# Macworld

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FROM IDG

## HANDS ON

# iPhone 7

## CAN ITS STRENGTHS MAKE UP FOR ITS WEAKNESSES?

# MAKE BREAKFAST HAPPEN SO KIDS CAN BE HUNGRY FOR MORE

I was one of our nation's hungry kids growing up. Today, 1 in 5 children in America struggle with hunger. But when they get breakfast, their days are bigger and brighter. Learning, attention, memory and mood improve. Together, we have the power to get breakfast to kids in your neighborhood — let's make it happen. Go to hungeris.org and lend your time or your voice.

*Viola*

**Viola Davis, Hunger Is Ambassador**

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iPhone 7
hands on
**92**

Apple Watch
hands on
**101**

# Macworld

# THE CLOSER WE GET, THE MORE WE SEE

Experience the world's most amazing animals in one app. **WWF TOGETHER** – the new free app from World Wildlife Fund. Download it today.

worldwildlife.org/together

# 5 ways to launch Mac apps from the keyboard

Your hands never have to leave the keyboard when you need to open an app.

**BY KIRK McELHEARN**

Y ou know how to launch Mac apps: you click an icon in the Dock, or you double-click an icon someplace else, such as in the Applications folder. But there are also a number of ways that you can launch apps without taking your hands off the keyboard. Here are five ways to launch Mac apps from the keyboard.

### SPOTLIGHT

The simplest way to launch an app from the keyboard is to use Spotlight. Press the Spotlight keyboard short-cut (by default this is Command-Space) and type the first couple of letters of an app's name. For example, if you want to launch Safari, type `saf`. Spotlight should put Safari at the top of the list; press Return to launch it. If the app you want to launch isn't the first one in the list, use the arrow keys to select it, and then press Return.

You don't always need to type the first letters of an app's name for it to

**USING SPOTLIGHT,** you can quickly launch apps by typing a couple of letters.



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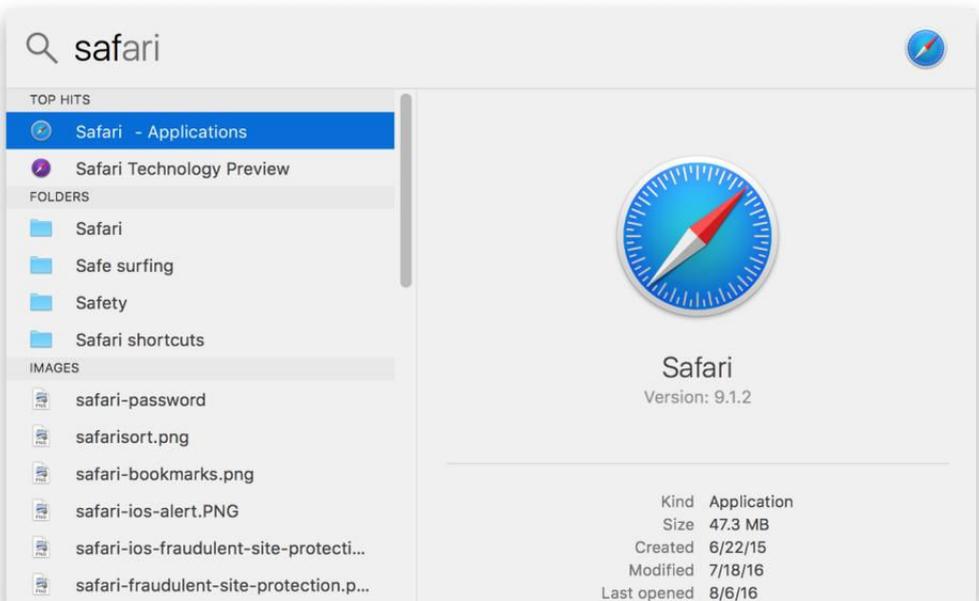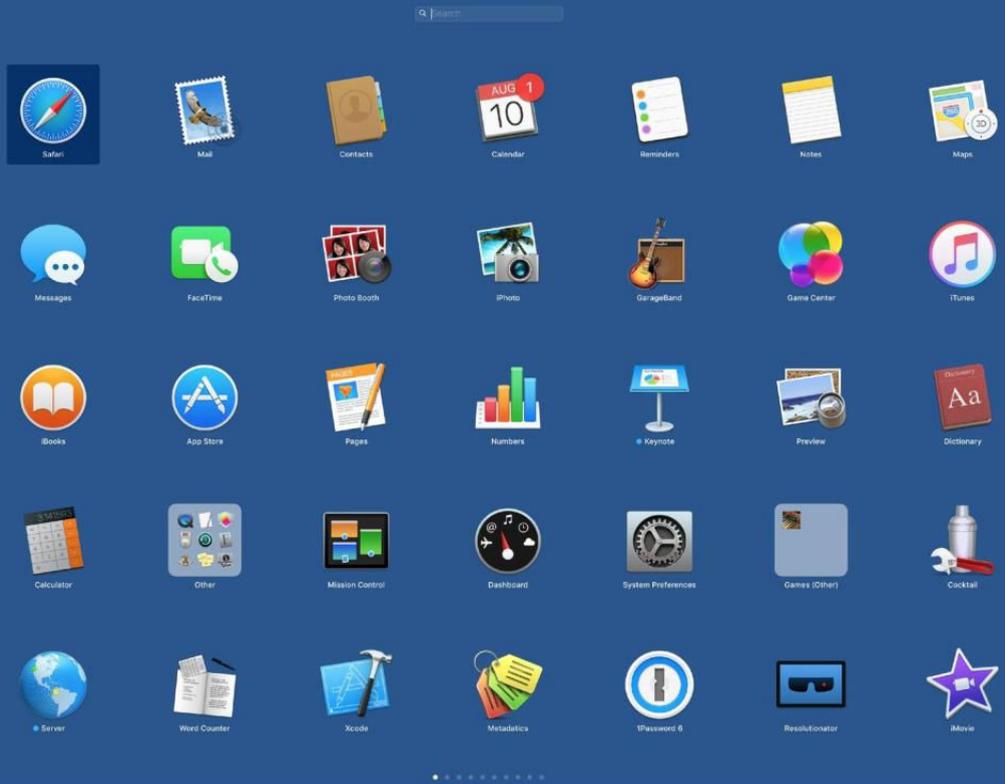
come up in Spotlight. If an app's name has two words, such as GarageBand or Microsoft Word, you can type, for example, **gb** or **mw** to zero in on it.

## LAUNCHPAD

Launchpad presents your apps with big icons on your screen, laid out in a similar way to iOS app icons on an iPad. To invoke Launchpad, press F4 on newer Apple keyboards (older Apple keyboards use F4 to launch Dashboard); on a Trackpad, use a pinching motion with your thumb and three fingers.

You'll see some of your app icons with a Search field above them. That Search field has focus; when you start typing, the characters automatically get entered into that field. Type the first couple of characters of the

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name of the app you want to launch. If it is the first app selected, press Return to launch it. If not, use the arrow keys to select it, and then press Return.

## APPLICATIONS FOLDER

Another way to launch apps from the keyboard is to do so in the Applications folder. It's not that hard to get to that folder; in the Finder, just press Command-Shift-A. As with Spotlight and Launchpad, you can type letters to access your apps. However, typing in a Finder folder merely selects an item; it doesn't hide other items in that folder, showing only the apps with the letters you type.

So, to launch an app such as Preview, type **pr**, and, unless you have another app whose name begins with those two letters, Preview is selected. Press Command-Down Arrow to open the app. Note that for apps with two-word names, such as QuickTime Player or System Preferences, you can't type **qp** or **sp**. The Finder's selection will jump to the second letter you type, so just type the first letter or letters, use the arrow keys if necessary to get the app you want, and then press Return.

## FROM THE DOCK

You can navigate the Dock using the keyboard, and therefore launch any apps that are in the Dock. To do this, press Control-Fn-F3. If the Dock is hidden, it slides out onto the screen. Use the arrow keys to navigate the dock, or type the first letter of the app you want to launch. Press Return to launch the selected app. If you want to dismiss the Dock, press Esc.

## USE A LAUNCHER

If you really want to use the keyboard to launch apps and do much more, you should probably look into using a launcher app. There are several of these: Alfred, Butler, LaunchBar, and Quicksilver. *Choosing the Right Keyboard-based Utility* (go.macworld. com/launchers) discusses the different features of these launchers.

The advantage to using one of these utilities goes far beyond simply launching apps. You can control many of your Mac's functions, navigate the file system, open, copy, move, and delete files, and much more.

With these five methods, you may find that launching apps is quicker and more efficient. You can use your keyboard more, and spend less time with your mouse or trackpad. ■

> **IF YOU REALLY WANT TO USE THE KEYBOARD TO LAUNCH APPS AND DO MUCH MORE, YOU SHOULD PROBABLY LOOK INTO USING A LAUNCHER APP.**

# How to turn on Twitter's quality filters and silence trolls

Twitter has a solution for stopping the hate on its social network: put trolls in cones of silence.

**BY IAN PAUL**

Twitter has finally come up with a solution to muzzle trolls. The company recently published a blog post announcing two new controls for filtering your notifications (go.macworld.com/filtertwitternot). Twitter notifications are the primary method through which trolls can contact and harass users.

The first new setting reduces the noise in your notifications stream. By default, anyone who mentions your Twitter username with the @ symbol shows up in your Twitter notifications. It doesn't matter if they're asking a simple question, offering constructive criticism, or threatening to cut your head off. Everyone shows up.

The new setting filters your notification down to solely people you follow. The new filter works on Twitter's apps and the website. It's not clear if third-party Twitter apps can also apply it.

**Why this matters:** Many—perhaps most—Twitter users don't really have a need for this kind of filtering. But for people such as celebrities, politicians, or outspoken feminists, Twitter notifications can be a very dark place. For these people, personal threats and other objectionable comments from random Twitter users are commonplace. The new notifications filters will

make Twitter a more hospitable place for anyone who wants to speak their mind without having to sort through a deluge of hate.

The unfortunate side effect of this, however, is that people who are being targeted for online harassment are effectively putting themselves in a bubble. In other words, the long-held idea of using Twitter as an "online water cooler" to chat and share ideas with strangers will be over—if it ever truly existed in the first place.

## IT'S ALL ABOUT QUALITY
The second new setting is called a

**TWITTER'S TWO NEW** notifications filters.
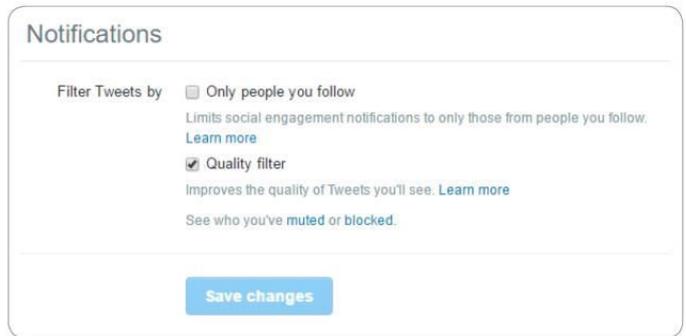
quality filter. This setting, which was turned on by default for my account, removes what Twitter calls "lower-quality content." This low-brow stuff can be things like duplicate tweets or bot-generated content. The quality filter affects your notifications and "other parts of your Twitter experience." Presumably, that means your primary timeline. The low-quality filter never restricts people you follow or those whom you've recently interacted with—don't feed the trolls, folks.

## HOW TO TURN ON THE NEW SETTINGS

Getting to the new settings is easy on Twitter's website. First log in to the service and then click on the Notifications tab. To the right of your mentions, click the new Settings link.

Alternatively, you can navigate directly to twitter.com/settings/notifications_timeline.

This settings area has two check boxes for filtering your tweets by

people you follow as well as applying the quality filter. Check or uncheck whichever box you'd like, select Save changes, and you're done. Accessing these settings via Twitter's mobile apps is similar. Mobile users should also tap on Notifications and then tap the settings cog in that area, which takes you directly to the two new filters.

If you don't see the new settings they may not yet be available for your account. Try updating your mobile apps or logging in to the website. If that doesn't work sit tight; the new features should show up for you in the coming days.

If you apply the filter to only allow mentions from people you follow it's also advisable to make sure your account restricts who can send you direct messages. You can double check this setting on Twitter.com by going to Settings ➡ Security And Privacy.

Now let the haters keep on hatin', because you'll never know one way or the other. ■



All   Mentions                                    Settings

♥   liked a Tweet you were mentioned in                    10s
     Aug 4: PC-nuking malware sneakily replaces popular free software
     on FossHub pcworld.com/article/310418… by @ianpaul
     pic.twitter.com/ImFnsNGbeL

**CLICK THE** Settings link in your Notifications tab on Twitter.com to get started.

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Make sure you
know where to find
your family
in an emergency

Ad Council | Ready | FEMA
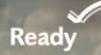
START YOUR PLAN AT READY.GOV

MOM

ALICE

ALEX

DAD

Grove St

Lincoln Ave

Bellevue

SoftGozar.com
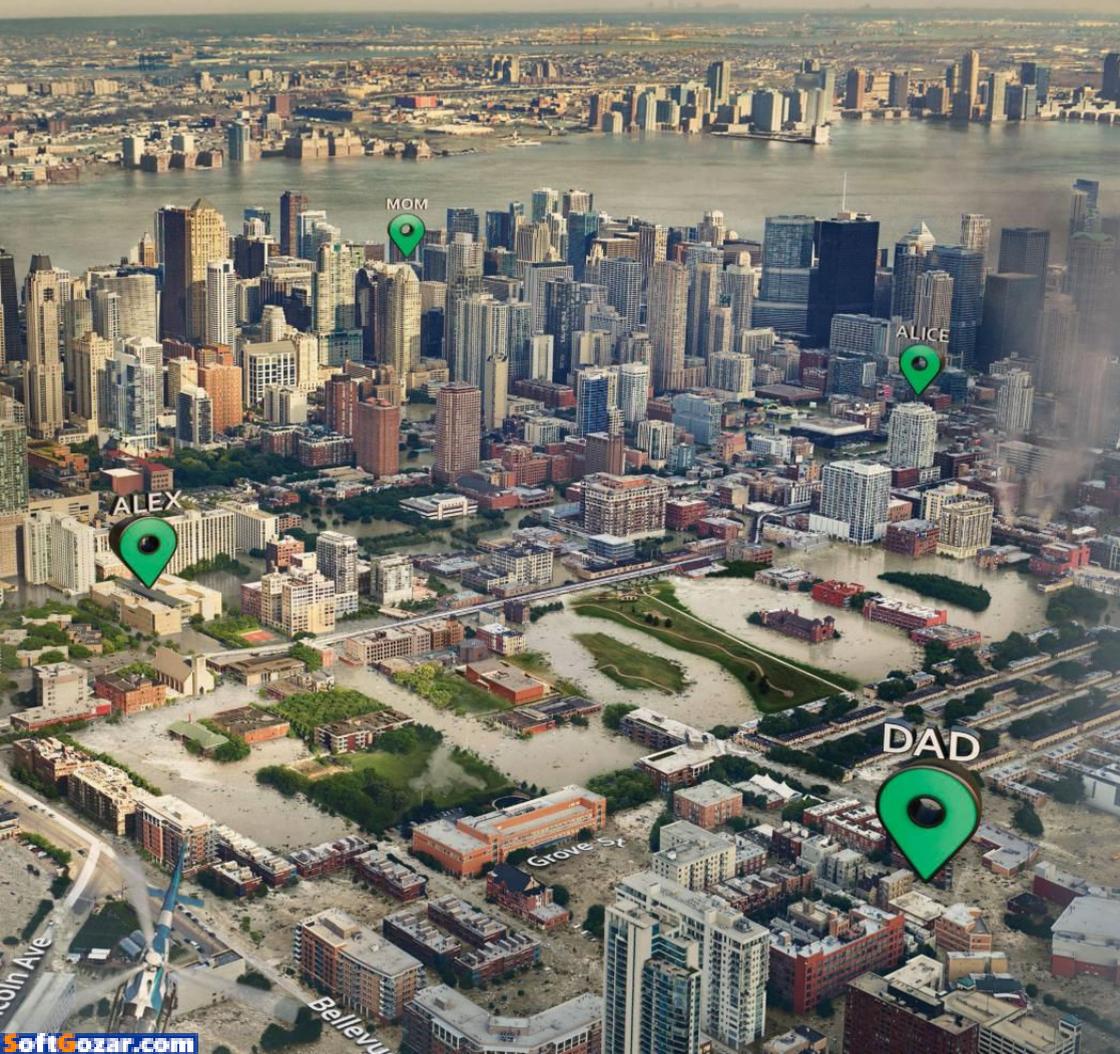
# Barbra Streisand says Apple is updating Siri on Sept. 30

Siri just can't seem to say her last name correctly, so Babs asked Tim Cook to fix it—and then leaked the alleged date when it'll be done.

