

printout

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



Do Not Disturb until September!

Meet us at

Bethany Village Retirement Center

Education Room

5225 Wilson Lane, Mechanicsburg, PA 17055

Tuesday, September 20 2016 6:30 p.m.

Attendance is free and open to all interested persons.

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Keystone MacCentral is a not-for-profit group of Macintosh enthusiasts who generally meet the third Tuesday of every month to exchange information, participate in question-and-answer sessions, view product demonstrations, and obtain resource materials that will help them get the most out of their computer systems. Meetings are free and open to the public. The *Keystone MacCentral printout* is the official newsletter of Keystone MacCentral and an independent publication not affiliated or otherwise associated with or sponsored or sanctioned by any for-profit organization, including Apple Inc. Copyright © 2016, Keystone MacCentral, 310 Somerset Drive, Shiresmanstown, PA 17011.

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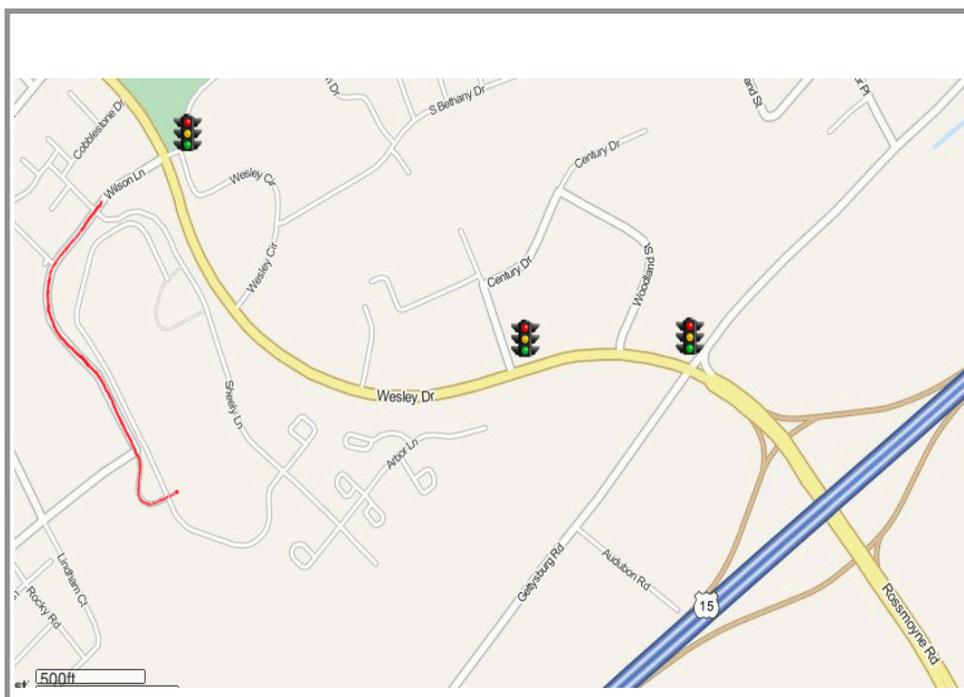
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Maplewood Assisted Living (Bld 21)
5225 Wilson Lane
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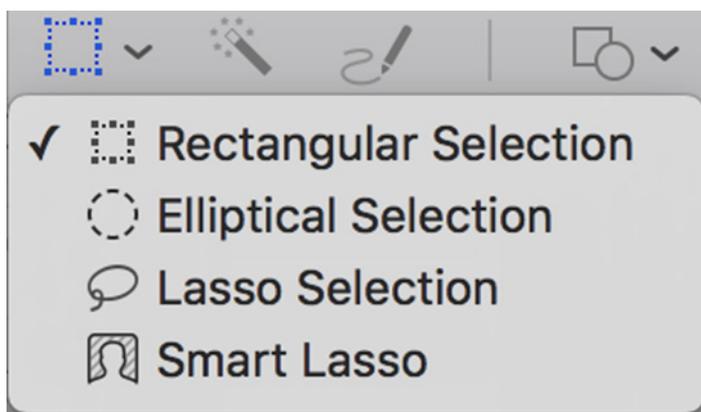
Mailing Address

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The Power of Preview: Advanced Editing Techniques

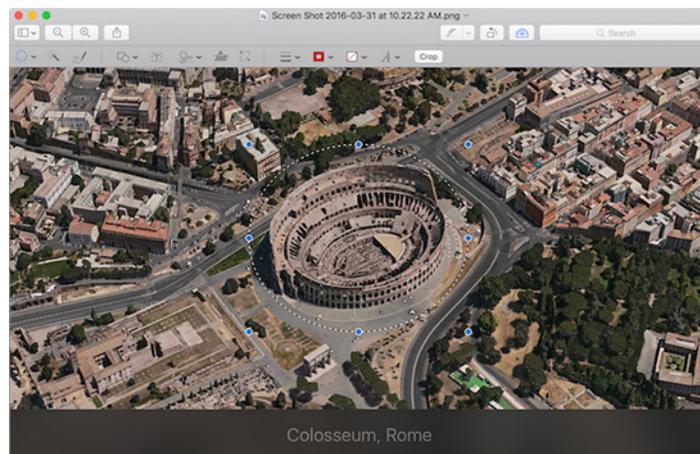
In “[The Power of Preview: Cropping and Resizing Images](#)” (18 March 2016) and “[The Power of Preview: Annotating Documents and Images](#)” (2 April 2016), we explored editing and annotation tasks with Preview, OS X’s built-in document and image powerhouse. This week, we’ll go deeper with some advanced editing techniques, and double back for a few tidbits we skipped in previous articles.

Advanced Selection Tools for Images — In “The Power of Preview: Cropping and Resizing Images,” we discussed using the Rectangular Selection tool. However, when working with images, several other selection tools offer more variety and control. You find them in the Markup Toolbar, which you display by choosing View > Show Markup Toolbar (Command-Shift-A). The selection tools are accessed via the first button at the left.

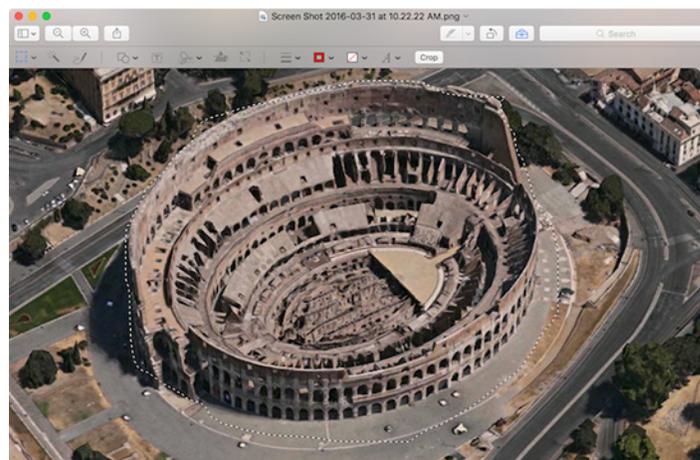


Elliptical Selection is the second choice on the selection tools pop-up menu. It works just like the Rectangular Selection tool, except that it selects elliptical rather than rectangular areas. As with the Rectangular Selection tool and the shape tools, you can press Option while making the original selection to size it from the center, and pressing Shift gives you a perfect circle.

After dragging out an elliptical selection, you get the usual drag handles. The handles attached to the selection ellipse itself adjust one dimension at a time, whereas those on the corners of the rectangle that encloses the ellipse can adjust two dimensions at once.

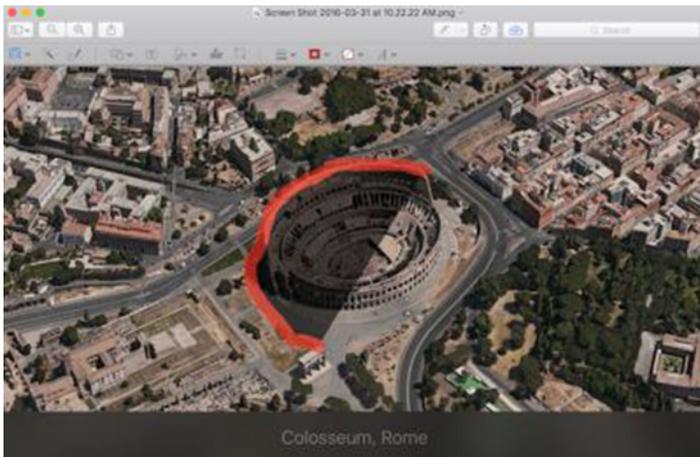


The next selection tool is Lasso Selection, which [Bill Atkinson first invented for MacPaint](#) in 1983. The Rectangular Selection and Elliptical Selection tools fall down when you need to select an irregularly shaped object or portion of a graphic. But with the Lasso Selection tool, you can hand-draw a selection around any object. The hard part of this is that you have to do it in a single click-and-drag motion. Since the Lasso Selection has to form a closed shape, if you don’t close it yourself by ending your drawing back on the starting point, the selection closes itself with a straight line. Once you’ve finished making a selection, you can drag the selection — not the underlying image, but the dashed line selection — around with the pointer, or nudge it with the arrow keys.



