to the iCloud Drive server at Apple, and then they sync over to any other Macs that I've got that are using the same Apple ID that does have the same shared iCloud Drive.

Now here you can see my iCloud Drive folder on my Mac. I'm looking inside the Pages folder here to see what is there. I've got three files and a subfolder. Then on the other side of the screen you can see my iPad and I've got Pages open and I can see the same documents in there just on the Documents screen. If I were to add a new one you would see it appear, copied from one to the other.

So let's add one here on the iPad. I'll just create a blank one, put test, and then I will just name it test2. Then I'll go back to the Documents screen and you can see test2 is there and if I wait I'll see that test2 will now go over here. It says updating one document and it's sending it to the iCloud server and then once it is in the iCloud server my Mac will recognize that there is a new file there and will update it here. You can see it is here. There is a little symbol there saying it is not yet downloaded but if I just wait a few more seconds the symbol will disappear as it syncs to the Mac. Now I've got this file in both places.

Now what about outside of the Pages folder. Say I've stored something else on iCloud Drive but not in the Pages folder. I've put it in this folder I created called Project A and its a Pages document. Well, I can open that by going and hitting the plus button at the upper left in Pages there, hitting iCloud and now I can see the entire iCloud Drive including the Project A folder. Select that, select that document there, and it will open up that document but not only that it is going to put a link to it here in the Pages folder here, and you can see it adds In iCloud Drive after it. So now when I go back to document you can see that my doc is now listed there. It has got a different color to the name but it kind of makes it easy to find Pages documents that aren't stored inside the Pages folder.

You can almost ignore the Pages folder, if you want, and just create your own subfolders and then get these documents as you need them.

Now another way you can access your files in iCloud Drive is using iCloud.com. You go to iCloud.com, log in with your Apple ID and there is an iCloud Drive icon there. You can go in there and you can see not only your Pages, Numbers, and Keynote and other app's folders there but you can also go into your custom made folders and see those files there.

You can even open up these files here in the actual app's in the web side of things. So I can use the Pages web version to open up that Pages document there.

Now another thing you can use iCloud Drive for is for supporting documents. So, for instance, say I put an image here in my Project A folder on my iCloud Drive. Then on my iPad I want to import an image into a document. So let's go to the test2 document here and put the cursor right there. I'm going to then hit the plus symbol. I can see my photo albums here where I can insert an image and that is as before. But I've got Insert From now. Tap Insert From and I can see my iCloud files. I can go to Project A. Sure enough there is the image there. I can select that one and it will import in. There you go.

So without adding an image to my Camera Roll or bringing it into Photos at all I can actually bring it in here to Pages just using iCloud Drive. Kind of like you would do it on a Mac if you were using Pages. You can just bring the file in very easily.

You can also use iCloud Drive to export files. So, for instance, say I'm in this Pages document here and I want to share it. I'm going to say Send a Copy. It is going to ask me to choose a Format. So say I want to send it in pdf format. I can now choose how to send. You can see I have the Send to little folder with an arrow there. I can select a folder in iCloud Drive and hit Export to this location. Now it will send it out and I will see it actually appear on my Mac after a few seconds. There it is.

Google Halts Massive Phishing Attack: Check Your Account

by Adam C. Engst

Last week, a **huge phishing campaign** targeted email users with a message that appeared to be an invitation from a known correspondent to join a Google Doc. However, the linked Web page requested that you grant access to an app that looked like Google Docs, but was instead an app that sent spam to people in your contact list.

The attack was well-engineered, so although there were giveaways, such as the original message being sent to hhhhhhhhhhhhhhhhh@mailinator.com and BCC'd to you, it suckered lots of people.

Google reacted quickly, disabling the phishing campaign within an hour and releasing this statement:

We have taken action to protect users against an email impersonating Google Docs, and have disabled offending accounts. We've removed the fake pages, pushed updates through **Safe Browsin**g, and our abuse team is working to prevent this kind of spoofing from happening again. We encourage users to **report phishing emails in Gmail**.

Later, Google followed up with another statement:

We realize people are concerned about their Google accounts, and

we're now able to give a fuller explanation after further investigation. We have taken action to protect users against an email spam campaign impersonating Google Docs, which affected fewer than 0.1 percent of Gmail users. We protected users from this attack through a combination of automatic and manual actions, including removing the fake pages and applications, and pushing updates through Safe Browsing, Gmail, and other anti-abuse systems. We were able to stop the campaign within approximately one hour. While contact information was accessed and used by the campaign, our investigations show that no other data was exposed. There's no further action users need to take regarding this event; users who want to review third party apps connected to their account can visit **Google Security Checkup**.