BY SUSIE OCHS

# M

emories...light the corners of AI...misty programmed memories...of how to say my name...



"Learn to pronounce my name"

You can teach Siri how to pronounce your name correctly.

Barbra Streisand has already given us so much: some of the best chick flicks of all time, like *The Prince of Tides* and oh, my God, *The Way We Were;* the term *Streisand effect;* Fifty studio albums; a fun new way to spell *Barbara*.

And now she's getting Apple to fix Siri.

Well, a small part of Siri anyway. And she's even told us when it's supposedly happening: in an iOS update allegedly coming September 30.

Seems that our Babs has taken umbrage with Siri's pronunciation of her name: Apple's assistant says "STRY-zand" instead of "STRY-sand." (If you want to hear her butcher it yourself, ask Siri, "Who starred in *The Prince of Tides*?" Well, unless you're Blythe Danner, in which case you might not want to hear how she says your name, either.)

## WHEN SIRI GETS YOUR NAME WRONG

While you can teach Siri to correctly pronounce the names of people in your contacts list, the amazing Ms. Streisand doesn't expect all of us to add her name to our digital Rolodexes, although to be honest you could do worse.

Instead, Barbra went straight to the top. She appealed directly to Tim Cook. I mean, it's been bugging her for years, that every time someone talks to Siri about Barbra Streisand and her incredible career, that conversation is just a little less illuminating than it should be, since people are left with the idea that maybe the second S in her surname has a little more Z sound to it than it actually should. It's frustrating!

Tim Cook, gentleman that he is, agreed this should be fixed. And then our bestie Babs, duly excited as I'm sure we all would be, went on NPR (as you do), and spilled the happy beans. In an interview on Weekend Edition Saturday, she told Scott Simon that Apple would have an update for this pressing issue on September 30.

Wait, the last day of September? That would be a little unorthodox,

since Apple usually releases a major version of iOS earlier in September, just before shipping the new iPhones. (That way, the new iPhones ship with the newest iOS.) Apple might have told Barbra that the update would be out by the end of September, or maybe the Siri Streisand fix doesn't go into effect with iOS 10, but rather a 10.0.1 update that will come along later in the month.

Either way, I'm stoked. People, people who use Siri, are the luckiest people in the world. ∎

YOU DON'T HAVE TO **BE PERFECT** TO BE A PERFECT PARENT
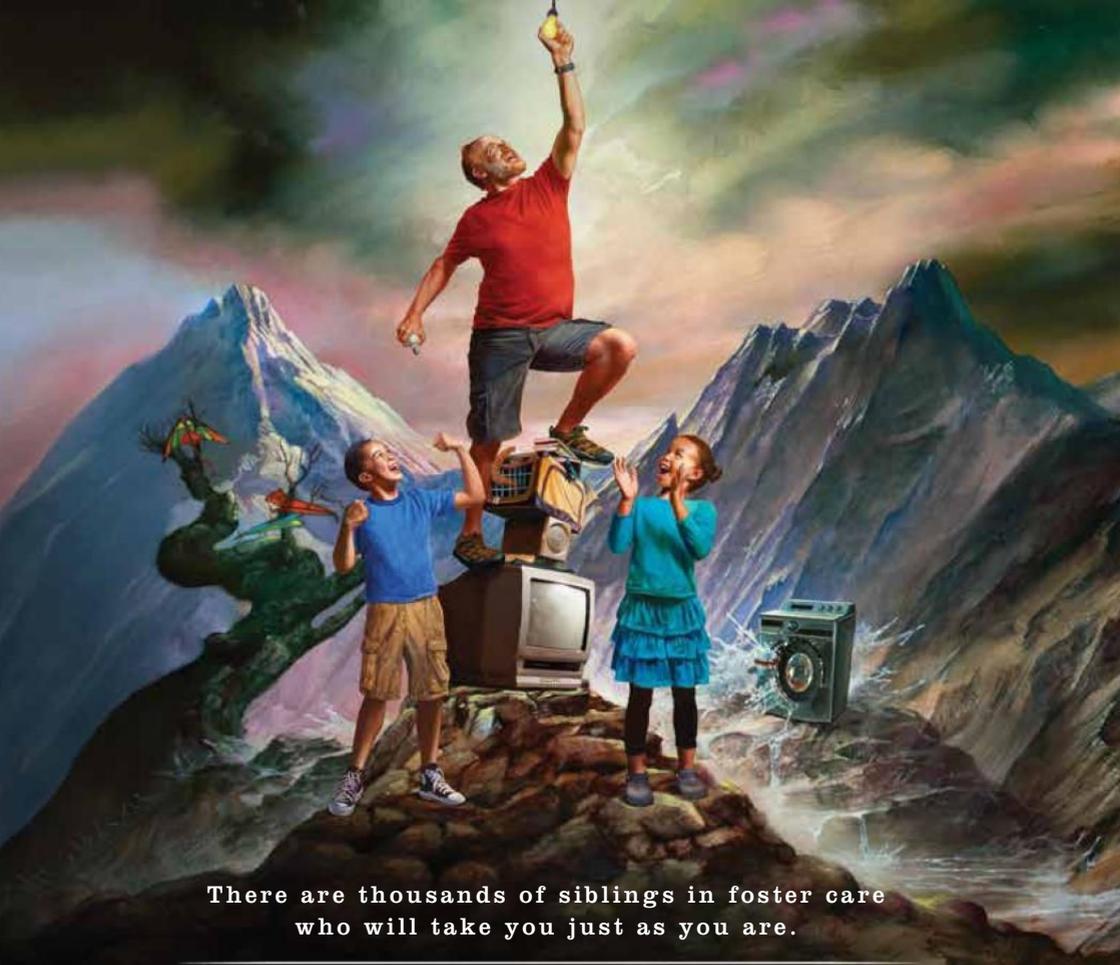
There are thousands of siblings in foster care who will take you just as you are.

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# Apple Music is so good that I'm totally trapped

Jason Snell doesn't want to quit Apple Music—he'd have to buy a couple dozen albums, for starters.

BY JASON SNELL

always resisted joining a music-subscription service. My former *Macworld* colleague Chris Breen was always a fierce proponent of them, first Rhapsody and then Spotify. (Now that Chris works at Apple, I assume he also likes Apple Music!)

I was never comfortable with subscription services. I was comfortable liking what I liked, and buying new stuff from familiar artists as well as new stuff from artists I discovered… elsewhere, and didn't see the value in an unending tap of music from every artist everywhere. The second was that I was concerned that by renting my music, I would end up trapped, with years of music discovery that would disappear (or have to be purchased at a high price) if I decided to cancel my subscription.

**DISCOVERING NEW MUSIC** on a streaming service is great…and just makes it harder to leave without paying hundreds for all the new music you don't want to live without.



Music I Didn't Buy But Would Have
338 songs • 20 hours, 42 minutes

Edit Playlist

| | | | | | |
|---|---|---|---|---|---|
| Inanimate Objects — Atlas Genius | Disappear Here — Bad Suns | Dreams – Single — Beck | California Nights — Best Coast | Patch the Sky — Bob Mould | Moth — Chairlift |
| The Bones of What You Beli… — CHVRCHES | Civil Twilight — Civil Twilight | Holy Weather — Civil Twilight | Story of an Immigrant — Civil Twilight | Teardrop – Single — Civil Twilight | Coasts (Deluxe) — Coasts |
| Best of Bowie — David Bowie | Brazil – Single — Declan McKenna | How Big, How Blue, How Be… — Florence + The Machine | What Went Down — Foals | Strange Little Birds — Garbage | BADLANDS (Deluxe Edition) — Halsey |

I've been a paying Apple Music subscriber for a year now, more or less, and I can report that my first complaint was completely wrong and my second was exactly right.

## THE JOYS OF DISCOVERY

Let me get the good news out of the way first: I was completely wrong about my lack of interest in music discovery. The fact was, when I would contemplate discovering new music, I could never quite picture how that discovery would happen. Maybe a friend would recommend something? Maybe I'd hear some-thing on the radio—which was a laugh, since I never listen to the radio...it would be like winning the lottery without ever buying a ticket. (My problems with the radio: ads, too much talking from people I don't want to hear from about things I don't care about, and the inability to skip songs I dislike.)

I discovered a band I like quite a lot, Say Anything, because I heard a track from their excellent album ...*Is a Real Boy* on an episode of the NBC Sitcom Scrubs. As you do.

It began to dawn on me that I had a problem discovering new music when I used Pandora over a week-end and ended up buying four or five albums from iTunes based on the music I heard. It was exhilarating and dangerous at the same time: I was discovering great new music that I liked! And then spending $50 in a couple of days to get it all.

Both sides of this equation are solved by a subscription service. Within a day or two of subscribing to Apple Music, I discovered its A-List playlists, curated lists of 50 current

> **IT WAS EXHILARATING AND DANGEROUS AT THE SAME TIME: I WAS DISCOVERING GREAT NEW MUSIC THAT I LIKED! AND THEN SPENDING $50 IN A COUPLE OF DAYS TO GET IT ALL.**

songs in specific genres. The Alter-native A-List became a huge discov-ery engine for me, leading me to discover great songs and artists and albums...all of which I could sample immediately, with no extra cost, because it was all part of my sub-scription. My colleague Federico Viticci of MacStories had a similarly enlightening experience with Spo-tify's Discover Weekly.

In the past year I have discovered songs I love, new artists who are now among my favorites, and a lot more—all for the cost of that monthly subscription to Apple Music. In terms of the diversity of my music listening, I feel like I'm doing better than I've

done since the days I was a DJ at my high-school radio station.

## A NICELY APPOINTED PRISON CELL

Now the bad news: I'm trapped now. Sure, I don't have to stick with Apple—though if I were to switch to Spotify I'd need to make a bunch of notes so I could reconstruct my favorite playlists and add music back to my library. But if I were to decide that the life of a music-service subscriber wasn't for me, that I didn't want to pay that monthly fee, the costs would already be large, even after a single year.

In the past year I've added 338 songs (including 22 full albums and a bunch of miscellaneous singles) to my music library, all via Apple Music and without buying anything. Even doing some triage to dump music that I wouldn't really want to listen to again, it would cost me something like $250 to buy that stuff on iTunes or Amazon. That's the buy-out fee for leaving a music-subscription service, after a year. And it's only going to go up every year, with every discovery of something new and great, and with every new release from artists I

already like. Within a few years, letting go of a music-subscription service will be unimaginable, even if I finally turn into a certifiable Old Person who no longer gets excited by new music.

What I'm saying is, Chris Breen was right, and so was I. The ability to have a spigot of

## NOW THE BAD NEWS: I'M TRAPPED NOW.

music at the ready—pretty much anything you want to listen to, in full, in high quality, if you can conceive of it—is miraculous. It works for me, and it works for the music-mad teenager who now lives in my house.

But my trepidation that it would become addictive, a service too precious to ever abandon once I'd spent time with it...yeah, that turned out to be true, too. I was born and raised as a music consumer, buying tapes and CDs and MP3 downloads and adding them to my personal collection, but now I've embraced the subscription music future...and found myself trapped in it. It's a luxurious sort of captivity, to be sure. But it's captivity all the same. ■

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DOWNLOAD UTILITY

# FOLX 5: HOW I LEARNED TO STOP WORRYING AND LOVE THIS MAC DOWNLOAD MANAGER

**BY J.R. BOOKWALTER**

**THINK YOU DON'T NEED** extra software for managing Internet downloads? If your web browser gets only an occasional workout transferring files one at a time, you're probably right. But if you frequently pull down multiple things at once, you could certainly benefit from a management utility.

In years past, the choice was simple: Yazsoft's excellent Speed Download tackled everything you could throw at it with its familiar,

## FOLX 5.0

♦♦♦♦½

### AT A GLANCE

Folx 5 is a full-featured download manager for OS X, with smart tagging, wide browser support, and a built-in torrent client.

### PROS

- OS X download manager with wide browser integration
- Clean, modern user interface
- Built-in torrent client
- Inexpensive Pro upgrade unlocks YouTube downloads, scheduling, and more

### CONS

- Best features require paid Pro upgrade
- No one-click option to clear list of completed downloads
- Menu-bar agent is too basic

### PRICE

Free; $20 Pro upgrade

### COMPANY

Eltima Software

iTunes-style user interface. But in early 2014, the developer suddenly called it quits. The application continued working until OS X El Capitan 10.11, at which point I finally had to say goodbye.

Yazsoft did recommend an alternative to Speed Download, but it wasn't quite the same. This supposed heir apparent wasn't as user-friendly, and worse yet, the user interface was downright ugly.

### TRAFFIC COP

Folx is a free download manager (mac-downloader.com) I've tried several times since the demise of Speed Download, but could never warm up to. While cleaner overall, the UI deviated radically from what I was used to, brazenly flaunting a terribly out-of-place woodgrain back-ground that hung around long after Apple's obsession with skeuomor-phism went out of style.

Earlier this year, Eltima Software announced the release of Folx 5 with a completely redesigned, Retina-friendly, and—at last!—eye-pleasing UI. But it's not just the absence of that faux woodgrain that has made Folx a utility I have come to depend on daily.

**MANAGE FILE DOWNLOADS** from the Internet in style with Folx 5, a free, lightweight Mac utility.
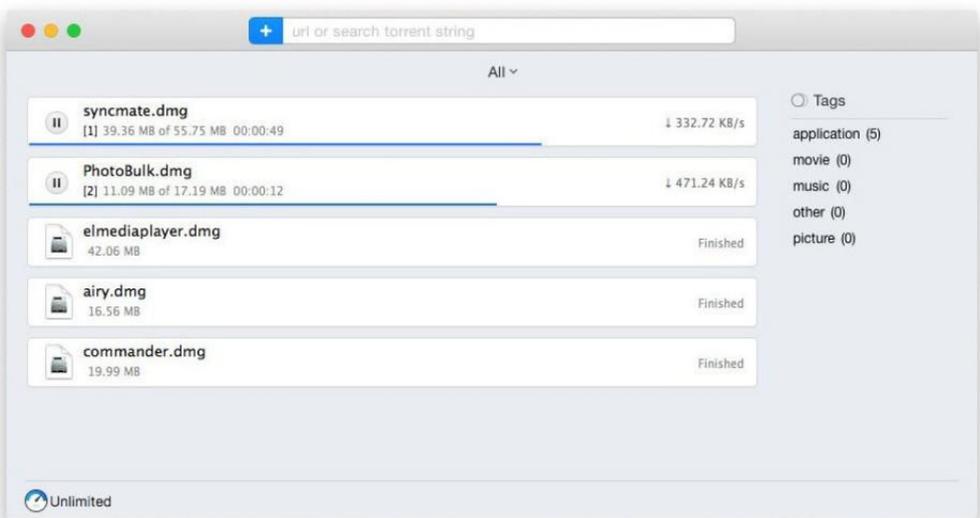
For starters, Folx includes a plug-in to "catch" downloads from Safari, Chrome, Firefox, or Opera browsers, allowing the application to take over downloading chores. This is important, because Folx splits transfers across two threads to help pull files down faster; the plug-in also works more reliably than Speed Download ever did. If a download is interrupted for any reason, the software will automatically resume from where it left off.