The Lasso Selection tool works well when the irregularly shaped object you want is well separated from other parts of the image. But in a photograph, for instance, you’re unlikely to be so lucky. For such situations, Preview offers the Smart Lasso tool, which offers some assistance. When you drag, you see a thick red line instead of a thin white line —

draw that around the object you want to select and Preview tries to construct the selection intelligently. It will take some experimentation to get the desired results. Oddly, you can't move a Smart Lasso selection afterwards with the pointer, but you can nudge it with the arrow keys.



Once you've selected something with one of these tools, you have a few options:

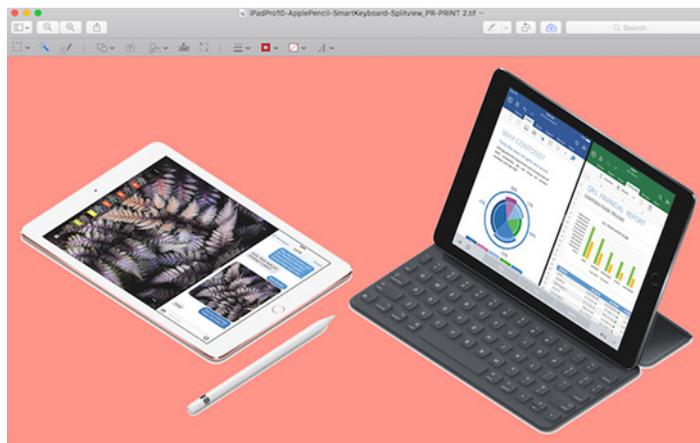
- Choose Edit > Invert Selection (Command-Shift-I) to select everything other than what you just selected. It's handy at times!
- Press Delete to remove it from the image, leaving a hole.
- Use Command-C to copy the selection, so you can paste a copy into this or another image. Remember that you can also choose File > New from Clipboard to create a new file with the copied selection.
- Once you have a copy, you can move and resize it to your heart's content, although it will always be essentially rectangular in Preview's eyes, no matter how irregular it was to start. One technique we frequently employ is obscuring part of a screenshot by copying a chunk of its background color and pasting it over the part of the image we want to cover up.

Honestly, there aren't that many uses for the Elliptical Selection tool, and both of the lasso tools are finicky, so we use them only occasionally. Let us know if you've found good uses for these tools, but if you're just trying to remove a background from an image, the Instant Alpha tool is a better choice.

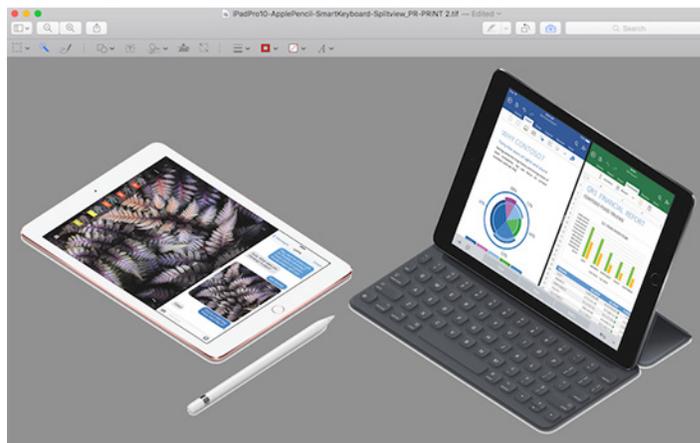
Instant Alpha – No, Instant Alpha won't make you leader of the pack. Rather, it's a color-based selection tool, similar to magic wand tools in other image manipulation apps. It's best used to strip solid-colored backgrounds from images (replacing them with transparency, which doesn't obscure the background color on a Web page, for instance).

The Instant Alpha tool is the second button in the Markup Toolbar. Click it, and then click and hold on the colored area you wish to select. The selected area turns red; you

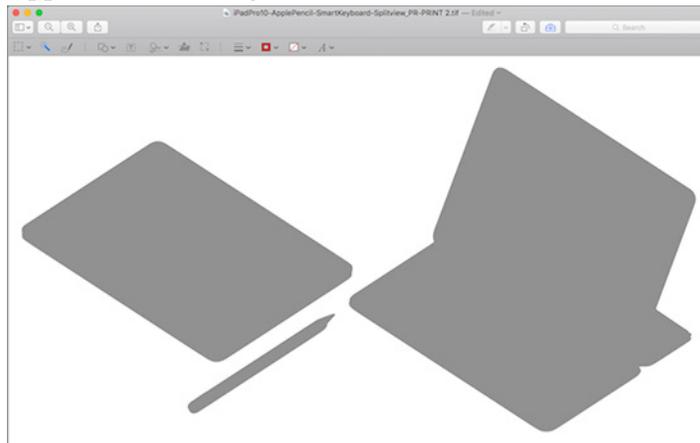
can then drag the pointer to adjust the tool's sensitivity to include the colors you drag over. Once you're happy with the selection, lift your finger from the mouse or trackpad to finalize your selection.



As you'd expect, you can press Delete to delete the selection. In the screenshot below, I first used Instant Alpha to select the background, which I deleted.

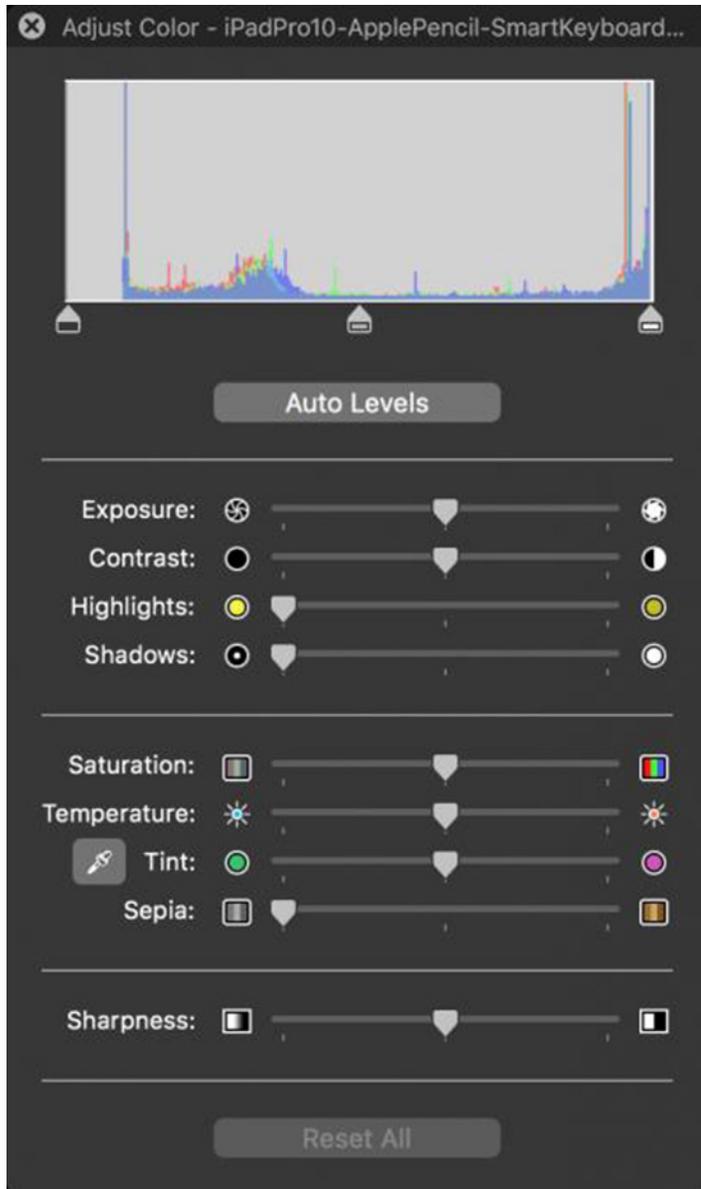


Then I undid that, selected the background again, inverted it with Edit > Invert Selection, and deleted the iPads and Apple Pencil, making for a neat silhouette effect.