Although 0.1 percent of Gmail users sounds small, it's likely well over 1 million people, since Google reported that Gmail had 1 billion users as of February 2016.

At this point, as Google says, there's nothing you need to do to protect yourself from this attack. But it's a good excuse to check your Google account to verify everything connected to it.

Start at the **Google Security Checkup** page, which walks you through checking your account recovery information, connected devices, account permissions, app passwords, and two-step verification settings.

In particular, in Check Your Account Permissions, make sure to remove access for any app that you don't recognize. Click an app to see more details about when you authorized it to access your Google account and what information it can access.

When you get to Check Your App Passwords, you may be able to revoke most or even all of them. Google lets you generate passwords for apps that don't support its two-step verification system, but there's no need for them in any Google-branded apps in iOS 8.3 or later, and OS X 10.10.3 Yosemite or later. Similarly, setting up Gmail in Mail in iOS doesn't require an app-specific password, and most independent apps have been updated in the last few years. I apparently haven't used any of the app-specific passwords I created since 2015, so I can probably delete them all.
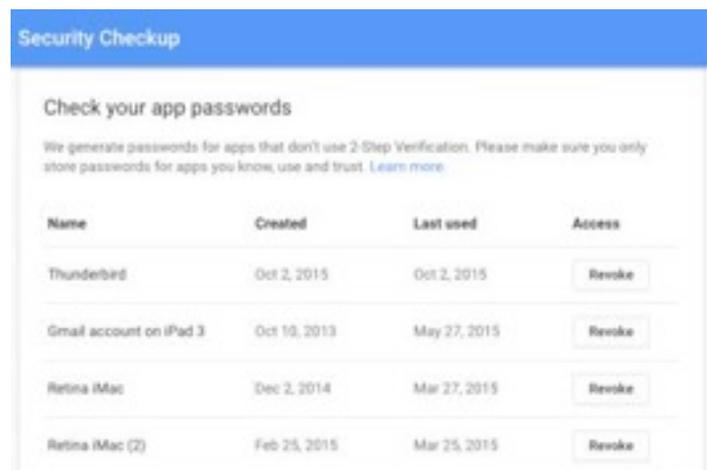
I'm not sure there's much of a moral to this story, apart from encouraging you to evaluate what you read carefully, both in email and on Web pages that you might click through to from an email message, particularly if they're asking you for a password or other personal information. Phishing messages almost always have spelling errors, grammatical flubs, or oddities with the To and From lines — no large company will make those kinds of mistakes. If an email message ever feels wrong, navigate to a linked Web page manually rather than clicking through from the message.

But don't get too paranoid. The vast majority of email that lands in your Inbox is entirely innocuous, and worrying about a phishing attack every time you open a message is no way to live.

ExtraBITS

HandBrake App Infected with Malware -- Developers of the HandBrake DVD-ripping app have issued a warning that attackers inserted malware into copies of the app on one of its download mirror servers. They have shut that server down, but if you downloaded HandBrake between 14:30 UTC 2 May 2017 and 11:00 UTC 6 May 2017, you may have been infected. The HandBrake forum post provides more details on how to see if your Mac is infected and how to remove the infected files if so. If HandBrake's developers had digitally signed the app with an Apple developer certificate, this particular attack couldn't have happened. Apple has also updated XProtect to protect against future downloads of files infected with Trojan OSX.Proton.B.

WannaCry Ransomware Vindicates Apple's Battle with the FBI -- Last year, Apple CEO Tim Cook came under fire from the FBI for not providing a custom, vulnerable version of iOS so the agency could hack into the iPhone 5c used by one of the San Bernardino mass shooters. Cook refused, on the grounds that it would be impossible to keep any such back door out of the hands of criminals and other intelligence agencies. His stance has now been vindicated, as stolen NSA exploits released by the Shadow Brokers hacking group were used to spread the WannaCry ransomware throughout the world. WannaCry dominated headlines briefly by infecting more than 230,000 Windows-based computers in 150 countries in 24 hours, affecting major companies and even Britain's National Health Service.

Apple Launches Repair Program for the iPad Pro's Smart Keyboard -- Apple has created an extended repair program for the iPad Pro Smart Keyboards due to "functional issues" that include sticking and repeating keys, sensor issues, problems with the magnetic connector, connection issues, and unresponsive keys. The program covers Smart Keyboards for both the 9.7-inch and 12.9-inch iPad Pro models and extends the warranty by an additional two years, for a total of three years. If you paid for a replacement for a Smart Keyboard that's eligible for the new program, Apple will give you a refund — contact an Apple Store or Apple Authorized Service Provider if Apple doesn't get in touch with you first.