In addition to managing browser downloads, Folx 5 is also a full-fledged torrent client



with support for magnet links. I've always been partial to Transmission for downloading the occasional torrent, but Folx is more straightforward and easy to use. Downloads can also be assigned with one or more tags, making them easier to find in the list by clicking on only the entries you want to view.
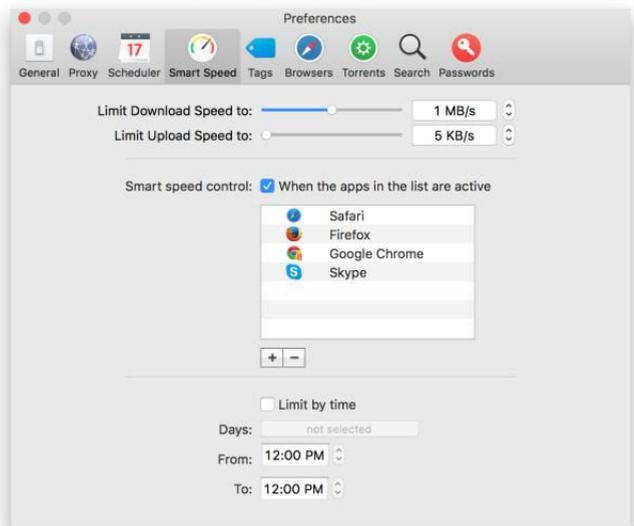
**FOR COMPLETE CONTROL** over transfers, use Folx 5's Smart Speed setting or manually choose the speed on a case-by-case basis.

**LIKE A PRO**

As feature-packed as the free version is, the highly recommended $20 Pro upgrade elevates Folx 5 to a must-have. Downloads can be split across up to 10 threads, with on-the-fly granular control over the desired transfer speed for each task by clicking on the gauge icon in the lower left corner. The upgrade also turns Folx into a YouTube downloader simply by pasting a URL and selecting the desired quality setting, which includes a handy audio-only option for music lovers.

Version 5.0 introduces a password manager, which has quickly become one of my favorite features. If you frequently download from websites that require authentication, being able to save and fill pass-words is a huge time-saver, and Folx makes the process seamless and automatic; you can also manually add host, username, and password credentials as needed. (Free users can only save data for two websites, but there's no limit for Pro upgraders.)

Perhaps the greatest argument for upgrading Folx is the ability to

**WITH A $20 PRO** upgrade, Folx 5 can not only download torrents, but also search for them as well.
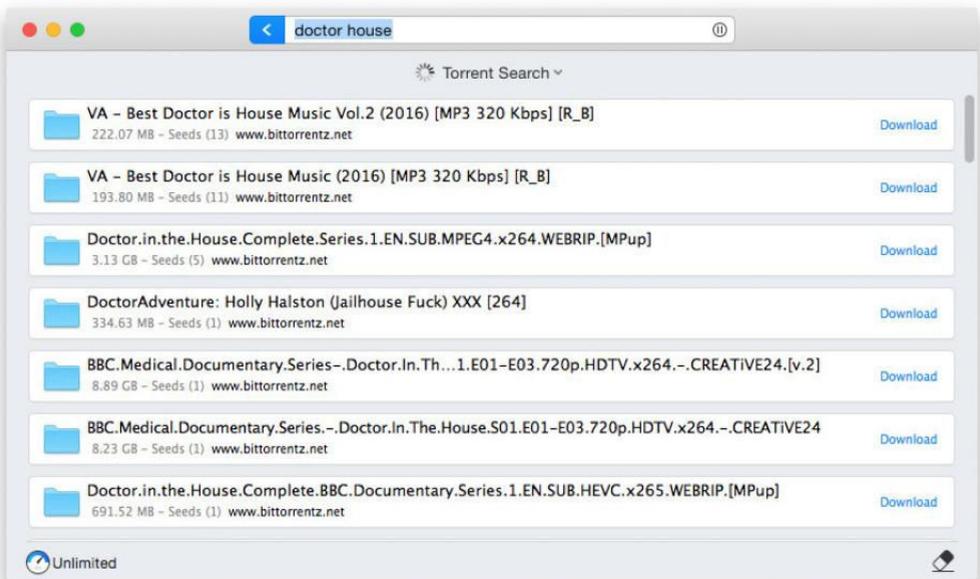
schedule downloads for a more convenient time; late at night while you're asleep, for example. This can be done on a case-by-case basis as downloads are queued, or on a global basis from the Preferences panel. Eltima has thoughtfully added auto-complete options to quit the application, sleep, or shut down the system when finished.

As much as my relationship with Folx has changed, there are a few things I'd still like to see. One is a button to clear completed downloads from the list with a single click; currently, you have to Control-Delete on the keyboard to accomplish this task. The menu-bar agent is also surprisingly sparse, and could benefit from controls for scheduling, transfer speed, or a progress indicator for when the main app is hidden.

**THE MENU-BAR AGENT IS ALSO SURPRISINGLY SPARSE, AND COULD BENEFIT FROM CONTROLS FOR SCHEDULING, TRANSFER SPEED, OR A PROGRESS INDICATOR FOR WHEN THE MAIN APP IS HIDDEN.**

**BOTTOM LINE**

It took more than a fresh coat of UI paint to convert me into a Folx 5 evangelist, but if you download Internet files with any kind of regularity, I recommend it highly—especially the Pro upgrade. ■

PRODUCTIVITY SOFTWARE

# JOURNALY: A GOOD MAC JOURNAL APP THAT MIGHT BE GREAT ONE DAY

**BY MICHAEL SIMON**

**BACK IN THE** pen-and-paper days, journaling required loads of effort. You needed to buy a dedicated notebook, keep it shielded from prying eyes, chronicle the day and date of each entry, and carve out a chunk of time to write in it.

Things are a whole lot easier now. Aside from the numerous note-takers that can double as a journal in a pinch, there are several apps dedicated to the fine art of chronological self-tracking. Led by the majestic Day One ($30 in the Mac App Store; go. macworld.com/dayone), today's digital journals are more than mere notepad imitators; with bold photos, location tracking, password encryption and powerful filters, they not only store your



### JOURNALY 1.5

**AT A GLANCE**

Journaly isn't as robust as some other journaling apps, but it has loads of potential.

**PROS**
- Lightweight and versatile
- Uses prompts to get you into the flow of journal writing
- iCloud support

**CONS**
- Interface quirks
- No iOS companion app
- Can't reposition photos or add captions

**PRICE WHEN RATED**

$20

**COMPANY**

Emberify
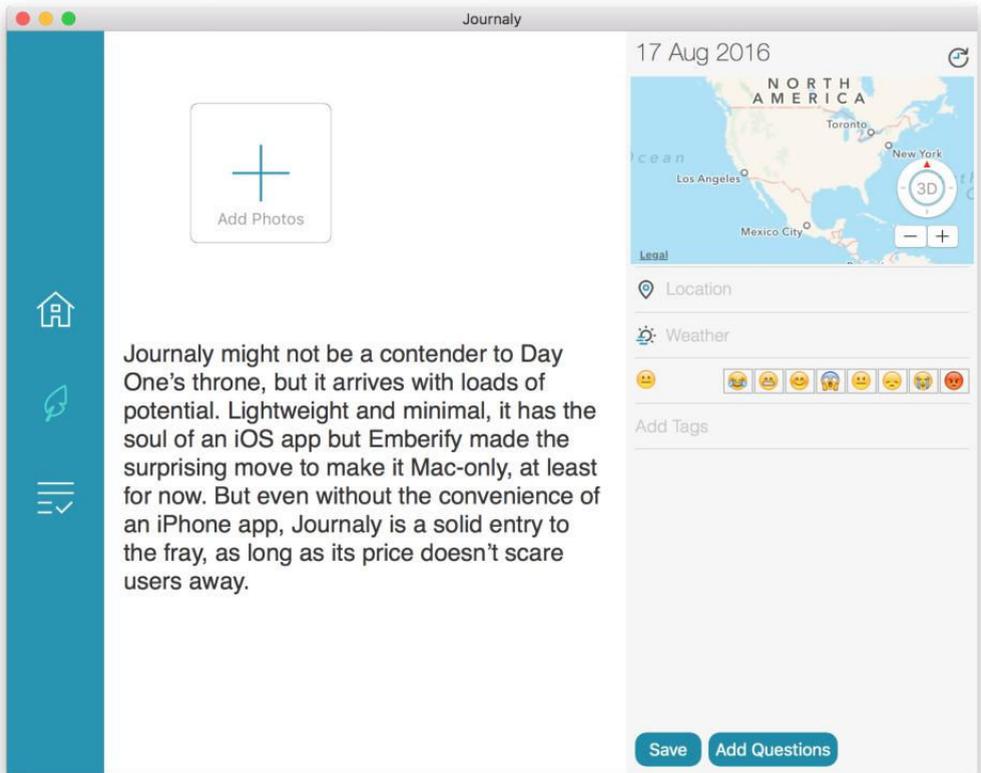
Journaly might not be a contender to Day One's throne, but it arrives with loads of potential. Lightweight and minimal, it has the soul of an iOS app but Emberify made the surprising move to make it Mac-only, at least for now. But even without the convenience of an iPhone app, Journaly is a solid entry to the fray, as long as its price doesn't scare users away.

words, they actively encourage you to keep up the habit.

Journaly ($15; emberify.com/journaly) might not yet be a contender to Day One's throne, but it arrives with loads of potential. Lightweight and versatile, it has the soul of an iOS app, but Emberify made the curious move to make it Mac-only. But even without the convenience of an iPhone app, Journaly is a decent entry to the fray that should get better with age, as long as its price doesn't scare potential users away.

### EASY WRITER
To get your creative juices flowing, Journaly utilizes a series of prompts designed to get you in the proper journal-writing frame of mind. Location, weather, and mood are included (the latter of which is designated by

**JOURNALY'S ENTRY SCREENS** provide an at-a-glance overview of exactly how you felt when you sat down to write.

emoji), but you can also add your own. Answers are pinned to the right side of the page, which brings a sense of uniformity to your journal, but a way to hide the fields on a per-entry basis would be a nice addition.

Elsewhere, Journaly doesn't deploy any hidden sidebars or disappearing panes of options, and in fact, there are barely any in-app preferences to speak of at all. While the content pane strikes a nice balance between minimal and crowded, customization is almost solely dedicated to expanding your content rather than changing how it looks. If you want to adjust the font or add emphasis, you'll need to access the OS X contextual menu and utilize the standard tools.

Since Journaly doesn't really feel like a text editor, the lack of Markdown support shouldn't be a surprise, but still, the actual writing process is simple and straightforward. Inserting photos is a breeze, but unfortunately you aren't able to reposition them within the text or add captions.

### WRITER'S BLOCKS
Journaly does a fine job with organizing your completed entries, which are arranged in a neat row with visible timestamps and pictures. If you can't find what you're looking for by scrolling, a live search bar will retrieve it in an instant. There's also iCloud sync support (though without an iOS companion, it's really only useful if you have two Macs), optional
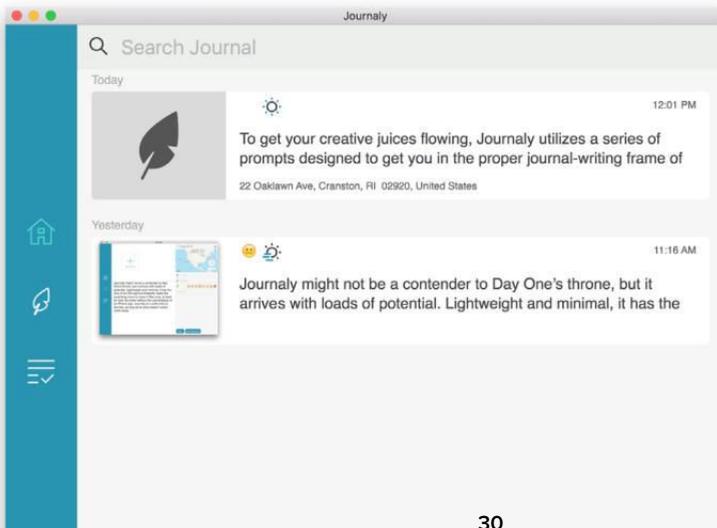
**PICTURES, TAGS, AND** live search keep your journal entries neat and organized.
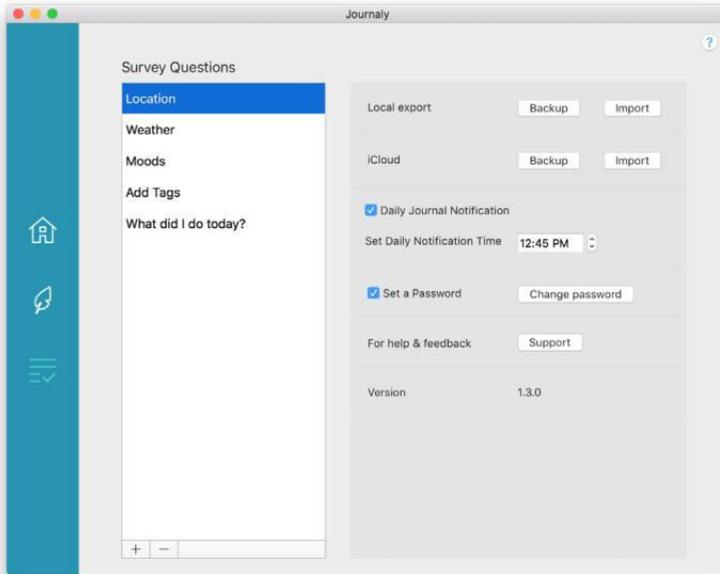
password protection, and data exporting.

If it seems like there's an overabundance of criticism about Journaly, it's mainly because of how much better it should be for its cost. It's a fun, unique take on journaling, but a $20 price tag (at the time of this writing, there's a introductory 25 percent off deal, which makes the app $15) comes with certain expectations. While Journaly mostly meets them where it counts, there's a constant sense that it's not quite all it could be.

Take this example: Each time you write an entry you'll need to press the save button when finished, and if you don't, a dialog box will warn you that your work will be deleted, without actually offering an option to save it. Like many of the quibbles here, it's not so much a nuisance as it is a wrinkle that diminishes the experience and distracts too much from the things it does well.

### BOTTOM LINE

Journaly has a good concept and design, but its price doesn't always jibe with its performance. ∎

USB DOCK

# KENSINGTON SD1500 USB-C MOBILE DOCK: GREAT FOR THE TRAVELING MACBOOK PRESENTER

**BY GLENN FLEISHMAN**

**THE KENSINGTON** SD1500 USB-C Mobile Dock ($89.99 MSRP; go.macworld.com/sd1500dock; $80 on Amazon; go.macworld.com/sd1500docamz) is another in an ever-larger collection of docks intended for Apple's MacBook and for other USB-C–equipped devices.