Realistically, though, the main time we use the Instant Alpha tool is when we're working on a button or logo for a Web site, and the original image has a white or colored background instead of a transparent background. A few quick clicks and the background is history.

Adjust Colors — For the most part, we’ve been talking about editing images that someone created from scratch in a graphics app, rather than photographs. However, if you do find yourself needing to edit a photograph, Preview provides some surprisingly robust image adjustment tools when you choose Tools > Adjust Color (Command-Option-C). These tools are essentially identical to those that first appeared in iPhoto many years ago.



At the top of the Adjust Colors window is a histogram with three drag handles with which you can adjust the image’s white point, black point, and midtone. Click the Auto Levels button to get a suggestion of how to reset the white and black points. Then play with each of the sliders to get a feel for how they lighten or darken the image; if you don’t like how things turn out, you can reset all of your changes with the Reset All button at the bottom of the window.

The rest of the sliders are at least labeled, but we still recommend experimentation to see how each affects a given image. Remember, you can undo your adjustments at any time with Reset All. Here’s what they do:

- **Exposure:** If a photograph is too dark or too light due to being under-exposed or over-exposed, this slider will let you fix that. It’s mostly helpful in a small way to brighten photos that were dimly lit.

- **Contrast:** This slider lets you control the difference between the lightest and darkest areas in a photo. It’s seldom worth messing with much, though increasing contrast a little bit can make an image look crisper and more detailed.

- **Highlights:** This slider reveals detail in the brightest points of a photograph, which can be useful for making clouds more visible, for instance.

- **Shadows:** More generally useful than the previous one, the Shadows slider throws light on the darker parts of a photo, revealing detail that was previously hard to see. Since you’re most likely to use it on a dark photo, it will probably lighten the entire photo as well.

- **Saturation:** Use this slider to adjust how saturated the colors are. Moving the Saturation slider all the way to the left makes the image grayscale, which can be a useful effect, while sliding it to the right makes colors practically explode off the screen. If an image seems a little dull, try increasing saturation just a bit.

- **Temperature:** With this slider, you can make the image cooler (more blue) or warmer (more yellow). This isn’t terribly useful, but if the photo was taken in unkind fluorescent lighting, the Temperature slider might improve it a bit.

- **Tint:** While the Temperature slider lets you make an image more blue or more yellow, the Tint slider does the same with green and red. To make it easier to use, Apple provides a dropper next to it; select it and then click a part of the image that should be a neutral gray or white. That sets the Tint slider automatically. Click the dropper in a few different spots to see how they differ; the best way to evaluate how well it has worked is to look at some skin tones.

- **Sepia:** This slider is a one-trick pony; it reduces the saturation of the photo using sepia tones instead of grayscale. Crank it all the way up to give your image an “old-timey” feel.

- **Sharpness:** This slider can make your image blurrier or sharper. Blurrier might be helpful with an almost abstract sunset, but mostly you’ll want to sharpen photos to bring out more detail. Don’t go too far, though, since excessive sharpness can make the image look grainy.

To give an example of what these controls can do for your photos, here’s a photo Adam took recently at Cornell University’s Dragon Day. Unfortunately, because it was an overcast day, it looks less like a celebration and more like a funeral procession. Let’s see if we can brighten things up a bit.



First, I clicked Auto Levels to establish a baseline, and then I moved exposure up a bit to brighten the image. But increasing exposure blew out some of the clouds, so I darkened the highlights to make it look more natural, while also lightening shadows a bit to add more brightness. Then I upped the saturation to make the bright colors in the photo more vibrant. Finally, I bumped up temperature, tint, saturation, and sharpness just a bit to round things out.

The end result is a brighter, clearer photo. Now there's a celebration!

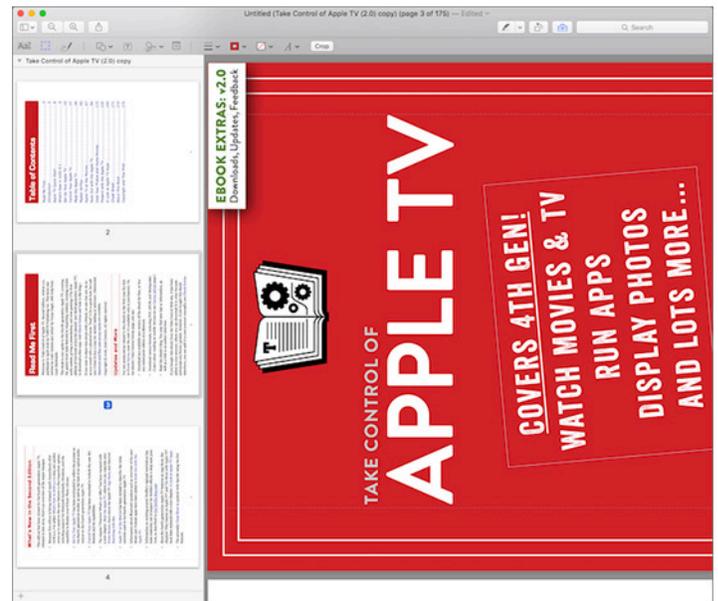


One last note about color. Preview supports color profiles, which define how different displays or printers can output color. In View > Soft Proof with Profile, you can choose a color profile with which to preview the image, and if you want to assign a particular profile, choose Tools > Assign Profile and pick a profile from the pop-up menu in the dialog that appears. These features could be useful for graphics professionals who care deeply about color reproduction, although we suspect they're using different tools.

Rotate Photos and Pages – Every now and then, you end up with an image which isn't rotated the way you want. Happily, Preview makes it easy to rotate images: choose either Tools > Rotate Left (Command-L) or Tools > Rotate Right (Command-R).

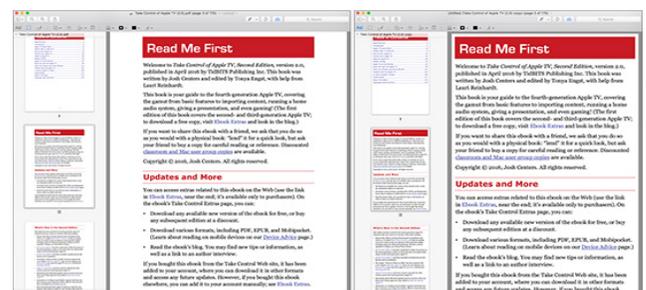
Less commonly useful than the Rotate commands are the next two in the Tools menu: Flip Horizontal and Flip Vertical. They rotate the image too, but around a horizontal or vertical center line. For example, Flip Horizontal can be helpful if you need a person's headshot to face a different direction. Flip Vertical is useful when you need to flip a photo upside-down.

Preview can also rotate PDF pages, which is only very occasionally necessary. When you rotate a PDF page, Preview rotates just the currently selected page, which probably isn't what you want. To instead rotate all pages, display thumbnails in the sidebar by choosing View > Thumbnails, select a page in the sidebar, choose Edit > Select All (Command-A) to select all pages, and then use the rotation commands. You can of course rotate just a subset of pages, if you want.



Crop Multiple Pages in PDFs – In "The Power of Preview: Cropping and Resizing Images," we said, "Preview crops only a single page at a time". It turns out that's not entirely true.

To crop multiple PDF pages, reveal the sidebar thumbnails as explained above and then use the Rectangular Selection tool on the page to select the area to which you want to crop (in the screenshot below, we're eliminating the white page margins). Once you've made your selection, click the current page in the sidebar and choose Edit > Select All (Command-A) to select all the pages. Finally, choose Tools > Crop (Command-K) to crop every page in the document to the selected dimensions.



Unfortunately, this still isn't all that useful, because Preview only hides content instead of deleting it, and there's no guarantee that other PDF viewers will honor the crop. It's probably most useful if you're trying, for instance, to make a bunch of postcards scanned as full pages into something more viewable.

Edit and Rearrange PDFs — As you're probably coming to realize, Preview gives you complete control over the individual pages in a PDF from the thumbnail sidebar view. Here's what you can do:

- **Rearrange pages:** Click and drag a thumbnail in a sidebar and move the page to where you want it in the document.