Supreme Court Decision Deals a Blow to Patent Trolls -- Since the 1990s, the Eastern District of Texas has been the preferred hunting ground for patent trolls. Judges in that district have been friendly to those who hold patents they never intend to use outside of litigation, so nearly 45 percent of patent infringement suits were filed there in 2015. But thanks to a unanimous U.S. Supreme Court ruling, the Eastern District of Texas's time in the patent litigation limelight may be coming to an end. In TC Heartland v. Kraft Foods Group Brands, the Supreme Court ruled that defendants should face patent litigation in the state in which they're incorporated. For instance, if you wanted to sue Apple or many other tech companies for patent infringement, you'd have to do so in California. Courts in other states won't be as friendly to patent trolls, so this Supreme Court decision may have the side effect of reducing frivolous patent lawsuits.

Notable Software Updates:

Microsoft Office 2016 15.34 and Office 2011 14.7.4 -- Microsoft has issued version 15.34 of its **Office 2016** application suite, adding the Dubai font family to Word, Excel, PowerPoint, and Outlook. Supporting both Western European languages as well as the major languages that use the Arabic script, the font family consists of four styles — Dubai Light, Dubai (regular), Dubai Medium and Dubai Bold (learn more from this **Microsoft support document**). Word also adds two new backgrounds (Twilight and Polar Night) to Focus Mode, and Outlook now lets you view your top 10 groups (as well as read and reply to group conversations) from the Groups folder.

The OneNote note-keeping app also receives a redesigned user interface that's aimed at simplifying navigation (especially for larger notebooks with more sections). It also provides a consistent design across all supported devices (see this **Office blog post** for more details).

On the **security front**, Microsoft has also released version 14.7.4 of **Office 2011** to resolve critical vulnerabilities that could result in remote code execution if a maliciously crafted Office file were opened. ($149.99 for one-time purchase, free update through Microsoft AutoUpdate, release notes, 10.10+)

iTunes 12.6.1 -- Apple has issued **iTunes 12.6.1**, which includes unspecified "minor app and performance improvements." If you see any changes in user interface or behavior, let us know in the comments. In related news, Microsoft's Build conference announced that Apple would make iTunes and Apple Music available on Windows 10 S via the Windows Store by the end of this year (see this **Ars Technica article for more details**). (Free, 270 MB via direct download or Software Update, **release notes**, 10.9.5+)

Safari 10.1.1 -- Apple has released **Safari 10.1.1** for OS X 10.10.5 Yosemite and 10.11.6 El Capitan (macOS 10.12.5 Sierra also includes it; see "**Apple Releases macOS 10.12.5, iOS 10.3.2, watchOS 3.2.2, and tvOS 10.2.1**," 15 May 2017). The update is focused solely on patching **security vulnerabilities**, addressing memory corruption issues in WebKit that could lead to arbitrary code execution, preventing address bar spoofing with improved state management, and resolving logic issues that existed in the handling of WebKit container nodes. Safari 10.1 is available only via Software Update. (Free, 10.10+)

iMovie 10.1.6 -- Apple has released **iMovie 10.1.6**, improving stability when updating libraries created with earlier versions of iMovie and addressing an issue that could lower the volume of clips after transitions. Note that Apple recently made current iLife and iWork apps entirely free for all users (including iMovie; see "**iLife and iWork Apps Now Free for Everyone**," 20 April 2017). (Free from the **Mac App Store**, 2.15 GB, 10.11.2+).

Security Update 2017-002 (Yosemite and El Capitan) -- Apple has released Security Update 2017-002 for OS X 10.10 Yosemite and 10.11 El Capitan, patching security vulnerabilities that the company also addressed in macOS 10.12.5 Sierra (see "**Apple Releases macOS 10.12.5, iOS 10.3.2, watchOS 3.2.2, and tvOS 10.2.1**," 15 May 2017). Among much else, the security update addresses a memory consumption issue that could lead to arbitrary code execution, fixes validation issues that could allow an application to read restricted memory, and resolves a memory corruption issue that could allow an app to escape its sandbox. (Free. For **10.10.5 Yosemite**, 421.1 MB; for **10.11.6 El Capitan**, 710.6 MB; **security content release notes**)

Evernote 6.11.1 -- Evernote has released version 6.11.1 of its **eponymous information management app** to fix several issues with formatting notes. The update resolves a problem that prevented some notes created in Evernote for Mac from rendering after syncing, fixes a bug that caused tables to lose formatting after updating to Evernote 6.11, corrects the addition of a second line break after pasting a line of text, and fixes a bug that caused some styles to go missing from pasted content. (Free from **Evernote** or the Mac App Store, 55.9 MB, **release notes**, 10.10+)