The SD1500 combines 4K monitor support (over HDMI), gigabit ethernet, USB 3.0, and VGA video. What it doesn't have is power pass-through. It's clearly intended as a dock you throw in a bag to use for presentations, but not for a working day at a desk. The built-in

**KENSINGTON SD1500 USB-C UNIVERSAL MOBILE DOCKING STATION**

★★★★

**PROS**
• Compact with built-in cable
• Handles both 4K and VGA video
Includes gigabit ethernet

**CONS**
• Cost relative to features
• Lack of pass-through power makes it of limited use

**PRICE WHEN RATED**
$89

**COMPANY**
Kensington

cord neatly bends into a curved slot for storage.

The combination of VGA and 4K makes the SD1500 stand out from some other docks that feature just an HDMI or DisplayPort connection. VGA is still widely used in corporate conference rooms and classrooms, and it's clear Kensington knows that market. Adding gigabit ethernet—which tested out at nearly the maximum possible throughput rate—is another nod to that environment, in which a wired connection might be preferable and available. (A driver has to be downloaded and installed to allow some OS X network operations while the computer is sleeping, but networking works without it, too.)

The USB 3 port gave me some trouble. I wanted to test throughput with both a 4K monitor connected and without, as USB-C has to commit some data lanes to DisplayPort video traffic for higher-resolution displays, and that in turn can reduce USB 3.0 rates to 2.0. Because of how the MacBook is set up, I didn't see a reduction in USB 3.0 speeds, but I wasn't able to get a MyDigital OTG USB 3.0 drive to work consistently with benchmarking apps.

During testing the SSD repeatedly would stall and then drop off the bus. I contacted Kensington, which tried to duplicate the problem with other brands of SSD, and sent me the reports; they had no problems. I tested the same SSD with a USB-C to Type-A (female) adapter from Apple connected to the same MacBook, and it tested out correctly. A hard drive I've used in previous USB 3.0 dock testing worked fine with the Kensington dock as well. I have to put this down to some firmware or interaction issue specific to the drive rather than the dock.

Since the most likely use of the USB 3.0 port is for an external key-board or other peripherals, drive reliability won't be an issue for most people in any case, and the problem I experienced seems particular to the mode.

The SD1500 is tailored to an audience, and the $90 price reflects it. Because it lacks pass-through power, you have to fit the profile rather exactly of managing whatever you need to with just two to three hours of battery life, considering the drain may be faster if you're running the video circuitry in your MacBook for a 4K monitor through the dock.

**BOTTOM LINE**
For the specific needs of the frequent video presenter, the Kensington SD1500 is the most compact, most versatile, and least complicated USB-C dock for the traveling MacBook user. ∎

STORAGE UTILITY

# PARAGON HARD DISK MANAGER: TOTAL CONTROL OF YOUR MAC'S STORAGE DEVICES

**BY J.R. BOOKWALTER**

**FOR MANY MAC** owners, the built-in Disk Utility is all they'll ever need. After all, Apple's software handles the basic task of formatting HFS+, FAT32, and exFAT volumes and partitions, along with the occasional need for one-click verification and repair of native OS X disks. (And with macOS Sierra, the RAID tools make a return; go. macworld.com/configraidsierra.)

However, there are plenty of valid reasons for wanting to do more with your drives, and not all are exclusive to technically inclined

users. A few examples would be optimizing OS X, Windows, and Linux file systems, performing a secure wipe, or backing up data in a more effective manner than Time Machine.

If there's anyone who knows what makes these file systems tick, it's Paragon Software. Founded over two decades ago, the company makes it easy to format, read, and write NTFS or ExtFS volumes on a Mac with the simplicity and performance of native media. Now they've gone one step beyond those drivers with an all-in-one storage utility that makes Apple's Disk Utility look positively feeble by comparison.

**AT YOUR SERVICE**
Making its debut on the Mac after years of services as a suite of Windows tools, Paragon Hard Disk Manager (go.macworld.com/paragonhd-



**PARAGON HARD DISK MANAGER** offers total control over storage volumes for Mac, Windows, or Linux.

System Integrity Protection is enabled

Hard Disk Manager as other low level or system applications require root access to have exclusive access to hard drives for proper functioning in a live and running operating system.

We offer you to have System Integrity Protection (SIP) disabled, otherwise the disk management operations that require changes on a system disk will be possible from a bootable media only.

SIP was introduced for the first time in Mac OS X 10.11 and is used as a foolproof to prohibit user operations in Mac OS X under the root privileges (such operations were allowed in all previous versions of Mac OS X).

☐ Do not show this message again

Create bootable media    OK

**FOR ADVANCED USERS** who want to get the most out of HDM, it's easy to create a bootable OS X Recovery disk that can be used to disable Apple's System Integrity Protection (SIP) for OS X El Capitan and later.

mmac) is an impressively solid first-version OS X software. Functionality is divided across two tabs: Disks and Partitions, where the majority of storage management tools reside, or Backup and Restore, used to create snapshot-based archives.

Hard Disk Manager (HDM) is compatible with OS X Mavericks 10.9 and later, including support for the latest macOS Sierra courtesy of a free update. At first launch, HDM installs a few required under-the-hood "auxiliary components," then displays a warning if System Integrity Protection (SIP) is enabled.

Introduced with OS X El Capitan 10.11, SIP prevents Mac software from gaining root privileges—great for combating potential malware, but a hindrance in the case of a utility like HDM. Senior contributor Glenn

Fleishman explained how to manually disable SIP (go.macworld.com/modifysipelcap) in a post last year, but HDM provides a one-click, Terminal-free method using bootable media that doubles as an OS X Recovery disk.

(A word of caution: SIP should only be disabled by advanced users who know what they're doing and understand the risks associated with modifying system-level files. It's not necessary or recommended for average Mac users.)

As a safeguard, HDM doesn't immediately run most tasks, instead queuing them up awaiting further confirmation from the Apply Operations button before proceeding; there's also an option to undo tasks from the queue. It's great for preventing potential mistakes, but the extra clicks do tend to slow things down a bit.
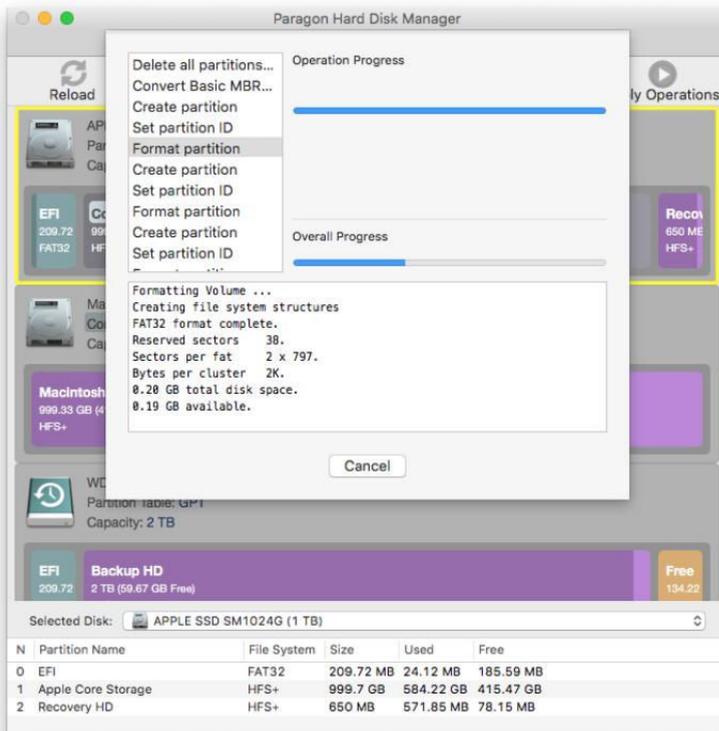


**WHETHER YOU NEED** to format, partition, check file system integrity, or securely wipe one or more volumes, Paragon Hard Disk Manager is ready to serve.
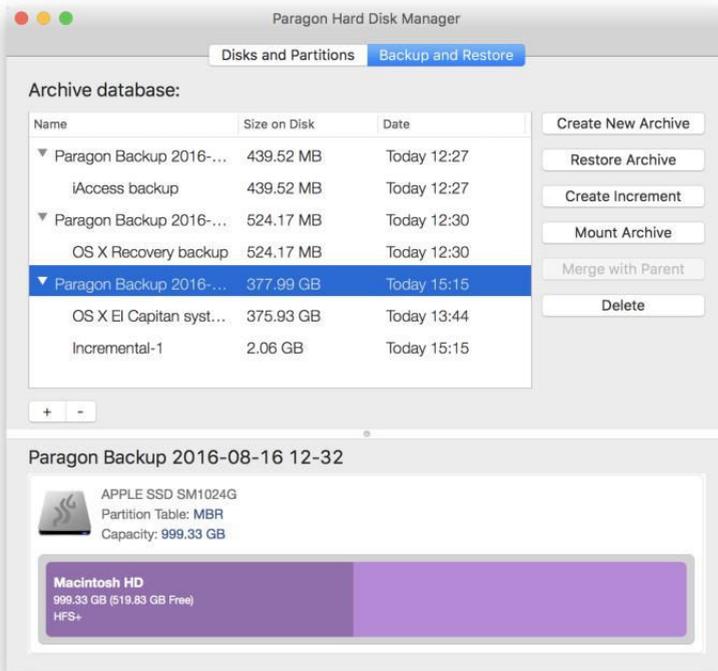
## DISKS AND PARTITIONS

Like Disk Utility, HDM's Disks And Partitions tab displays a list of all mounted volumes. But unlike Apple's dumbed-down approach, HDM provides more-detailed disk maps, which represent partitions and logical disks as color-coded bars based on the file system in use: Purple for HFS+, light/dark blue for FAT16/32, aqua blue for NTFS, teal for exFAT, green for ExtFS, or orange for free space.

Needless to say, this approach is vastly superior to Disk Utility, which displays information by content type, like an iOS device. There are two ways to use the utility—you can wipe or copy an entire disk and edit sectors by clicking the gear in the upper right corner, or act upon individual partitions from their respective settings below.

HDM also displays partition information as a list at the bottom of the window, with available options only a contextual menu away. Oddly, this method doesn't work from the graphical drive map, one of my few

quibbles with an otherwise excellent utility.

Although HDM can format, partition, and work with non-native NTFS or ExFS volumes, you'll still need Paragon's replacement drivers installed to access files. Also, despite the name, HDM works equally well with solid-state storage (SSD), USB flash drives, and Apple's hybrid Fusion Drives as it does with traditional platter-based disks.

### BACKUP AND RESTORE

One of Paragon's pride and joys is its Snapshot technology, which allows users to create an exact sector-level copy of the operating system and all user data. Compared to Time Machine and other Mac-native backup solutions, Snapshot offers improved performance, with system recovery times in minutes rather than hours.

The Backup and Restore options are laid out in a straightforward manner, and the Create New Archive wizard detects mounted OS X or Windows operating systems automatically, or you can manually select one or more partitions from the disk map. There's currently no way to schedule backups as part of a regular routine, but Paragon plans to introduce this functionality in a future update.

> **COMPARED TO TIME MACHINE AND OTHER MAC-NATIVE BACKUP SOLUTIONS, SNAPSHOT OFFERS IMPROVED PERFORMANCE, WITH SYSTEM RECOVERY TIMES IN MINUTES RATHER THAN HOURS.**

HDM saves archives as Paragon Virtual Hard Drive (PVHD) images by default, which supports incremental imaging. This approach minimizes the time and storage space required for subsequent backups of the same volume(s). The installation also includes a VMDK mounter utility for those who prefer this format.

Paragon maintains a nice balance between ease of use and more advanced features, although novices will want to spend a little time getting accustomed to the unique UI before they start tinkering with existing volumes.

### BOTTOM LINE

If you're longing for the more robust features of earlier Disk Utility versions or want complete command over connected storage devices, Paragon Hard Disk Manager is the way to go. ■

# Hot Stuff

## GRIFFIN TECHNOLOGY iTRIP CLIP BLUETOOTH ADAPTER

Griffin Technology's $20 iTrip Clip (griffintechnology.com) is a Bluetooth adapter that gives corded headphones the wireless capabilities needed to work with smartphones without headphone jacks, like the upcoming iPhone 7. It has a built-in mic so you can take calls or talk to Siri. Fully charged, this adapter can last up to six hours of play or talk time. Even if you don't own corded headphones, the iTrip Clip has another surprising functionality. Hook it up to your car's stereo system using an AUX cable, and just like that you can use Bluetooth to play music from your phone. **—OSCAR RAYMUNDO**

# Hot Stuff

## WD MY PASSPORT WIRELESS PRO PORTABLE HARD DRIVE

Available in 2TB ($230) and 3TB ($250) capacities, WD's My Passport Wireless Pro (wdc.com) will stream media via its 802.11ac hot spot for hours. It can also serve as a power bank for mobile devices. (If you're new to wireless media-streaming hard drives, they're basically a marriage of Wi-Fi hot spot and battery-powered USB storage.) Log onto the hot spot the My Passport Pro creates and you can stream music, video, or photographs from it to your MacBook, iPad, or iPhone. You can also use it like a NAS box or even a direct-attached USB 3.0 portable hard drive. The My Passport Wireless Pro ameliorates every complaint we had about its predecessor. It has a lot more juice, it's easy to use, and it has the ability to charge other devices. That's as good as it gets in portable Wi-Fi drives. **—JON L. JACOBI**

## BOOQ COBRA SQUEEZE LAPTOP BACKPACK

Booq's $195 Cobra Squeeze (booqbags.com) is the VW Beetle of laptop backpacks, using a dome shape so you can stuff as much as possible without creating weird bumps or needing an oversiz ed backpack. Its ability to be both compact and spacious at the same time was the most impressive aspect of all—the Cobra Squeeze could squeeze in even tight, crowded spaces like the subway or school hallways. The Cobra Squeeze has a dedicated laptop sleeve that can fit up to a 15-inch MacBook Pro. Then there's a second sleeve for your iPad. On either side of the backpack, you'll find easy-to-reach zippers for storing your iPhone, and these side-pockets have extra padding to avoid scratches. Furthermore, the Cobra Squeeze uses a water-repellant fabric in case of a rainy day, and the company has instituted a serial number tracking system to help recuperate lost Booq bags, making them a worthwhile investment. **–OSCAR RAYMUNDO**

# WHAT THIS PLACE NEEDS IS ACTIVE PLAY EVERY DAY.

Thanks to our work with NFL PLAY 60, we've brought fun fitness programs to more than 35,000 kids. And it can happen here too.
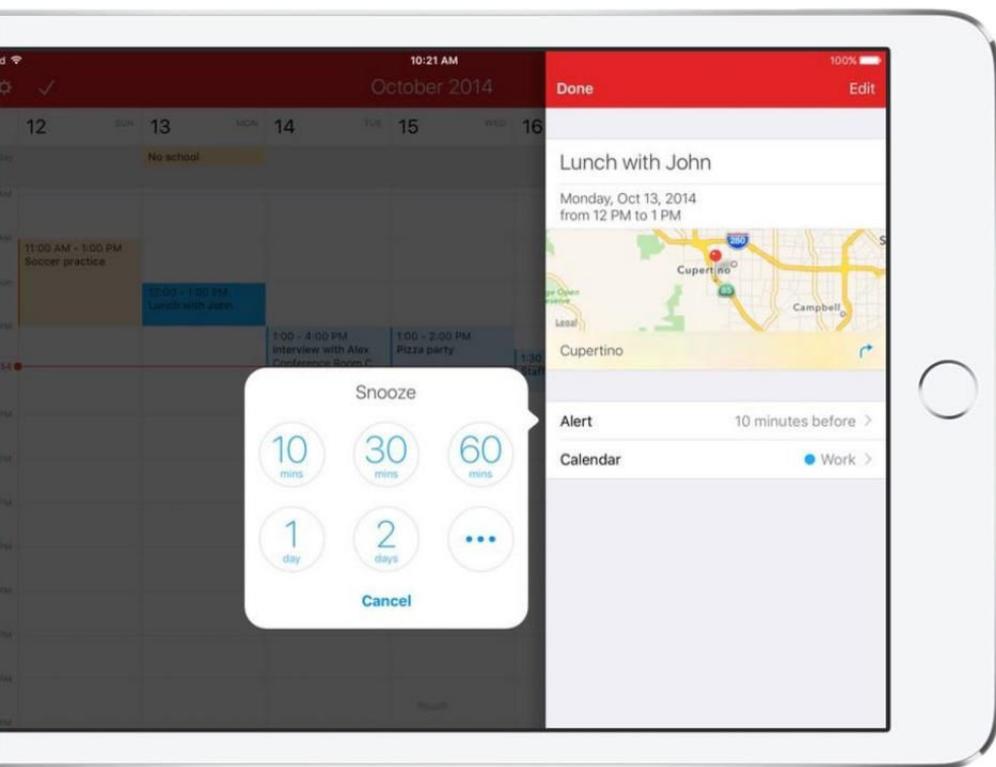
# The best calendar apps for the iPhone and iPad

With Sunrise scheduled to shut down soon, what calendar app should you get to replace it? Our list can help.