- **Delete pages:** Select one or more thumbnails (by Shift-clicking for a contiguous selection or Command-clicking for a discontinuous selection) in the sidebar and press Delete.

- **Combine PDFs:** You can drag thumbnails from one document's sidebar into the sidebar of another to copy pages between documents. Likewise, you can select all the thumbnails in a document's sidebar and drag them into another document to combine the two. This is particularly handy for combining scanned single-page PDFs into a single file.

At this point, it might seem as though we've covered everything Preview can do, but we have more in the wings! Stay tuned to TidBITS to learn more about the power of Preview. 🗑️

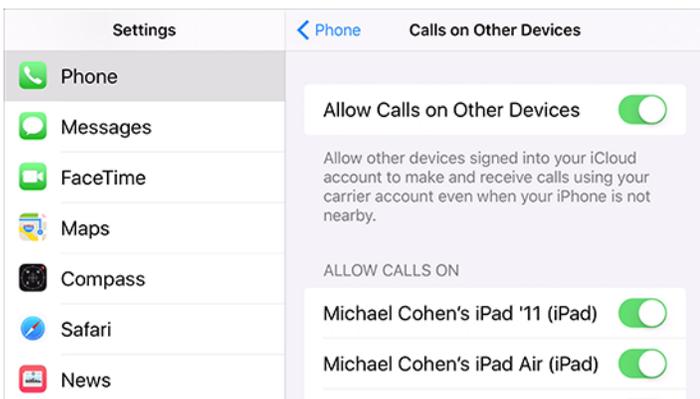
by Michael E. Cohen

Phoning It in on Your Mac

These days, when someone calls me on the phone when I'm at my desk, chances are I'll take the call on my speakerphone, which happens to have a 27-inch Retina display and stereo speakers: in other words, my iMac. If you have a Mac running OS X 10.10 Yosemite or later, and an iPhone running iOS 8 or later, [you can set them up to do the same](#) as long as both devices are on the same Wi-Fi network.

The first thing you need to do is to make sure your iPhone and your Mac are both signed into iCloud with the same Apple ID. On your Mac, you do this in System Preferences > iCloud; on your iPhone, you do it in Settings > iCloud.

Next, on your iPhone, go to Settings > Phone > Calls on Other Devices and turn that switch on. Then turn on the switch for your Mac, which appears on the same Settings screen; if you have other devices that also use the same Apple ID for iCloud, and you want to make calls with them, you can enable those devices as well.



With that out of the way, it's time to make your Mac phone-friendly, and the key to that is FaceTime. Open the FaceTime app in the Applications folder and go to

FaceTime > Preferences (Command-,) and enable Calls from iPhone. You may be asked to verify an emergency address for things like 911 calls; if so, go ahead.

If all goes well, that's it. Your Mac and your iPhone are now buddies as long as both are on the same Wi-Fi network: any calls to your iPhone's number will also ring on your Mac — as well as on any other devices you have enabled to receive calls from your iPhone. In my case, any call to my iPhone also rings on my Mac, two iPads, and my Apple Watch, so I have a wide choice of answering options! When a call comes into my iPhone, a notification appears on my Mac from which I can answer the call, decline it, or send it to voicemail using the pop-up menu attached to the notification's Decline button.



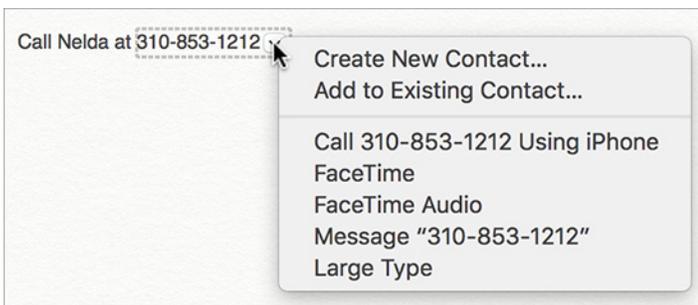
Note, though, for the Mac to receive calls, your iPhone has to be on (it can be sleeping) and within Bluetooth range of your Mac; that is, unless you have also enabled Wi-Fi Calling on your iPhone (Settings > Phone) and in FaceTime on your Mac (FaceTime > Preferences). [Wi-Fi Calling](#) works on any 2012 or later Mac running OS X 10.11 El Capitan, with the exception of the mid-2012 "cheese grater" Mac Pro, and an iPhone running iOS 9. In the United States, Wi-Fi Calling now works with all four major carriers: AT&T, Sprint, T-Mobile, and Verizon. For more on Wi-Fi Calling, see ["Turn on Wi-Fi Calling in iOS 9"](#) (28 October 2015).

So much for receiving calls. To make a call from your Mac, you have several options. One of the easiest is to use the Contacts app: go to the contact you want to call and then

hover your pointer over the phone number. A blue phone icon appears to the right of the number. Click the icon and your Mac calls that number.

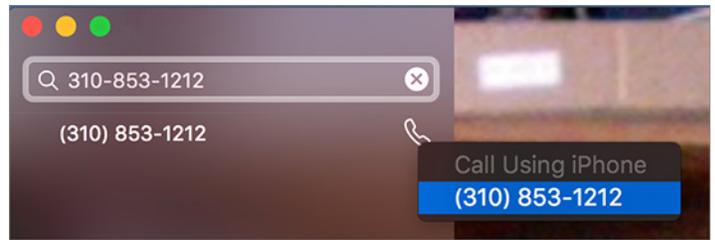


If you see a phone number in an email message in Mail, a Web page in Safari, or a note in Notes, you can also use that number to make a call. Hover your pointer over the number, click to see the pop-up menu, and then choose the Call item.



For those who are old-school and like to dial phone numbers manually, you can do that as well. Launch FaceTime and type the phone number into the FaceTime search field. The phone number appears below the search

field with a phone icon to its right: click the icon and choose the number shown in the menu.



FaceTime shows a notification as it attempts to make the call. Once the call connects, you can mute the call or end it from the notification, which stays on the screen as long as the call is in progress.



And what if the number you call is an automated phone system that requires you to enter numbers (“Press ‘1’ for more...”) ? Not a problem: make sure the FaceTime notification is selected and then enter numbers using the number keys on your Mac’s keyboard.

So the next time you’re working at your Mac and your iPhone rings in your pocket, don’t fumble around for it: take the call on the big screen. ☑

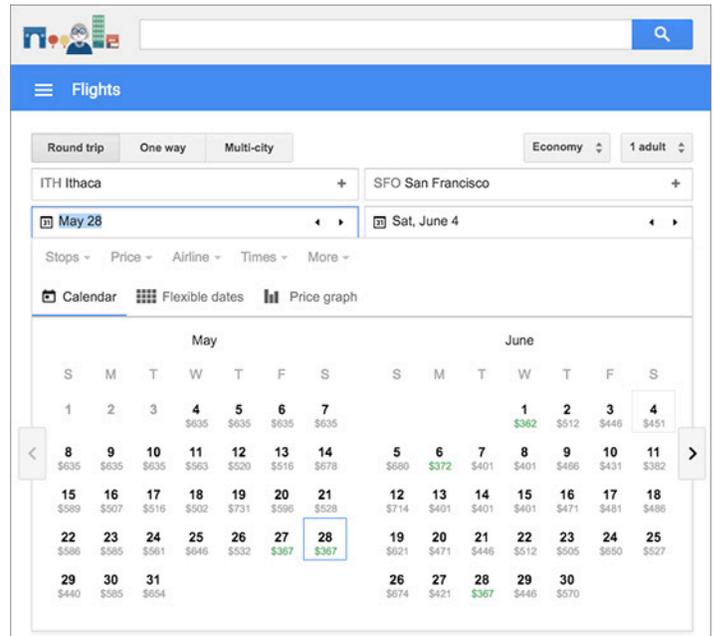
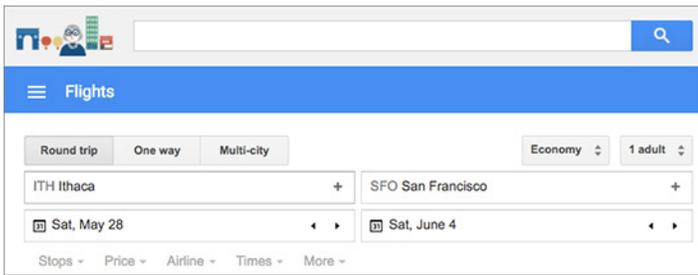
by Adam C. Engst

Google Flights Offers a Slick Travel Planning Interface

For some years now, whenever I’ve been planning air travel, I’d start with the [Kayak](#) app on the iPhone. (It’s fine on the iPad too, but just as the best camera is the one you have with you, the iPhone is the best travel planner for me, because it’s always in my pocket.) With Kayak, you can quickly specify where you’re flying from and to (with an option to check nearby airports), your travel dates, and how many people are in your party. Kayak then shows both outbound and return flights as groups, sorted by price, and lets you filter the results to eliminate trips with too many stops, or with awkward departure or arrival times. But setting up all these options, and fiddling with your dates, if you’re flexible and looking for inexpensive flights, gets fussy fast.