Quicken 2017 for Mac 4.5.6 -- Quicken Inc. has released version 4.5.6 of its **Quicken 2017 for Mac** financial management app to improve the loan details screen and add the capability to pay from an investment account. The update also fixes an issue where quotes would start downloading after clicking Pay Now using Online Bill Pay, resolves a rounding error that could cause online bill payments to be off by a penny, and fixes a data integrity issue that changed transaction totals to match an incorrect single split amount (resulting in an incorrect account balance). ($74.99 new from Quicken Web site and **Mac App Store**, free update from Quicken 2017, **release notes**, 10.10+)

HOW TO FIND US

General meeting:

SMMUG General Meetings are held on the SECOND Monday of each month at Fire Station 14 located at 1875 Dublin Blvd (at the intersection of North Academy and Dublin).

Directions:

From Academy, go east on Dublin and then turn right on the very first street. There is parking on the west and south sides of the Fire Station (with additional parking located to the north and further west of the Fire Station). The entrance is on the west side of the building.

Smoking is not permitted on the premises.
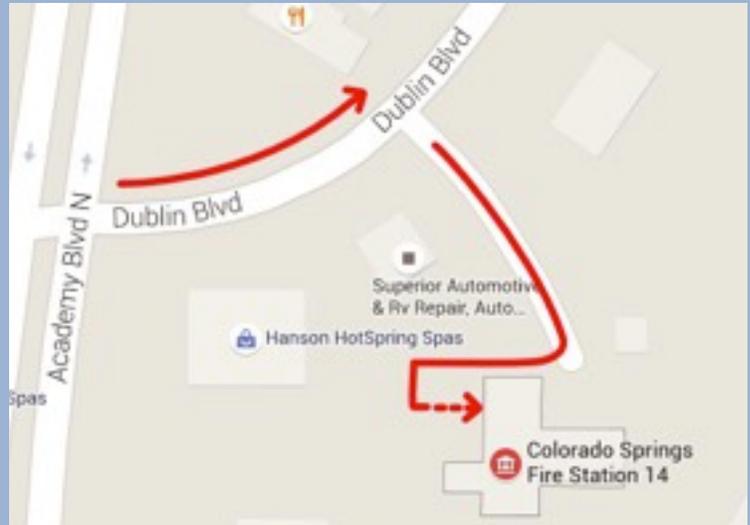
Sig meeting:

The SIG Meetings are held on the SECOND Saturday of each month at Fire Station #18's meeting room - located at: 6830 Hadler View [the fire station is behind Walgreens].

Directions:

#1) Take I-25 to Garden of the Gods Rd (head west), turn right on Centennial, left on Flying W Ranch Rd., right on Hadler View.

#2) (*This route is bumpier and probably not the best for winter travel*) Take I-25 to E. Woodman/W. Rockrimmon Blvd., turn right on Vindicator (at the Safeway intersection), and then right on Hadler View.

About Us

The Silicon Mountain Macintosh User Group, Inc. (a nonprofit educational corporation) was formed in Colorado Springs, Colorado in 1985, and is one of the oldest Macintosh User Groups in the United States. SMMUG, Inc. is dedicated to helping members enjoy and learn about their Macintosh computer, iPhone and iPad devices.

Club membership is open to everyone and you are cordially invited to visit our free monthly General Meeting on the second Monday of each month, at 7:00 PM. For those new to the Macintosh, we have a Question & Answer session at 6:00 PM, where our collective expertise can help answer your questions.

All members receive a monthly newsletter, published on **our web site,** see great reviews of software and hardware, or can participate in the monthly door prize drawing. Each member gets one vote during annual Officer Elections. No corporate memberships are granted.

Our officers are volunteers and receive no pay. All funds raised are used for the cost of operating the club and its meetings.

Membership Application Form

Membership entitles you to access to our online forums, participation in prize drawings, and access to the bargains in the members area of the SMMUG website at www. smmug.org. SMMUG renewal membership dues ($30) apply to the calendar year and are paid each December for the following year. Use the following table for NEW MEMBERSHIP ONLY:

JAN 1 to MAR 31 - $30.00   APR 1 to JUN 30 - $20.00

JUL 1 to SEPT 30 - $15.00   OCT 1 to DEC 31 - $10.00

Please Print Clearly!   Today's Date _____

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E-mail Address _____
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☐ Please make an online account for me.
User Name _____

☐ Don't make an online account for me.
I do not want one or I already have