**BY MICHAEL SIMON**

n the age of the iPhone, the art of managing a calendar is so efficient that we barely have to spend any time thinking about it. Like a high-priced personal assistant, our calendars work even when we're not staying on top of them, dutifully pulling dates from emails and messages, and making sure we never forget a friend's birthday. The smart, sophisticated iOS interface has turned calendar-keeping from an active, urgent responsibility into a passive one, and pretty much everyone who owns an iPhone now partakes in some form of day planning.

The best iOS calendars in the field don't just look great, they offer their own unique concepts, distinguishing themselves by how they handle and present our data. Whether it's event input, intelligence, social integration, or notifications, calendar app makers have added a wealth of features and functionality to the stock iOS calendar, to the point where Apple has even begun to borrow popular features just to keep up.

Nowhere is this more evident than in the impending shutdown of Sunrise (which was scheduled to fold on Aug. 31, but Microsoft stayed its execution go.macworld.com/sunriseshutdown). When it launched back in 2012, it offered a refreshing spin on the classic calendar. With a variety of app integrations, it combined events from places like Facebook, Eventbrite, LinkedIn, and Foursquare to create a complete picture of your work and play commitments. Smart, slick, and stylish, its color-coded events and minimal monthly view set a new standard for digital day planning, showcasing the enormous potential of multitouch and
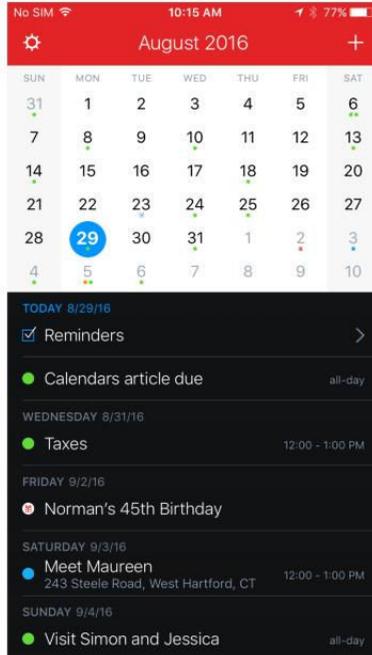


**FANTASTICAL'S SLICK DESIGN** gives you a tidy overview of your schedule, whether in day, week, or month view.

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**THE DAYTICKER PUTS** your events on full display, so you can check in and quickly get on with your day.

the untapped power of iOS. A steady stream of updates made it one of the best and most popular calendars in the App Store until Microsoft bought it in 2015 and subsequently announced that Sunrise would shutter in August this year. The company delayed the move to bring more features to Microsoft's Outlook email app.

But while bits of Sunrise can be found in Outlook, its influence can be felt on calendars all over the App Store. Its sleek design and unique

concept paved the way for genera-tions of digital day planners, and dejected devotees won't have to look far to find a worthy replacement. Here's our list of favorites.

### WINNER: FANTASTICAL

There are calendar apps, and then there is Fantastical (flexibits.com/ fantastical) ($5 for iPhone go.mac world.com/fantasticaliphone, $10 for iPad go.macworld.com/fantastical ipad). What started as a Mac utility for die-hard date keepers has turned into the measuring stick for all other mobile calendar apps. From its perfectly calibrated views to its downright pleasurable input screen, Fantastical doesn't just live up to its lofty name—you'd be hard-pressed to find a flattering adjective that doesn't apply.

Fantastical's main screen has a definite Sunrise-style feel, with a chronological list of appointments displayed below a full or partial calendar month. Instead of a choose-your-own-account method, Fantasti-cal piggybacks on Calendar, display-ing only the accounts you've subscribed to in Settings. Serious Eventbrite and Facebook users won't miss the in-app integration, however, as they likely have those events already plugged into their Google or iCloud calendars.

Its interface is simple enough to

grasp in seconds, but that's not to imply that Fantastical is merely a basic calendar. There are three views to choose from: The patented DayTicker, which boils your calendar down to only days that have events, a full dot-style monthly calendar, and a week view that offers an hourly overview of your upcoming schedule.

But while Fantastical can certainly function as a regular calendar, it's not as much about days as it is about events. Where other calendars will show blank slots between appointments, Fantastical's event list focuses solely on what you need to do. In fact, the only place you'll see free time is in the weekly view, and that's mainly for fixing scheduling snafus. It's not unlike a to-do app in that regard, and it's one of the many subtle ways that Fantastical sets itself apart from its competitors.

Event creation is an overlooked aspect of many calendar apps, but Flexibits spent considerable time on it. Foremost is its natural-language engine. It might not be as novel as it once was, but it's still delightful to watch it parse a jumbled string of words into a sensible event.

Fantastical requires separate purchases for the iPhone and iPad, but the money is well spent. Whether you have a mini or a Pro, Fantastical makes the most of the extra pixels, adding support for Split View and

Slide Over, as well as an expanded design that puts a greater emphasis on the calendar. And if you own an Apple Watch, you can get reminders and add events right from your wrist. But the iPhone app is the star here, offering excellent on-the-spot event creation and at-a-glance scheduling all in one of the most beautiful interfaces you're likely to find. And if that's not fantastic, I don't know what is.

### RUNNER-UP: CALENDARS 5

Readdle has been selling a calendar app for nearly as long as Apple has
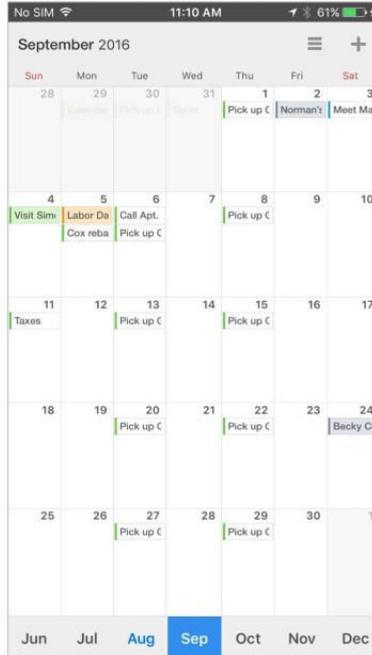


**NO MATTER WHICH** view you choose, Calendars 5 will give you complete control over your events.

been making the iPad, and that experience can be felt all throughout Calendars 5 ($7) (go.macworld.com/calendar5). Powerful, versatile, and just a little bit fun, the deluxe day planner will dutifully track your day with power and panache that defies its mobile status.

A variety of views is common among most top-tier calendar apps, but Readdle leaves no stone unturned, offering calendars in all shapes and sizes: You can choose to see your day, week, or month; a list of your events; or filter down to just tasks. While you won't find anything to rival Fantastical's DayTicker among the fairly standard display options, its variety of views is a testament to just how well Calendars anticipates and responds to its users' needs.

Like Fantastical, Calendars picks up all of your iCloud entries, but a separate sign-in gives Google users a bit more control over syncing. All of the usual features are present here—recurring events, reminders, alerts, etc.—but Calendars employs a natural intuition that makes the whole process quite enjoyable. For instance, you can tap on an event to open a floating window that will tell you more about it (or let you change something). Or double-tap a box when in full calendar mode to quickly shift to that day's view. Or my favorite: If you want to resched-

ule an event, simply drag its tiny colored rectangle to a different date.
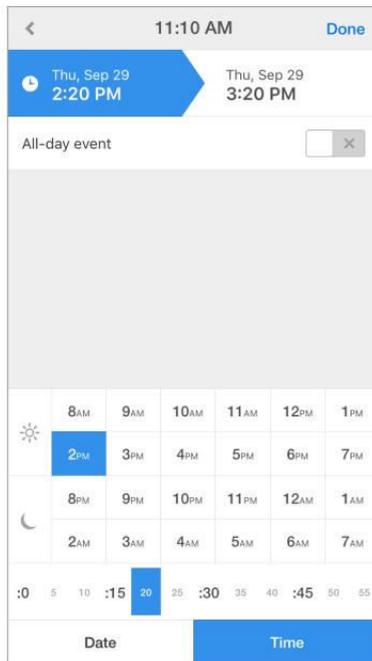
And drag-and-drop isn't the only desktop-caliber feature. Very little about Calendars feels much like a mobile app, and its utilitarian yet still elegant interface would be right at home on OS X. Even on the iPhone, Calendars' user experience belies its tiny screen, with smart gestures and slick navigation that make scheduling a breeze.

When it comes to event creation, Calendars excels there too. While its

natural-language engine isn't quite as mesmerizing as Fantastical's, it does well to understand what you type or say, whether it's a simple lunch meeting or a weekly task. And if you want to do things the old-fash-ioned way, Calendars' date selector is one of the best you'll find, eschew-ing dials for a grid method that eliminates any fumbling and lets you create even custom recurring events in seconds.

And that, in a nutshell, is Calen-dars' main appeal. Everything about it is designed for speed and simplic-ity, and after using it for a few days, Calendars just might be the sole calendar you'll ever need.

### BEST FOR ANDROID SWITCHERS: GOOGLE CALENDAR

When you're in a strange land, a little familiarity is always welcome. The same is true with OSs. There might be a fair amount of overlap with Android and iOS, but switchers still have a lot of new stuff to learn. Thanks to Google, a calendar isn't one of them.

Google Calendar (go.macworld.com/googlecal) on iOS (free, iPhone only) is pretty much a carbon copy of the version it offers for Android users. While it may look out of place next to the calendars here that follow Apple's interface guidelines,

Google's Material Design isn't without its charms. And with iOS's lag-free scrolling and touch response, Android users might actually get a better experience than the one they're used to.



**ANDROID SWITCHERS WILL** instantly know their way around Google Calendar on the iPhone.
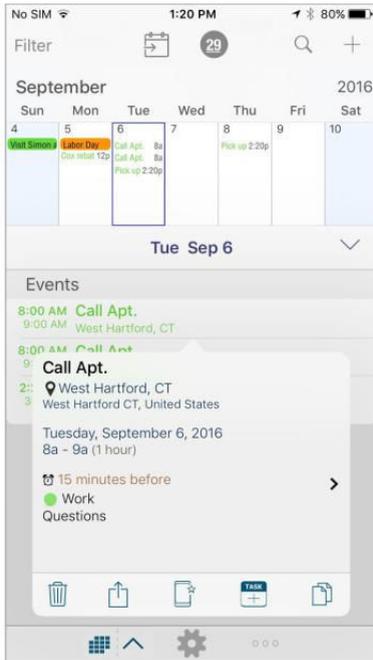
**WITH NOTES, PHOTOS,** and checklists, Informant will let you meticulously plan all of your events.



**TIMEPAGE'S SLICK, CAREFREE** interface is perfect for casual calendar keepers.

But more than that, Google Calendar is as good of a calendar on the iPhone as it is on a Galaxy. Switchers can see all of their appointments and birthdays without learning a new interface, and even veteran iPhone users will appreciate its colorful card-inspired look that gives events an extra degree of glance-ability— just so long as they don't mind admitting that Android might not be all bad.

## BEST FOR LONG-TERM PLANNING: INFORMANT

While any of the calendars here are as adept at planning next month's vacation as they are with scheduling tomorrow's business lunch, if you're looking to chart out a serious long-term life plan, they might not fit the bill. But Informant (go.macworld.com/informant) (free to install, subscription required) will. Not only does it offer bountiful customization options that let you differentiate from things

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happening now and further down the road, it expands your events far beyond simply when and where they might be happening. If you're scheduling a project, for example, you can add to-do reminders or you can easily attach a packing list to a future trip. You can also add memos and sub tasks to make sure nothing is forgotten.

But what makes its planning abilities truly awesome is its text editing. Surely it's not the only app to offer in-event notes (in fact, even Apple's own calendar has them), but Informant's text capabilities are more than a mere extra field. You can write and edit full pages of rich text and attach images to create a complete picture of your event. Informant's iPad interface could use a little updating, but if you're an obsessive long-term planner, its impressive tools and customization options will let you hammer out every last detail of your event.

## BEST FOR SHORT-TERM PLANNING: TIMEPAGE

If you only use your calendar for the most important events in your life, many of the apps here are probably too much calendar for your needs. But if you still want an alternative to Apple's standard Calendar, Moleskine's Timepage (go.macworld.com/timepage) ($5, iPhone only) might be just the ticket. Straddling the ever-thinning line between a to-do app and a calendar, Timepage doesn't overwhelm you with features or options—rather, it offers an elegant spin on the day planner with a beautifully crafted, minimal interface.

Timepage utilizes a series of color-coded circles to illustrate your busiest days—a system vastly superior to the classic dot method, especially if you're a casual calendar user. At a glance you can quickly see
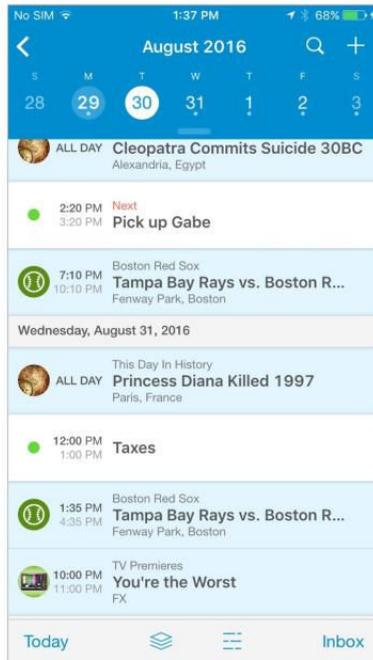


**IF YOU WANT** to know what's going on in the world around you, just give UpTo a pinch.
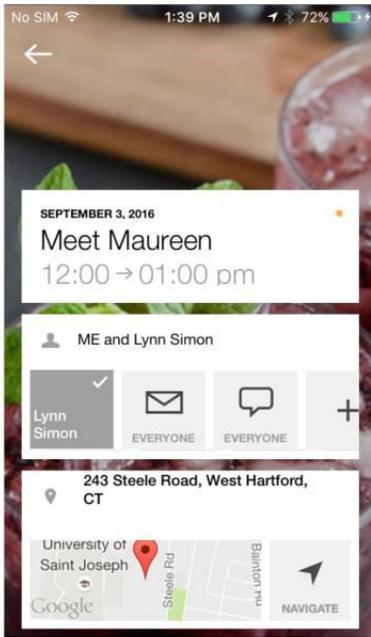
**CAL PUTS LESS** of an emphasis on what you're doing and more on who you're doing it with.

when your events are taking place, and scheduling a new one utilizes a delightful scroll bar that makes the process easy and fun. Events themselves get weather forecasts and travel estimates, all of which are also available on its companion Apple Watch app.