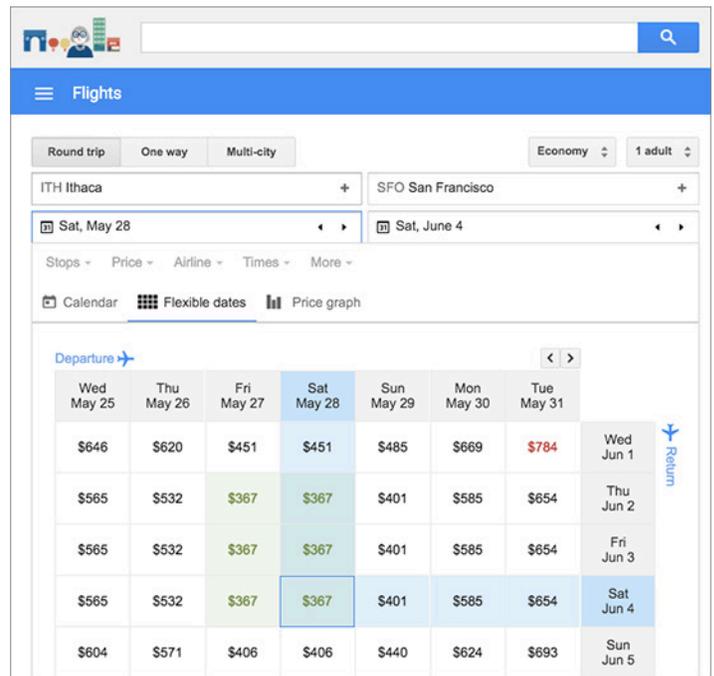
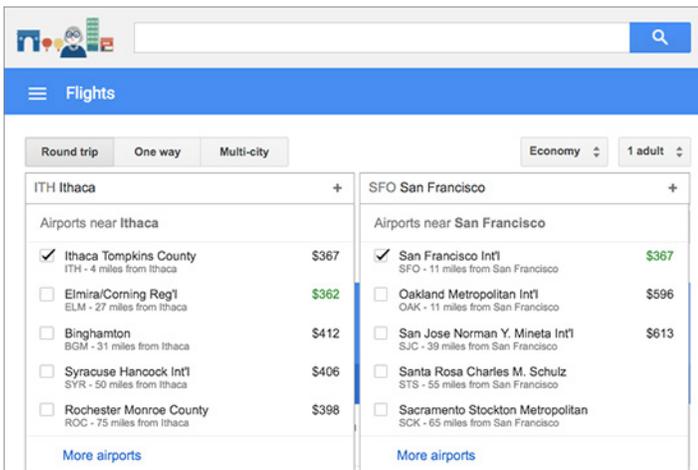
So when I ran across a mention of [Google Flights](#), a service that’s been around since 2011 but that I hadn’t heard of before, I gave it a try. Frankly, it’s an impressive demonstration both of what companies can do when they truly understand big data, as Google obviously does, and when designers put a great deal of thought into a Web-based interface that works for the user proactively.

The base interface is familiar: you choose a round trip, one-way trip, or multi-city trip; set the class of ticket you want; and say how many tickets you need. Then it’s a matter of entering the cities you’re flying from and to, along with your preferred dates. Filter menus below the date picker let you restrict the results by number of stops, price, airline, departure and arrival time ranges, overall duration, and connecting airports.



But the niceties become evident quickly. For instance, I live in Ithaca, New York, and three nearby airports often have lower prices than the Ithaca Tompkins Regional Airport. Clicking the + button in the Departure Airport field reveals a helpful popup that lets me include those airports in the search, showing the best price at each for my dates, and how far away they are. You might already know all this for your home area, but Google Flights also provides the same nearby airport information and pricing for destinations, which you're less likely to know. There's nothing new about travel planning services checking nearby airports, but none I've seen does as good a job of highlighting lower prices.

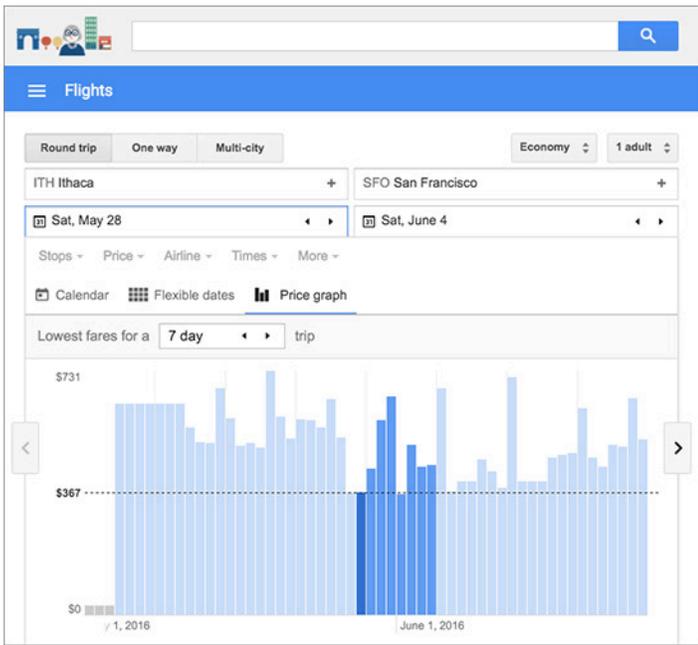
Calendar view works well for me, but Google Flights also displays the same information in a Flexible Dates view. It offers a grid with departure dates running horizontally and return dates going vertically and the lowest fares highlighted in green. Depending on how you parse data, it may be a faster and more understandable way to zero in on the best combination of travel dates and fares.



Google Flights continues that highlighting in the Calendar view, where you pick departure and return dates. Airline pricing varies hugely depending on how long you stay and on which days you fly, but few travel planning services do more than check for alternatives within a day or two of dates you specify, and they seldom make it easy to see how pricing changes with dates.

The third and final date-related view in Google Flights is the Price Graph view, which shows the lowest fares for trips of different lengths, starting on different days. Honestly, this strikes me as the least useful view unless you're planning a vacation where the dates are highly flexible and you want to optimize on price. But for us Type-A personalities who have to know we're getting the best possible deal, the Price Graph view can provide some welcome reassurance.

In its Calendar view, once you enter a departure date, Google Flights shows the best fare in small type under each possible return date, coloring the best ones in green. A single click selects your departure date, and the next click selects your return date, but to explore the options for earlier departure dates, click the left-pointing arrow in that field. As you do, the best fares change on the fly as Google calculates the cascading effect that different dates have on the length of your stay.



Once you've settled on your dates, it's time to pick out-bound and return flights. The first thing to notice is that if you were working quickly and didn't optimize your dates for the lowest possible fare, Google Flights tells you that you could get a notably lower fare by leaving on a different date.

When you've selected both your outbound and return flights, Google Flights gives you the options to book your tickets (which often requires sending you to the individual airline sites), save the itinerary so you can watch it for price changes, and share it. There's nothing particularly innovative here, and it can be a shock to switch from the clean, smooth interface of Google Flights to the cluttered, awkward airline sites. I presume the airlines aren't interested in giving Google unfettered access to their backend systems, much as it might be a win for the customer.

After you've picked a flight based on all the other standard variables, like departure time, total flying time, number of stops, and arrival time, Google Flights provides a clean display of the times and stops. Notably, it also helpfully provides more detail about the actual airplanes you'll be flying in. As you can see in the screenshot, short flights out of Ithaca never have Wi-Fi or in-seat power, but the longer hop from Detroit to San Francisco will have both, along with on-demand video. It even displays the average legroom.

One caveat. After the initial publication of this article, several TidBITS readers weighed in with complaints about how Google Flights worked with international flights. I don't have the experience or real-world opportunity to test such itineraries, but if you're not in the United States, or are planning travel to other countries, take the Google Flights prices with a grain of salt until you can verify them on the airlines' sites. As with all travel-planning services, Google Flights is only as good as its data, and nothing prevents you from trying Kayak or Expedia or Orbitz or any other competing service.

In the end, Google Flights isn't revolutionary, but it offers such a compelling interface that it's worth trying the next time you're planning a trip. 🗋

Rumors and Reality

Around Apple

- Apple is opening up app subscriptions to all product categories. Developers will be able, for example, to charge \$5 per year rather than just a flat \$5 fee, for an ongoing revenue stream. Subscription fee changes are also being implemented. Currently, Apple takes a 30 percent cut of subscription fees on the App Store, but now, if a customer stays subscribed to a service for multiple years, Apple will only take a 15 percent cut, leaving 85 percent of profits for developers.

What changes are coming?

- Any app can offer auto-renewing subscriptions, but Apple will evaluate whether it fits its guidelines. We don't yet know the full shape of what Apple will allow.
- Developers can price subscriptions at any of 200 different fixed price points, dramatically more options than before.
- Developers can charge different rates in different territories.
- Apps can offer not just different durations of subscriptions, but also different tiers, like standard, extra, and premium.
- Apps can have multiple non-overlapping subscriptions for different features or services.
- Subscription prices can change, and developers can choose to grandfather your existing price or inform you of an increase.

Apple is adding ads to App Store search results, something that was hinted at earlier this year. Ads will be displayed when a search is conducted and developers will have opportunities to purchase those ads for better app exposure. There will be one ad on the search results page, which Apple will clearly denote as an ad.

Recently, the Apple TV Top Charts stopped displaying apps that a user has installed, and that's a change that's rolling out more widely. The "Featured" section in the App Store will change dynamically for each user, no longer displaying apps that are already installed and Apple plans to bring the Categories tab back to the App Store.

- Some hardware news: It looks like the function keys on MacBooks will be replaced by an OLED (organic light-emitting diode) bar. If the report is true, function keys (traditionally shrunken on all MacBooks) will be replaced by an OLED display touch bar. There are no details on the bar's size and functionality, but it's not hard to imagine many uses for what is essentially a second screen beneath the main one (and a touch-sensitive one at that.)



The pictures represent possible configurations, which include third party information.

Apple is introducing a brand new file system with "encryption as a primary feature". Called the Apple File System (APFS), it is optimized for Flash/SSD storage and features strong encryption, copy-on-write metadata, space sharing, cloning for files and directories, snapshots, fast directory sizing, atomic safe-save primitives and improved file system fundamentals. APFS is released as a Developer Preview in macOS Sierra, and will ship in 2017.

Apple File System can be described as a common file system that works across all its platforms (Mac, iOS, TV, Watch).

Another feature of APFS includes something called Space Sharing, which basically lets multiple file systems share the same underlying free space on a physical volume rather than use a fixed amount of space for each file system. In effect the system can use any free space it can find on the drive regardless of partitioning. This lets APFS grow and shrink without needing to repartition the volume. Furthermore, each volume in an APFS container reports the same available disk space, which is equal to the total available disk space of the container.

When it comes to security and encryption, Apple File System supports encryption natively. Full disk encryption has been available for years on both OS X and iOS and APFS now combines them into a unified model that encrypts file system metadata.

The following encryption models are available:

- No encryption
- Single-key encryption
- Multi-key encryption



Multi-key encryption is especially interesting. Based on per-file keys for file data and a separate key for metadata, this encryption model ensures the integrity of user data even when its physical security is compromised — for instance, if someone made a copy of your device’s whole flash storage it would be almost impossible to read the data.

APFS volumes currently don’t support Fusion Drive and FileVault, cannot be used as a startup disk or for Time Machine backups and filenames are currently case-sensitive only. APFS formatted volumes are not recognized on OS X 10.11 Yosemite and earlier and existing third party utilities will need to be updated to support the new file system.

We fully expect the aforementioned limitations to be addressed as APFS gets closer to its launch some time next year.

macOS

- The next version of Mac system software is called macOS Sierra. It’s versioned as Mac OS X 10.12, and it will be available as a free download for all compatible Macs in the fall.

If you’re Mac was made prior to 2009, you won’t be upgrading to macOS Sierra. This is the first Mac operating system update since OS X Mountain Lion from 2012 that drops support for older models.

According to Apple, the official compatible hardware list of Macs capable of running Mac OS Sierra 10.12 is as follows:

- MacBook Pro (2010 and later)
- MacBook Air (2010 and later)
- Mac Mini (2010 and later)
- Mac Pro (2010 and later)
- MacBook (Late 2009 and later)
- iMac (Late 2009 and later)

To verify your Mac’s version: Open the Apple menu in the upper left corner and choose “About This Mac,” “More Info…” and the “Overview” tab. The model and year will be displayed at the top of the panel

- The Photos app will offer new Memories tab, where the app intelligently groups photos and videos in various “memories” that Apple hopes will let users relive experiences in new and unexpected ways. There’s also an intelligent search feature which allows searching photos for objects and scenes and uses computer vision technology to identify matches, and a “Places” album which displays all your photos on a map of where they were taken. Apple also describes a “People” album as new feature, so I’m guessing it must just use a better version of Apple’s previous face recognition technology, since that has already been a feature of older version of macOS1, known as “Faces”.

The Photos app will now automatically cut together your photos and videos into an instant family movie, complete with a rich, algorithm-determined soundtrack.

- macOS is getting a feature that is called Picture in Picture, named after the pre-DVR television technology that allowed grown men with children to watch a World War II documentary on the big screen, while watching a World War I documentary on a tiny one in the corner.
- In Safari 10, set to ship with macOS Sierra, Apple plans to disable common plug-ins like Adobe Flash, Java, Silverlight, and QuickTime by default in an effort to focus on HTML5 content and improve the overall web browsing experience. On a website that requires a plug-in like Adobe Flash to function, users can activate it with a click as can be done in Google’s Chrome browser.
- macOS Sierra will be the first Mac operating system to include Siri. Although many people are familiar with how the virtual assistant works in iOS, there will be quite a few differences on desktops and laptops.

On current Mac models, at least, the main way you’ll trigger it is by clicking on a new Dock icon, although during the keynote, a keyboard shortcut also seemed to be available. In any case, there will be a Menu Bar icon in the upper right.

Where the Mac will come into its own, though, is integration with Finder. Although opening the app itself may be easier for locating specific files, Siri will allow searches according to broad criteria like when files were last opened or who sent them. The system will moreover support contextual follow-up commands, which can narrow down results. Really more than anything else, Siri for Mac feels like a merger between the Mac’s Spotlight search and iOS’ Siri. You can ask Siri how much free space is available on your Mac, or to show all the files in a particular folder,

Something that remains to be seen is how the Siri SDK might open up third-party app functionality.

- Paying on a Mac using TouchID on an iPhone: In its next logical evolution, Apple’s Apple Pay technology has made the jump from mobile apps and NFC terminals to the web. Now you can pay online using Apple Pay on any website that adds support for it. When you’re ready to pay, the payment details will show up on your iPhone, and all you have to do is place your finger on the home button, or double tap the side button on your Apple Watch. This of course comes with Apple Pay’s standard industry-leading security.
- Universal Clipboard: Now when you copy something on your Mac it will be available automatically on the clipboards of your iOS devices, and when you copy on iOS, it will be available on your Mac
- Cloud Drive Improvements: With macOS Sierra, the Desktop and Documents folders on your Mac can now sync with iCloud Drive, making them available to you on

all of your devices. There's also a new Optimized Storage feature, in which the operating system will start offloading rarely used files into the cloud, where they will be available on demand, and will no longer take up valuable space on your Mac.