## BEST FOR YOUR SOCIAL LIFE: UPTO

No matter which calendar you choose to make your own, there's one thing that's consistent across all of them:

They're only as useful as the data you feed into them. UpTo (free, go.mac world.com/upto) takes a different approach. While you can use it to plan your schedule just like a regular calendar, it's not just for tracking the things you have to do—it also keeps you up to date on stuff you want to do.

UpTo is kind of like a page-a-day calendar for the digital age. With a variety of community calendars to choose from, the app does a remarkable job of turning your boring calendar into one you'll want to visit each day. Along with your personal dates, UpTo shows you important dates in history, TV premiers, sporting events, concerts, and anything else worth knowing about. And it doesn't clutter up your calendar to do it—to access your social calendar, simply pinch out on your main calendar to see what's happening in the world beyond your own.

## OTHERS OF NOTE

Much like the hundreds of wall calendars that fill the shelves of that kiosk in your local mall each December, the App Store is loaded with more calendars than you can shake a stick at. And while there might not be any that feature tiny kittens doing adorable things, you're almost certain to find one that fits your tastes.

Anyone who enjoys the sleek stylings of Any.DO's task manage-

ment will love Cal's (free, iPhone only, go.macworld.com/calapp) simple, breezy take on day planning. With a slick, speedy interface that puts a heavy focus on the people in your life, Cal turns calendar keeping from a chore into a downright pleasure.

If Cal isn't minimal enough, Peek ($3, iPhone only go.macworld.com/peekcal) ditches the calendar format altogether. Clean and hyper-focused to the point where it barely looks like a calendar at all, Peek turns the traditional square grid on its head with a gesture-driven interface that will change the way you schedule and view your events.

If your life revolves around your calendar, 24me (free, (go.macworld.com/24me) wants to be at the center of it. More than a calendar, 24me keeps tabs on all of the things you need to remember—dates, to-dos, lists, notes, and even bills—with a neat interface and a keen eye for organization. Like a personal assistant, 24me gets smarter as you use it and makes sure you never forget or blow off an important event.

Several of the calendars here offer widget companions to their main calendar, but WidgetCal (free, go.macworld.com/widgetcal) is devoted to it—and it shows. With a bright, colorful design and a surprising amount of customization, WidgetCal

puts a complete picture of your life right in the Notification Center. And if it didn't have to rely on Awesome Calendar (go.macworld.com/awesomecal) for inputting events, it would actually be powerful and flexible enough to be your main calendar.

That's not to say being forced to use Awesome Calendar ($7) is a bad thing. Packed with loads of features, including to-dos, checklists, notes, and photos, the all-in-one scheduling app overcomes its somewhat stale interface by handling your tasks and events with swift precision. ■



**WIDGETCAL IS A MUST IF** you spend a lot of time in your lock screen's Notification Center.

# Apple advises immediate update to iOS 9.3.5 after discovery of targeted iPhone spyware

Independent researchers tracked down malware sent to a Middle Eastern human-rights activist and alerted Apple, which patched three separate zero-day exploits.

BY GLENN FLEISHMAN

**A**pple released an update to iOS 9 on August 25—iOS 9.3.5—that patches multiple critical zero-day vulnerabilities that have been shown to already have been deployed, allegedly by governments to target activists and dissidents, according to a report from Citizen Lab and Lookout Security (go.macworld.com/iphonereport). Apple turned around an update within 10 days from when the company received Citizen Lab's initial report. The update is recommended immediately for all iOS 9 devices.

When used together, the exploits allow someone to hijack an iOS device and control or monitor it remotely. Hijackers would have access to the device's camera and microphone, and could capture audio calls even in otherwise end-to-end secured apps like WhatsApp. They could also grab stored images, track movements, and retrieve files.

Some of the exploits may have been discovered months ago or longer, so there's no way to know how widely they're in use, but details suggest these active exploits in previous versions of iOS 9 weren't in wide use and were deployed against individual targets.

"What we have seen from looking at these exploits is that it seems that they have been in the wild a bit longer than the 9.3.3/9.3.4 timeframe," report co-author Bill Marczak of Citizen Lab said in an interview. iOS 9.3.3 was released on July 18.

An Apple spokesperson said, "We were made aware of this vulnerability and immediately fixed it with iOS 9.3.5. We advise all of our customers to always download the latest version of iOS to protect themselves against potential security exploits." Apple later confirmed that an iOS 10 beta released earlier in the week patched the same holes. The company declined to comment on whether iOS before version 9 remain affected, but noted 87 percent of iOS users run iOS 9 or later.

Jailbreaks have been demonstrated but not yet released (go. macworld.com/934jailbreak) for iOS 9.3.4, and it's possible those jailbreaks relied on one or more aspects of the three flaws now patched.

Zero-day exploits in iOS aren't uncommon, based on efforts by jailbreakers, security researchers, and companies that sell flaws to governments (some of them selling to anyone who pays) at prices that can hit $500,000 to $1 million. However,

this appears to be the first time the action of major active exploits was captured in the wild and thoroughly documented. Marczak said his organization had been tracking the infrastructure behind the exploit for some time before an activist forwarded phishing links, which matched against a domain Citizen Lab had already been following.

The odds of any combination of these exploits being used to hit iOS users broadly are very low, as any widely exploited bugs would have been observed by researchers and Apple. It's most likely the flaws were kept close to the vest by any parties who discovered them, and were deployed for use only with high-value subjects of government or criminal syndicate interest.

As Lookout Security noted (go.macworld.com/lookouttrident), "The going price for Pegasus [a mobile espionage product] was roughly $8 million for 300 licenses, so it's not likely to be used against an average mobile device user, only targets that can be considered of high value."

Nonetheless, it's critical to install the update now that the exploits have been documented, as attackers may attempt to weaponize this approach for out-of-date devices. However, Marczak noted, "It was a fairly sophisticated exploit and we did omit some details about which functions were vulnerable," so criminal organizations may not be able to take advantage before most iOS users have updated.

**USERS SHOULD ALSO AVOID—NOW AND FOREVER!—CLICKING ON LINKS IN SMS MESSAGES FROM UNKNOWN PARTIES.**

Users should also avoid—now and forever!—clicking on links in SMS messages from unknown parties. Because SMS messages can be spoofed, it may be dangerous even from known parties.

## HOW THE EXPLOITS WORK

Citizen Lab is a project at the University of Toronto's Munk School of Global Affairs, where researchers have looked into how power is exercised in digital realms, specializing in human rights and global security. The Citizen Lab report was conducted in collaboration with Lookout Security, and it builds on previous work the group did to chart the extent of a group it labeled Stealth Falcon (citizenlab.org/2016/05/stealth-falcon)—which targeted internal and external critics of the United Arab Emirates (UAE) government. While Citizen Lab had identified Stealth Falcon's infrastructure, it hadn't connected active malware with it.

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On August 10, prominent UAE human-rights activist Ahmed Mansoor received dubious SMS messages with links to click for information ostensibly about abuses. Mansoor has been jailed, is banned from traveling outside the UAE, and is the victim of two previous so-called "lawful intercept" efforts. Lawful intercept refers to a government using the force of local law to obtain information from a network, although the methods used may not always fit within statutory or constitutional protections in the country in which they occur.

Rightly dubious, Mansoor forwarded the messages to Citizen Lab, which then partnered with Lookout Security to test the malware, and identify three separate zero-day exploits—flaws that can be exploited in currently released software. Here's how the chain of exploits work:

> The URL sent by SMS opens a webpage, which loads JavaScript and then retrieves remote binary files (available for both 32-bit and 64-bit versions of iOS). An exploit in the WebKit rendering component of iOS allows these binaries to execute within Safari.

> The executed binary uses an exploit that allows it to bypass a protection Apple uses within the operating system—Kernel Address Space Layout Randomization (or KASLR)—which should prevent malicious software from identifying where the core of the operating system is found running in memory.

> With the knowledge of where in

**RESEARCHERS FOUND THAT AFTER THESE EXPLOITS WERE TRIGGERED IN SEQUENCE, THE EXECUTED BINARY THEN DOWNLOADS AND RUNS THE SPYWARE PAYLOAD, WHICH IS DESIGNED TO BE PERSISTENT ACROSS REBOOTING iOS.**

memory the kernel can be found, a third exploit triggers, which corrupts memory in the kernel to disable iOS from blocking software from running that hasn't been signed by Apple. This effectively jailbreaks the phone.

Researchers found that after these exploits were triggered in sequence, the executed binary then downloads and runs the spyware payload, which is designed to be persistent across rebooting iOS. It disables Apple's automatic updates and removes other jailbreaks.

The report says the jailbreak installs hooks all over iOS to intercept data, and specifically monitors for a number of apps, which include "iMessage, Gmail, Viber, Facebook,

WhatsApp, Telegram, Skype, Line, KakaoTalk, WeChat, Surespot, Imo.im, Mail.Ru, Tango, VK, and Odnoklass-niki." The malware connects to remote command-and-control servers to exfiltrate captured data.

Marczak said that a characteristic of highly targeted attacks is that URLs stop working after a single click, the intent being to infect one party and then be unavailable for further investigation. Marczak said they followed the link on a standard-issue iPhone and captured the infection process, but when the malware started to communicate back to the operator's server, he and his cowork-ers became nervous about the microphone being enabled and GPS coordinates being transmitted.

"Very quickly, we turned it off and put it in a metal box," Marczak's colleague, Nick Weaver, said. "We didn't want them to hear us giggling with glee."

Citizen Lab and Lookout Security connect the software with NSO Group, an Israel-based company that sells surveillance software to govern-ments. The group is similar to Fin-Fisher and Hacking Team, both of which firms' software was previously used to target Mansoor. The report

also includes evidence that ties the spyware installation attempt to the UAE government.

The report also ties an attempt a year ago in Mexico to target journalist Rafael Cabrera, who has reported on a conflict of interest involving the president of Mexico and the presi-dent's wife. While the links connected to those attempts weren't serving malware, Cabrera provided Citizen Lab with more recent phishing attempts, which the researchers connected with servers they believe are operated by the NSO Group—and which, if the links were followed, would have resulted in infections.

Marczak said that the software was designed to be used in stealth, monitoring data use and battery consumption to disable features that might show their hand. The software could also disable itself or remove itself entirely if an analysis environ-ment was detected or remote opera-tors wanted to pull the plug.

**UPDATE YOUR DEVICE NOW**
To install the update on your iOS device, launch the Settings app, then tap General → Software Update. You can also update within iTunes with your device connected to your Mac. ■

You might know **Joshua**.
He loves video games, and he
owns enough to know they're not
all meant for kids. That's why he
reminds his friends (at least the
ones that have kids) that they all
have **big black letters on the box**
to help parents find the ones that
are best for their families.

You can learn about those
ratings at **ESRB.org**

Los Angeles, CA

**ESRB** ENTERTAINMENT SOFTWARE
RATING BOARD

# Apple's new 2TB iCloud storage tier will give your iPhone tons of space

The 2TB iCloud storage tier could signal the addition of a 256GB iPhone to Apple's lineup.

**BY CAITLIN McGARRY**

**J**ust one week before Apple showed off the iPhone 7 and iPhone 7 Plus, the company launched a 2TB iCloud storage tier for $20 a month. That's a significant amount of space, but Apple is reportedly gearing up to add a 256GB option to its upcoming iPhone lineup. As 9to5Mac noted (go.macworld.com/9to5mac2tb), Apple typically offers iCloud storage plans that are eight times the size of the iPhone's internal storage options. The iPhone 6s tops out at 128GB, and the previous iCloud storage max was 1TB.

Does that confirm a 256GB iPhone? No. Apple has a 256GB iPad already, so maybe its cloud storage options are finally catching up with Pro-level usage. The new Desktop and Documents feature (go.macworld.com/deskdoc) coming in macOS Sierra is poised to eat up tons of iCloud Drive space if you use it to save files stored on your Desktop or in your Documents folder to the cloud.

If 2TB is way more than you'll ever use, Apple is keeping its more modest storage plans, too, at the same prices: 50GB for $1/month, 200GB for $3, and 1TB for $10.

**THE macOS SIERRA** Desktop and Documents feature will automatically save files to iCloud.



| iCloud Drive | | Select |
| --- | --- | --- |

Q Search

| Date | Name | Tags |

Desktop
1 item

Documents
0 items

2 items, 4.87 GB available on iCloud
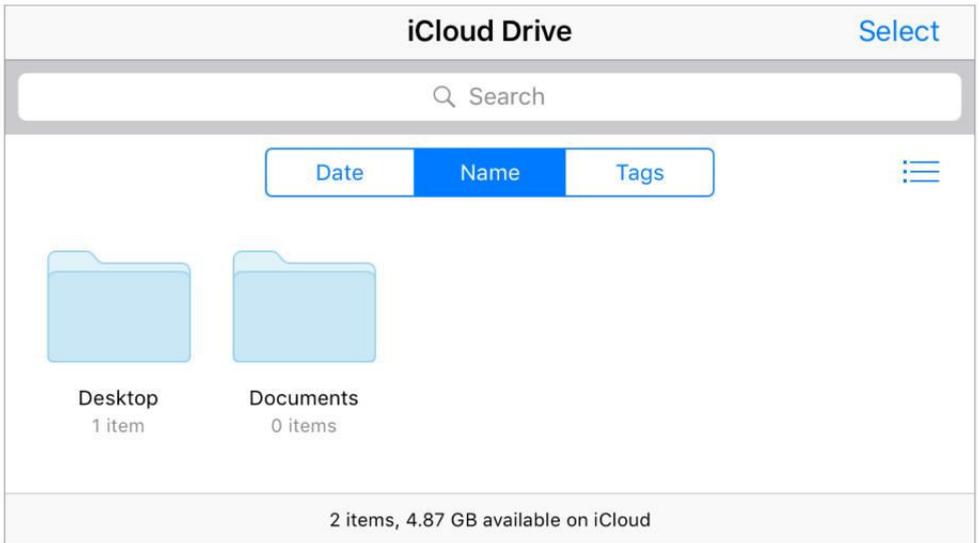
(Those prices apply to American iPhone owners—prices vary by country, and you can see the full list here (support.apple.com/en-us/HT201238.) You get 5GB of iCloud space for free, as before.

**The story behind the story:** On Sept. 7, Apple took the wraps off its next-gen iPhones. The 7 Plus model will have a dramatically overhauled camera with two lenses, so that extra iCloud storage could be useful for all the high-quality images and 4K videos upgraders will be shooting. Also, Apple has dropped the base-level 16GB iPhone after years of complaints about paltry storage. ■

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IWantToBeRecycled.org

Ad Council | KEEP AMERICA BEAUTIFUL

SoftGozar.com

# Tested: 4 portable chargers for your Apple Watch

Keep your Watch juiced all day long with these portable batteries.

BY SARAH JACOBSSON PUREWAL

# K

eeping your Apple Watch powered on the go isn't as easy as you'd think—especially since it can only be charged via Apple's special magnetic charging puck.

Sure, you can plug your charging cable into a regular portable battery, but do you really want to tote around a tangled, 2-meter-long charging cable? I didn't think so.

This charging conundrum—coupled with the fact that the Watch's "all-day battery" isn't quite as all-day as Apple would like you to believe—has accessories companies scrambling for the perfect solution: portable wireless Apple Watch chargers. We tested four of these power banks, which are formulated specifically for the Apple Watch and

its 2-meter-long charging cable, to see which ones will make your life easier and more powerful.

## CLEARGRASS AMBER

ClearGrass's Amber watchcase power bank (cleargrass.com/amber) has raised hundreds of thousands of dollars on both Kickstarter and Indiegogo, and the reason why is obvious: This portable charging case is functional, beautiful, and perfectly in line with Apple's minimalist aesthetic.

The Amber is currently available

via pre-order, and will retail for $99. The case—a watch case/power bank—is made of anodized aluminum and plastic, and comes in four colors to match your Watch (silver, gold, rose gold, and space gray). The Amber measures 4x4 inches with rounded corners and is 1.75 inches thick, and weighs just shy of 10 ounces. It's a little clunky to stash in a purse or a briefcase, but it's certainly small enough to tuck away in your suitcase for easy travel.

The top of the case has a single button that, when pressed, activates charging and displays the power bank's current charge level (in five pinprick LEDs). The back of the case has two ports—a microUSB port for charging the internal battery, as well as a regular USB port that allows you to charge a non-Watch device (such as an iPhone) simultaneously.

The Amber opens with a hidden plastic hinge to reveal its semi-complex charging setup. Like the other portable chargers we tested, the Amber is merely the power bank and does not include charging hardware—in order to use the Amber, you'll need to install your own magnetic charging cable. Installing the cable is fairly easy—just remove the plastic cover and the plastic spool, plug your cable into the hidden USB port inside the spool, and wind your cable tightly around it. The Amber can accommo-





date both the 1-meter and the 2-meter charging cables (though you'll need to wind more precisely to make the 2-meter cable fit). Once the cable is fully wound, place the charging puck in the circular indentation at the front of the spool and snap the spool into place.

To charge your Watch, place it against the charging puck inside the

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Amber and press the button on the top of the case to activate charging. The Amber comes with a companion app that will notify you when your Watch is fully charged (the app can also be used to locate your Amber via phone). When your Watch is fully charged, the Amber will automatically stop charging to save its internal battery life.

The Amber is both beautiful and functional, and it works exactly as advertised—as both a portable battery and a protective case for your Watch. (It's also the only por-table charger I tested that automatically stops charging once your Watch hits 100 percent battery life, too.) The Amber packs a 3800 mAh internal battery, which should give you at least seven full Watch charges.

### BOOSTCASE BLOC

Boostcase is known for its fashion-forward tech accessories, and the Boostcase Bloc ($79.95 MSRP boostcase.com/shop)—a wireless Apple Watch dock with a built-in 2,000 mAh battery—is no exception. The Bloc, which is made from pre-mium materials and features exqui-sitely precise craftsmanship, is actually designed as a stylish, wireless desk accessory—not a portable charger. But thanks to its built-in battery, it can be used as both.

The Bloc comes in three finishes: silver aluminum, space gray alumi-num, and natural bamboo. This wireless charging dock is a simple block of metal or wood that measures





68
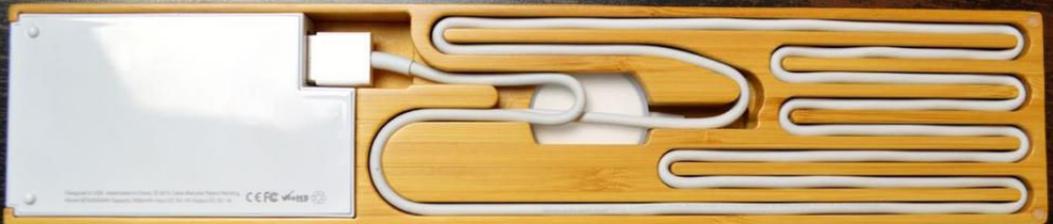
2.1 inches wide by 10 inches long, is just over half an inch thick, and weighs approximately 8 ounces. The center of the Bloc has a round cut-out for your magnetic charging puck (your Watch simply rests atop the Bloc while charging).

The Bloc is a dock and a portable battery in one, but to use it you will need to install your own magnetic charging cable. Installation is a little tricky because the Bloc is so precisely engineered—but it's worth it. To install your cable, you'll first need to seat your charging puck. The Bloc comes with two small silicone rings that fit around the puck (one fits the metal puck and one fits the plastic puck). Place the appropriate silicone ring around the puck and squeeze the puck into the round cut-out. This may take a few tries, but your puck should sit perfectly flush with the Bloc's surface.

Once you have your charging puck seated in the Bloc, you can flip the device over and start carefully threading your cable along the precision-cut grooves. The grooves are exactly long enough to accommodate both the 1-meter and the 2-meter charging cables (for the 2-meter cable you'll simply thread through the grooves twice). You can then plug your cable into the Bloc's battery and start charging. The back of the battery has a microUSB port and three LEDs that indicate the current charge level. To see the current charge level, draw your finger along the battery's touch-sensitive panel.

The Bloc is a beautiful, elegant desktop accessory, but you'll have some trouble using it as a portable charger because the Watch needs to lie flat on top of it—it's not a protective case that you can close and toss into your bag. It is very slim, light-weight, and portable, however, so as long as you have a flat surface, you can keep your Watch charged on the go. The built-in battery will give you at least four full Watch charges, and the battery itself can be removed if

you'd like to charge a different device (such as an iPhone).

### NOMAD POD

Nomad's Pod for Apple Watch ($59.95 MSRP, hellonomad.com) is a compact wireless Apple Watch charger with a built-in 1800 mAh battery. The Pod is designed to be a travel companion—a small, portable battery that will keep you juiced up through a "long weekend" (you should get at least three full charges out of the Pod).

The Pod is the smallest and the lightest of the portable chargers we tested: It measures 3 inches in diameter, is 1 inch thick, and weighs 4.7 ounces. It's made of plastic and anodized aluminum, and comes in two finishes (silver and space gray). The Pod is approximately the same size and shape as a standard-issue hockey puck, with a hole in the top for your magnetic charging puck and a bottom that's lined with rubbery non-slip material.

Like the other portable chargers we tested, the Pod is just a battery and requires that you install your own magnetic charging cable in order for it to be useful. The Pod accommodates both the 1-meter and the 2-meter charging cable, though the 2-meter charging cable is a pretty tight fit. To install the charging
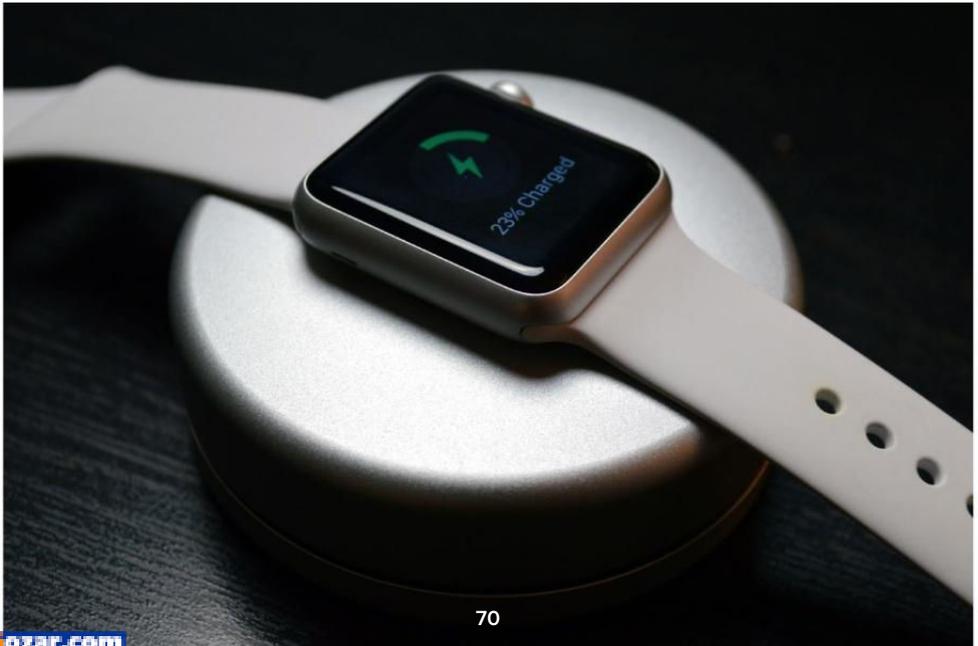
cable, you will need to remove the Pod's aluminum cover, which is attached with magnets. Inside, you'll see a black plastic cable spool, a USB port, and a place to put the charging puck. First, you'll plug your cable into the USB port and then you'll wrap the cable around the spool, trying to keep it as snugly wound as possible. When you run out of cable you can place the charging puck in its seat and replace the aluminum cover. You may have to wrap the cable a couple of times to get the cable to fit.

On the side of the Pod there's a microUSB port, a small power button, and four LEDs that indicate the Pod's current charge status. To charge your Watch, simply place it atop the Pod and press the power button. The Pod will not stop charging once your Watch is fully charged, so you'll want to remove it as soon as it hits 100 percent.

The Pod is a handy portable charger that can keep your Watch powered up throughout the day. While you can get at least three full charges out of the Pod's modest battery, the fact that it doesn't shut off after your Watch is done charging means you may get less. Like the Boostcase Bloc, the Pod requires a flat surface for charging (you can't just toss it in your

bag and charge on the go). But if portability and size are a concern, the Pod is the charger for you.

## UNITY POCKET

The Amber isn't the only portable Apple Watch charger with crowd-funding prowess—Unity's Pocket (gowithunity.com) has also received hundreds of thousands of dollars from both Kickstarter and Indiegogo.

The Pocket, which is currently available for pre-order and will retail for $105, is billed as a 6-in-1 charging dock—where "6-in-1" is somewhat liberally defined. (Three of the Pocket's six functions involve its use as a portable battery.) The Pocket is a charging dock and a protective Watch case, and it features a modu-

lar design that seems a bit overly complicated.

The Pocket is made of plastic and silicone with aluminum mesh accents. It's a rectangular tower that measures 2.5 inches wide by 3.75 inches long, and is 4 inches tall. For maximum versatility, the Pocket is modular and comes apart into five different pieces. It also ships with an additional silicone piece that helps turn the lid into a charging dock for your iPhone (more on this later).

There are three main sections to the Pocket: The top piece (the lid), the center piece (the cable manage-ment piece), and the bottom piece (the battery). The lid is made of hard plastic and has Unity's logo stamped across it. Remove the lid and turn it

upside down, and you'll see a piece of silicone inside that acts as a stand for your iPhone. The separate piece of silicone that ships with the Pocket can be placed on top of this piece of silicone to make an elevated iPhone dock (with extra space underneath it to accommodate a charging cable). Noble idea, but who's going to carry an extra piece of silicone around with them? Not me.

The center piece of the Pocket, or the cable management piece, is where you'll place your magnetic charging cable. This piece comes apart into three separate pieces—the cover, which is accented with aluminum mesh that's only half-attached to the body, the cable spool, and the dock for the charging puck. The cable spool is large and hollow (inside the cable spool is where your Watch will be stored), and fits both the 1-meter and the 2-meter charging cables. The dock for the charging puck is a small dome-shaped piece of silicone that rests atop the spool's hollow interior. It's not exactly precise, but it is flexible since it's not attached to anything else.

Once you have your charging cable wound around the spool and the charging puck seated in the dock, you'll need to plug the cable into the bottom piece of the Pocket— the battery. The battery has a

microUSB port and a regular USB port, so you can charge non-Watch devices (such as an iPhone) simultaneously. It also has a power button and five LEDs that indicate charge status on the opposite side.

The Unity Pocket is an interesting concept—its modular design allows you to use it as many things, including as a separate portable battery (you can remove the battery section), an iPhone dock, and a Watch charger—but this product seems unfinished. It's certainly not as polished as the Amber charging case, nor is it as precisely manufactured as the Bloc. When your Watch is resting atop the precariously placed charging puck,

you should be able to place the lid piece over it, but I found this to be difficult because the silicone piece inside the lid kept pressing on my Watch's face.

The Pocket seems to be trying to do too much—an iPhone charging dock is a nice feature, but not at the expense of the Watch charging case. It's also rather large and clunky (and the pieces come apart quite easily) to be ported around in a purse or a bag. The good news is that the Pocket does have the largest battery—4,200 mAh—of the chargers I tested. This will get you 10 full Watch charges, so you can go a whole week without plugging in. ∎
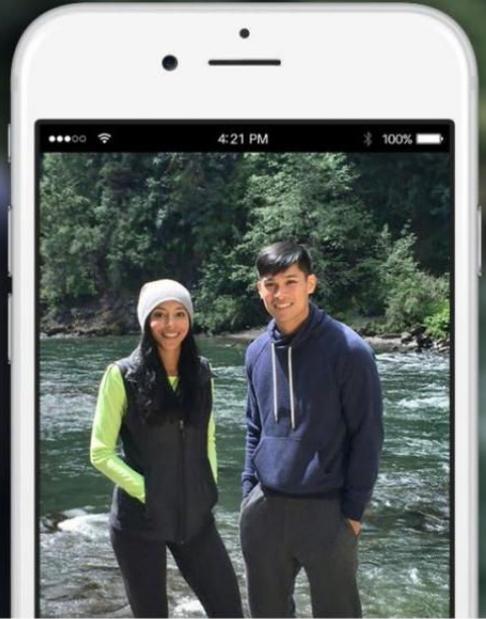
PHOTOGRAPHY

# MICROSOFT PIX: iOS PHOTOGRAPHY APP USES ARTIFICIAL INTELLIGENCE TO RIVAL APPLE'S CAMERA

**BY JACKIE DOVE**

**WHEN YOU SHOOT** with the iPhone's built-in Camera app, there are various ways to tweak focus and exposure, both before and after you hit the shutter. You might first tap and hold or swipe to adjust and lock focus and exposure. After the shot, you have options for adjusting saturation, contrast, sharpness, and more. That's in addition to the optional HDR, or Live Picture settings and effects filters.

Microsoft Pix (free on the iTunes Store, go.macworld.com/pixapp), a

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photo and video shooting and editing app for iOS, doesn't want you to work that hard. It offers an effortless point-and-shoot alternative to the iPhone Camera app with a promise of superior results.

## BURST MODE

To accomplish that, Pix relies on AI-based algorithms to automatically adjust each shot on the fly, responding to lighting conditions and motion in a scene. The app fires off 10 shots in rapid succession, both before and after you tap the shutter. But it shows you only one to three of the best variations, letting you compare and select the one you like best. The other images are discarded, but only after the app mines them for elements to improve the chosen shot, including noise removal, face brightening, skin beautifying, and tone and color adjustment.

What really makes Pix stand out is its facial recognition tech, which not only zeroes in on human faces, but automatically prioritizes them for exposure and focus. The app's algorithm favors faces with open eyes and smiles while rendering skin, foliage, and food in realistic hues.

In the real world, my results varied: Sometimes Pix improved on Apple's Camera app and other times it didn't. Some shots, especially

### PIX 1.09

♦♦♦ ½

**AT A GLANCE**

If you don't like fussing over camera settings, then you may like Pix, though its image quality is inconsistent.