Of course, both of those features require that you have enough iCloud Drive space to store all those files in the cloud. Not surprisingly, Apple has still avoided changing their iCloud Drive storage tiers, with the free tier continuing to sit at a meager 5 gigabytes. On the bright side, Sierra's space saving techniques extend a bit further than just sending things to iCloud Drive. Apple claims the new OS will also have tools to help you find and remove duplicate files, as well as unneeded or obsolete files hidden around your system.

iOS

- iOS 10 will be released in the fall as a free download for iPhone, iPad, and iPod touch

iPhones compatible with iOS 10:

- iPhone 6s
- iPhone 6s Plus
- iPhone 6
- iPhone 6 Plus
- iPhone SE
- iPhone 5s
- iPhone 5c
- iPhone 5

iPads compatible with iOS 10:

- iPad Pro 12.9 inch model
- iPad Pro 9.7 inch model
- iPad Air 2
- iPad Air
- iPad 4th generation
- iPad Mini 4
- iPad Mini 3
- iPad Mini 2

iPod Touch compatible with iOS 10:

- iPod Touch 6th generation

iOS 10 does not support iPhone 4s, iPad 2, iPad 3, and iPad Mini 1.

To determine which model you have, check the incredibly small and incredibly light writing on the back of your iPhone or iPad for the model number. Then go to Apple's web site to match your model number with Apple's.

iPad: <https://support.apple.com/en-us/HT201471>

iPhone: <https://support.apple.com/en-us/HT201296>

- Apple announced that iOS 10 devices will transcribe voicemails.

- The new iOS includes a complete redesign of its Messages app, which is used for sending SMS messages but also iMessages. The app saw a long list of updates. Messages suddenly has stickers. It has the option to add a "SLAM" animation to your message, either in an ironic mic drop or out of legitimate anger that your teen is out past curfew.

Then there's Messages' new emoji button. All you have to do is type your message into the app as always, and the button will instantly transform your words into vague, cartoonish emoji. Emojis have now been made three times larger on-screen.

- Redesigned Lock Screen: iOS 10 has redesigned the Lock screen, giving it a clear background even when notifications, presented in neat cards with rounded corners, are in view, a search bar at the top, with date and time being moved to right side. A host of info, including widgets, appointments, Map suggestions and Siri App Suggestions can be accessed by swiping from left on the Lock screen.

- 3D Touch-Powered Interactive Widgets: With iOS 10, certain apps are getting the capability to display an interactive widget of info with a 3D Touch-powered physical hard-press. Some of the stock apps that supports this include Stocks, Weather and Calendar.

- Maps Redesign And Extensions: Since its disappointing debut years ago, the Maps app in iOS has seldom been deemed a viable alternative to the likes of Google Maps. It has taken a couple major iterations, but it seems Apple is finally gearing up to fix the problem. Not only has Maps been given a fresh coat of paint, it can now provide proactive suggestions for places you are likely to visit from your current location, and the ability to search for places of interest, even while receiving turn-by-turn directions.

The most significant change here, however, is the app's ability to integrate with third-party extensions, allowing users to make reservations at restaurants, book Uber rides and pay for it all through Apple Pay without ever having to leave the app.

- Photos App Improvements And New Memories Feature: OS 10 adds an entirely new section called Memories within the Photos app, which is meant to help you reminisce about good times with friends and family ala Facebook's On this Day offering. The tab intelligently collects photos from a trip, a get-together, or based on the people in your albums, and automatically sorts them into a collection called a Memory, which also contains the Memory Movie – a auto-generated video that contains all shots and clips from the collection punctuated by customizable titles, transitions and background music.

All of this is going to be made possible through "facial, object and scene recognition" built into iOS 10. The same capability will also allow you to search for photos by the people or objects within them.

- New Home App For HomeKit: Apple has finally seen fit to introduced a simple but highly powerful app

for HomeKit called Home into iOS 10. Rather than having to use multiple third-party apps to control different aspects of the connected home, Apple now allow users to invoke the power of the new app to interact with and control all HomeKit-compatible hardware, either individually or in custom groups, through one powerful interface.

- Removable Stock Apple Apps: With iOS 10, stock Apple apps can be deleted and then reloaded at will from the App Store.
- On the lighter side of things, intensity adjustment for the flashlight/torch? You got it.

Here's the list of other iOS 10 features:

- Read receipts by conversation in iMessages
- iCloud Drive Desktop folder
- Air Quality Index for China
- Faster Camera launch
- Continuity Clipboard
- Autocorrect improvements for Korean & Thai
- Notes collaboration
- Unlimited tabs in Safari
- Male and female Siri voices for Russia, Spain & Italy
- Definition dictionary in Danish
- Live Photos stabilization
- Markup in Messages
- Side-by-side Mail compose iPad
- Location suggestions in Calendar
- New iPad Camera UI
- Live Filters for Live Photos
- Conversation view in Mail
- Discover in iBooks
- Improved Auto Enhance in Photos
- Faster FaceTime connectivity
- CarPlay app reordering
- Split View in Safari on iPad
- Rest & type iPad keyboard
- Sort Favorites in News
- iCloud Drive Documents folder
- Bilingual dictionaries in Dutch & Italian
- Apple Pay in Safari
- Mail suggested move folder
- Air quality in Maps for China
- Found in Messages
- Brilliance adjustment slider in Photos
- Mail filters
- CarPlay on ultra wide screens
- Bedtime alarm
- Siri in South Africa & Ireland
- Definition dictionary in Traditional Chinese
- Live Photos editing
- Avoid tolls in Maps
- Mailbox column
- Faster attachment sending in Messages
- No Game Center app, service is still there.
- Delete stock Apple apps
- Re-download stock Apple apps from App Store
- Panes in Control Center
- New animations for opening and closing apps

- 3D Touch in Control Center
- New Back button
- New Folder view
- App Store gets back Categories tab
- Slide to unlock is gone from Lock screen, replaced by "press Home to unlock"
- Read receipts for individual Contacts in Messages
- New keyboard sound
- Cellular Data option in 3D Touch Quick Actions
- Take photos while listening to music
- Optimized storage for Music
- Today View in Notification Center removed from iPhone, still there on iPad
- Widgets now show up on left side of Home screen, as well as left side on Lock screen.
- Low intensity, Medium intensity, High intensity options for Torch/Flashlight
- New file system called 'Apple File System'
- Home screen widgets in 3D Touch Quick Actions
- Get Alerts on where you parked your car.
- In-line video playback in Messages, Safari and other apps.
- ReplayKit now allows live video streaming from apps and games, as well as screen-casting.
- iPad as hub for HomeKit instead of Apple TV.
- RAW support in Camera app.

watchOS

- It's not just a third draft; it's a total rewrite
- Both native apps and third-party apps will load much faster on watchOS 3, since favorite apps will be kept on the device's memory. But Apple first had to admit that the current software has been painfully slow.
- There's an SOS function, for making emergency calls.
- Apple is bringing its native Reminders and Find My Friends apps to the Watch so you can view your to-do lists and check them off and see how far away your friends (or, more likely, your family) are from you.

The Apple Watch has supported Apple Pay since day one, but now third-party app developers will be able to integrate Apple Pay as a payment option in their apps, which wasn't available before.

- Other changes were around health and fitness, since that's one of the most popular use cases for the Watch. There will be a watch face made up entirely of Apple's colorful activity-tracking rings, and another that offers a shortcut to the Workout app. People can share their activity data with other Watch wearers, so there's finally a social component. And the Watch will soon track activity levels for people confined to wheelchairs. "Time to stand!" becomes "Time to roll!"

One of the Apple Watch's most-used apps is Activity, which shows you how close you are to reaching your daily fitness goals with those addictive rings. Apple is giving

those features a huge upgrade in watchOS 3 with a Fitbit-like feature: competition. The next-gen operating system will put an activity-sharing feature on the watch.

The Apple Watch is also getting a brand-new health app called Breathe, which guides you through meditative, deep-breathing exercises. The new app can be launched from the watch face, dock, or through notifications that remind you to breathe.

- Rather than having to press firmly on the watch face to change faces, you can now just swipe, edge to edge, to change a watch face. Apple is ditching the idea of app “glances” on the Watch in favor of something more familiar to iPhone users: an app dock, accessible by pressing the physical side button. Press the button, swipe through recent apps, and launch and interact with them from there. And now, when you swipe up from the bottom of the Watch’s face, you’ll see a mini control center — something, again, that is familiar to iPhone users.
- A new feature in Apple’s WatchOS called Scribble will let you draw a message on your wrist under the table during dinner. That message will be sent from your Apple Watch.
- Apple said people switch watch faces according to occasion, so it’s bringing new options to watchOS 3. There’s a new face called Numerals, a dancing Minnie Mouse to complement the existing Mickey face, and watch

faces designed around activity rings, so you can see your daily rings in analog, chronograph, or digital versions. The next-gen watchOS also includes the ability to add Complications to faces, so you can see Weather on a photo, for instance.

tvOS

- As expected, Siri will get some enhancements in the updated version of tvOS. The voice assistant can now search the system’s database of 650,000 movies and shows using more complex topical queries, such as the “high-school comedies from the ’80s” example Apple VP Eddy Cue used onstage at the WWDC keynote.
- One of the biggest changes will use iOS as a proxy. The revamped Apple TV Remote app for iOS will now replicate all the features found in the hardware remote. It’ll use the phone’s mic for Siri queries, use its sensors for motion controls in games, and offer a touchpad interface. It’ll also (still) one-up the hardware remote by offering a keyboard for text input.

The other big change is that Apple TV has a new single sign-on feature, which lets you sign in once to authenticate all the apps that are part of your cable subscription. That update will also make it clear what you have access to in your app arsenal due to your cable package.

Software Review

Apple Updates

Brother Printer Drivers 4.0 for OS X

Jun 2, 2016 – 218.3 MB

System Requirements

- OS X Mavericks 10.9
- OS X Yosemite 10.10
- OS X El Capitan 10.11

This update installs the latest software for your Brother printer or scanner.

iTunes 12.4.1

Jun 2, 2016

This update addresses a number of problems where iTunes doesn’t work as expected with VoiceOver. It also restores the option to Reset Plays and fixes the following issues:

- Up Next may have unexpectedly played songs added together in the incorrect order.
- iTunes was prevented from crossfading between songs.

AirPort Base Station Firmware Update 7.7.7

May 24, 2016

System Requirements

- AirPort Extreme and AirPort Time Capsule base stations with 802.11ac.

Firmware update 7.7.7 is recommended for all AirPort Extreme and AirPort Time Capsule base stations with 802.11ac. This update improves the stability and performance of your base station.

This update:

- Fixes an issue which may prevent communication between clients on the same network
- Improves performance with an extended guest network
- Addresses potential naming conflicts with Bonjour Sleep Proxy

AirPort Base Station Firmware Update 7.6.7

May 24, 2016

System Requirements

- AirPort Extreme, AirPort Time Capsule, and AirPort Express base stations with 802.11n.

Firmware update 7.6.7 is recommended for all Apple 802.11n Wi-Fi base stations including AirPort Express, AirPort Extreme and AirPort Time Capsule. This update improves the stability and performance of your base station.

This update:

- Fixes an issue which may prevent communication between clients on the same network
- Improves performance with an extended guest network
- Addresses potential naming conflicts with Bonjour Sleep Proxy

Security Update 2016-003 Yosemite

May 16, 2016 – 454.8 MB

System Requirements

- OS X Yosemite 10.10

Security Update 2016-003 is recommended for all users and improves the security of OS X.

OS X El Capitan 10.11.5 Update

May 16, 2016 – 759.1 MB

System Requirements

- OS X El Capitan 10.11.4

The OS X El Capitan 10.11.5 update improves the stability, compatibility and security of your Mac, and is recommended for all El Capitan users.

OS X El Capitan 10.11.5 Combo Update

May 16, 2016 – 1.53 GB

System Requirements

- OS X El Capitan 10.11

The OS X El Capitan 10.11.5 update improves the stability, compatibility and security of your Mac, and is recommended for all El Capitan users.

watchOS 2.0 - 2.2.1

May 16, 2016

System Requirements

- iPhone 5 or later
- Available via OTA through the Apple Watch app

This release contains bug fixes and security updates.

This update includes support for pairing multiple watches to one iPhone, Maps improvements and new language support. This release also includes additional improvements and bug fixes.

- Adds support for pairing multiple Apple Watches to one iPhone
- Adds Nearby in Maps to browse for places around you by category, including Food, Shopping, and more
- Adds support for system language in Catalan, Croatian, Slovak, Romanian, and Ukrainian
- Adds support for dictation in Catalan, Croatian, Slovak, Romanian, Ukrainian, and English (Saudi Arabia, UAE, and Indonesia)
- Adds support for Siri in Malay, Finnish, and Hebrew
- Increases frequency of background heart rate measurements when you are stationary

Security Update 2016-003 Mavericks

May 16, 2016 – 370.9 MB

System Requirements

- OS X Mavericks 10.9

Security Update 2016-003 is recommended for all users and improves the security of OS X. 

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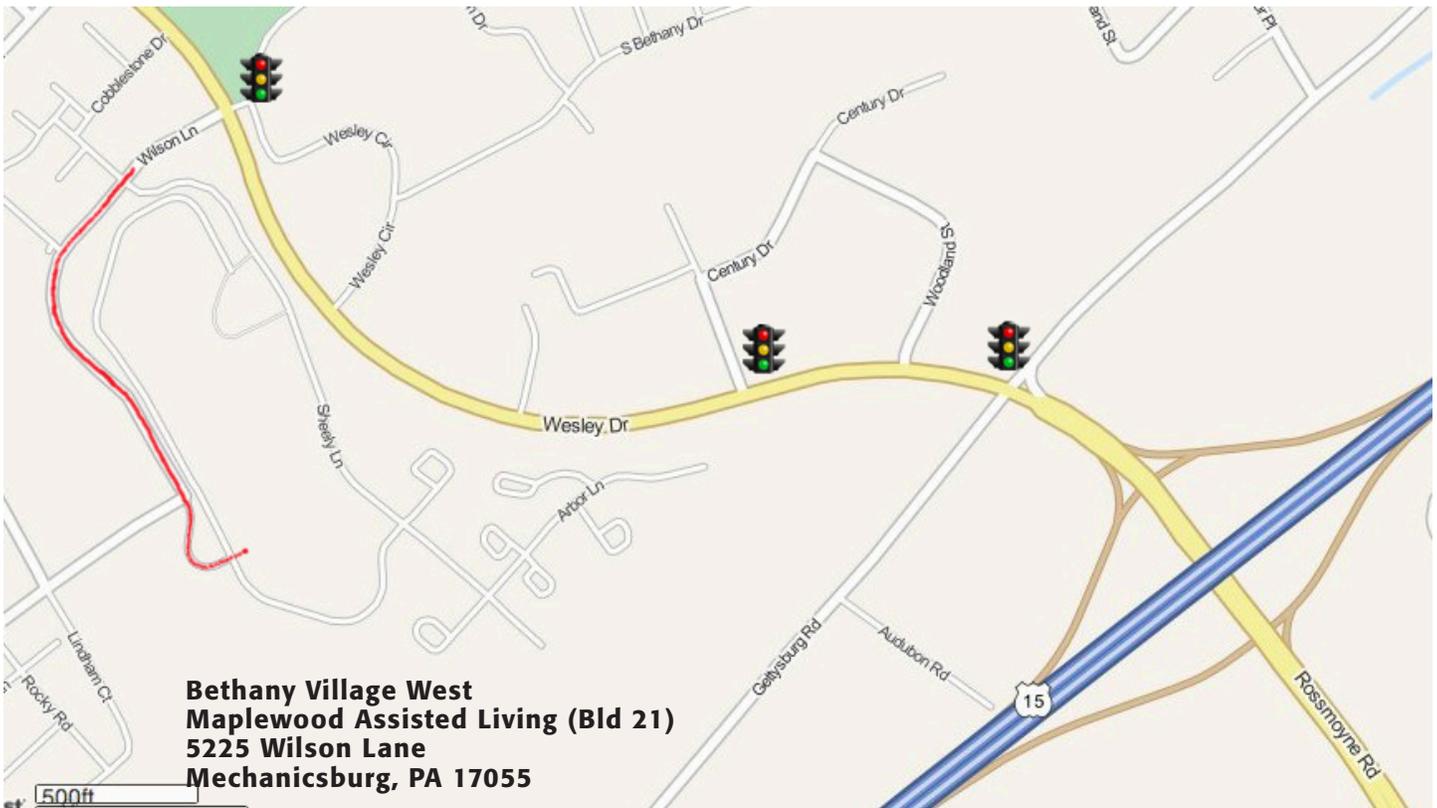
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Turn onto Wilson Lane from Wesley Drive. Follow Wilson Lane until you see Bld 21 straight ahead. There is parking to the right.

If the door to Bld 21 is locked, press the "Intercom" button. Tell them you are attending the Keystone MacCentral computer meeting.

We will be in the Education Training Room. In the lobby turn left, go to the end of the hall, and turn right. The Education Room is about half way down the hall, on the right.