**PROS**

• Easy to use, no settings to adjust

• Optimized to recognize faces and often does well in exposing them

• Good video stabilization

• Interacts seamlessly with the Camera Roll and iOS sharing tools

**CONS**

• Sparse manual editing features

• Doesn't adapt well to extreme low light shooting, no flash option for still images

• Image quality is variable

**PRICE**

Free

**COMPANY**

Microsoft



**YOU CAN ACCESS** your Camera Roll and view images and video shot with both Pix (left) and Camera (right).

those taken in optimal, well-lit conditions look virtually identical, despite some slight color variations. Sometimes, Pix helpfully gave a face in partial shadow just enough illumination, though other times it overcompensated by making faces a bit too bright, washed out, and flat. Sometimes Pix offers its best shot and an alternate or two, other times it just offered a single take.

If focus and exposure were similar, Pix helpfully straightened some photos that may have been shot at an angle, removed noisy artifacts, and helped to balance exposure on some backlit shots. Despite those fine qualities, I didn't find Pix photos consistently better or more pleasing than those shot with Apple's native app, and often could not tell them apart.

In extreme low light, Pix often performed poorly. While the Camera app can be set up to use the camera's flash, Pix does not support flash on still images, only on video. In low light, the Retina Flash feature on the iPhone 6s models pushed the Camera image quality over the top in the selfie department, while low light Pix selfies taken with an iPhone 6 showed better noise management than with the native app. Using auto flash on both an iPhone 6 and 6s offered better exposures than Pix without flash, though with flash turned off, Pix's low light shots were brighter on the 6s.

## LIVE IMAGE AND VIDEO

In addition to Pix automatically selecting and enhancing burst photos, the app also examines each frame to determine whether there's enough motion to string them together into a cool looping video. If so, the app creates a Live Image, which is saved as a video file alongside your single shot.

Live Image is reminiscent of Apple's Live Picture feature, which also starts recording before you tap on the shutter. With Live Image, Pix outputs a cinemagraph—a moving image comprised of a series of enhanced still shots stitched together—which is distinct from Apple's video-based Live Photos because only part of a Pix Live Image moves,



**PIX (RIGHT) HANDLED** backlighting and face illumination better than Apple's Camera app (left) in this case.

while the rest remains static.

Unlike the Camera app, Pix creates cinemagraphs automatically without your having to enable the feature; it does not select every shot for Live Image treatment, only those with interesting movement. I noticed some ghosting on certain images, such as the movement of a cat's tail or ears, which did not look pleasant. Live Image is enabled by default, but you can turn it off in the preferences.

Pix also integrates Microsoft's Hyperlapse feature (distinct from Instagram's app of the same name) into its video function, which automatically stabilizes video and lets you record time-lapses that you can adjust to various speeds. You can even time-lapse or stabilize previously recorded footage with Pix. Note that the app supports 1080p video; but 4k footage shot on your iPhone cannot be processed in Pix.

## EASE OF USE

Despite a whole lot of computation going on in the background, Pix is drop dead simple to use. Just point the phone, decide what to shoot, tap the shutter, and the app takes care of the rest. Pix offers minimal mobile app editing tools but it does include the standard-issue effects filters

and supports sharing features. Since all images and videos shot with Pix also land in your Camera Roll, you can edit them further in Apple's app or any other photo editor you choose. Performance was excellent, as the app zipped through its processes without a hitch.

## BOTTOM LINE

In the end, users don't care about a camera app's underlying tech. It's the final image that counts. In my experience, Pix worked well on some photos to improve face rendering, boost exposure, and fix composition
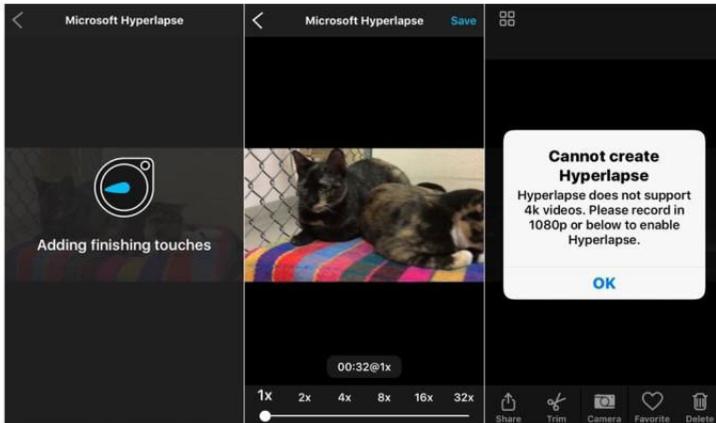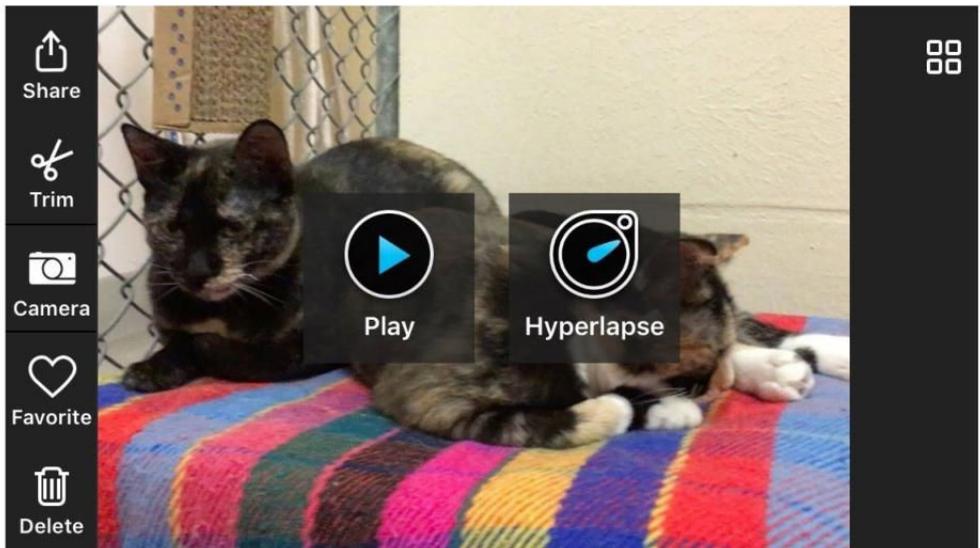
and backlighting. The hyperlapse video and cinemagraph features add to the app's creativity. But it did not consistently outperform the iPhone's built-in Camera app. Pix does offer meritorious results in some situations, so I recommend giving it a shot to see how it works for you.

That said, for those who truly do not want to deal with any before-shot prep or after-shot tweaking, Pix may be just the ticket. If you are using an older phone like the 5s or the 6, Pix lets you reap the benefit of a Live Photos-like feature that's not included on your model. ■

FITNESS TRACKER

# SPIRE: KEEP CALM AND CARRY ON WITH THIS BEAUTIFUL BREATH-TRACKING DEVICE

**BY CAITLIN McGARRY**

**FITNESS TRACKERS ARE** a dime a dozen, but devices that focus on your mind instead of your body are typically overlooked—mental health is incredibly personal and can be difficult to define, which makes it even harder to measure. That's what makes Spire (go.macworld.com/spireamz), a breath-tracking device that aims to curb stress, stand out. This device was released in 2014 but got a boost this summer with an Apple Store retail presence and an overhauled iOS app, so I decided to give the company-described "mind and body tracker" a closer look to see if it really combats stress.

Spire (spire.io) is a graphite-colored oval-shaped stone attached to a silver clip. You wear it on your pants or tucked inside your bra with the clip facing out. But its simple looks belie its more complex functions.

"What does that thing do?" my boyfriend asked as he watched me slide the device onto the waistband of my workout pants.

"Oh, it reminds me to breathe," I replied without thinking.

"Um...your brain already does that," he replied.

OK, true.

More specifically, Spire reminds you when to take deep, calming breaths in an effort to encourage more mindfulness. It's also an activity tracker in that it counts your steps, but it's not the best workout companion. It doesn't have a display and it won't urge you to run faster or get your heart rate up. Instead, Spire relies on its app to do the heavy lifting.

## HOW IT WORKS

Setting up Spire is as easy as any other Bluetooth device. Make sure your phone's Bluetooth is turned on, install the Spire app, and pair the device to your phone.

Spire is a beautiful device. It's too bad no one will see you wearing it. The stone has to be touching your skin, which I somehow didn't realize until hours into fastening it to my pants with the stone facing outward. I didn't have any issues with friction when the stone was pressed against my skin, not even when running with Spire clipped inside my sports bra, but you'll definitely feel that it's there.

What Spire looks for is patterns in your breathing, which is why it has to be so close to your body. As you inhale and exhale, Spire tracks your chest movement, then sends that information to your phone. Your breathing appears in real-time on the app home screen as an undulating line. After you use the device for a few days, you'll establish your individual baseline, so your breathing isn't being compared to an average standard. Your breathing says a lot about your state of mind. Erratic breaths signal stress, while steady and slow ones indicate deep focus.

## SMARTPHONE STRESS RELIEF

Because the device doesn't have a display, you'll need your phone nearby at all times to receive notifications, which are endlessly customiz-

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### SPIRE MINDFULNESS AND ACTIVITY TRACKER

**AT A GLANCE**

Spire is a well-designed device that encourages you to take deep breaths, but I'm not convinced it improves your mental health.

**PROS**

• Beautiful design

• Effective calming boosts

• Encourages you to think about mental wellbeing

**CONS**

• Doesn't get to root of stress

• Expensive for a basic fitness tracker

**PRICE**

$129

**COMPANY**

Spire

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able. You can set your Spire to vibrate and send you an alert when you've been sitting for too long, when you need to take a deep breath, when you've been intensely focused for awhile, or when you're in a sustained period of calm. All of these reminders are designed to make you more conscious of your breathing and your state of mind.

The app also integrates with your calendar, camera roll, and location, so you have a better idea of where and when you're most stressed, focused, or calm. These integrations, which are new to the app, are a good start toward helping you figure out what triggers your stress before it happens. If a regular meeting with your boss throws you into tense mode, taking some deep breaths or meditating ahead of time could ease the stress.

Spire also has an Apple Watch app, so I was getting notifications all over the place. This is how I realized I am an intensely focused person, which isn't all that surprising. I'm rarely prone to panic, but I'm also not very calm. The device and watch app vibrated gently to remind me to take deep breaths when I was in the midst of a long stretch of focus. Guided meditative boosts,
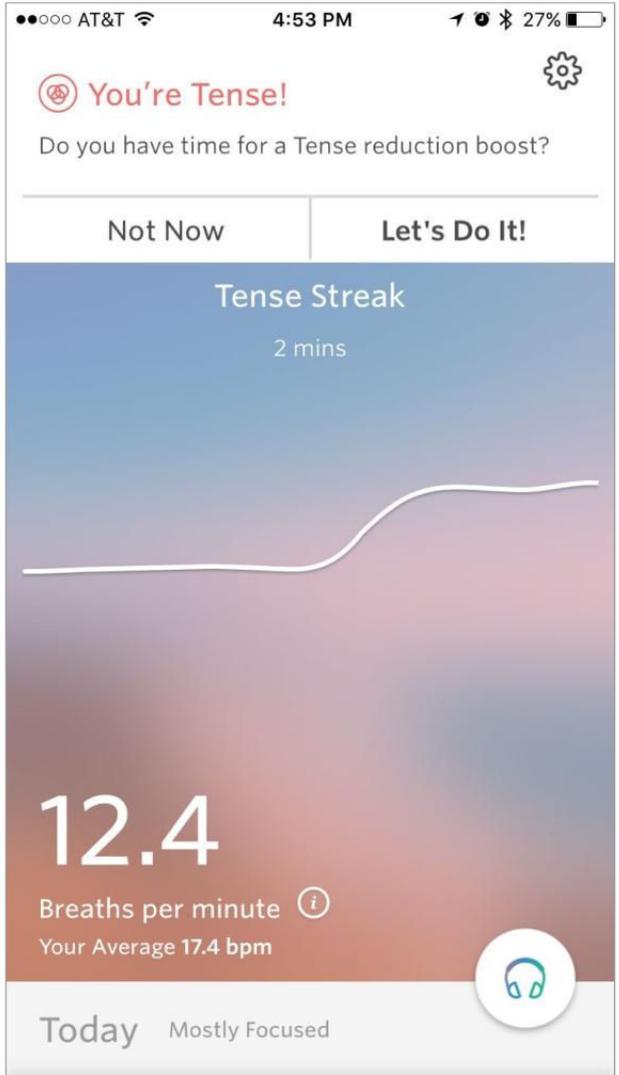


**SPIRE'S HOME SCREEN** shows your breath in real-time.

which are accessible in a different part of the app and range in length and topic, were calming, reminding me to release tension from my head and shoulders and take intentional breaths. It was like a yoga class without any movement.

## BOTTOM LINE

I have a few issues with Spire. It takes forever to sync data from the device to your iPhone if you don't let the Spire app run continuously in the background. (I'm not a big fan of keeping location-tracking apps open to keep my battery alive as long as possible.) But the device only stores six hours of information locally before it's lost, so if you forget to sync the two, your data disappears.

I also wish Spire were a more useful activity tracker. It tracks your steps, active minutes, and calories burned, but it has no clue what kind of exercise you're doing. You have to manually add a note to each burst of activity. The device also doesn't track sleep, though Spire cofounder and chief scientist Neema Morajevi told me that's in the works.

It's also tough to tell if mindful breathing does anything to reduce your stress long-term. Taking control of your breath, which is just one indicator of stress, might not do anything at all to improve your overall mental well-being, though it might feel like it in the moment.

I do love Spire's design (which picked up a Cooper Hewitt National Design Award in 2014). Even the charging puck that comes with the device is Apple-
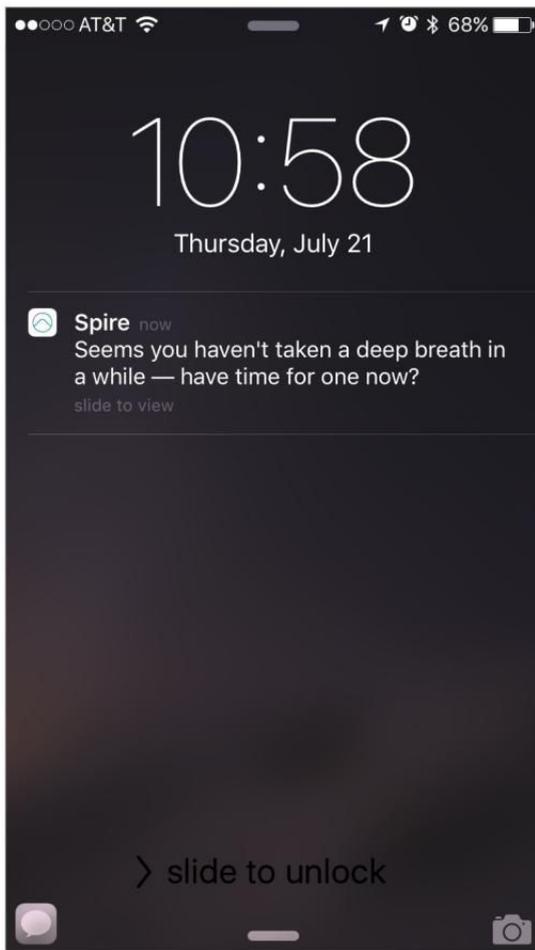
**SPIRE IS BEAUTIFULLY** designed, and so is its charging puck.

esque. And I appreciate that it can survive a trip through the washing machine if you forget to take it off before throwing your clothes in the hamper. But Spire is $130 (down from $150 when it was released), which is a little expensive for a device with no display. That money could go toward a great fitness tracker. And if you already own an Apple Watch, the release of watchOS 3 this fall puts Apple's Breathe app on your wrist. It won't track your breathing the way Spire does, but it will remind you to take time to focus on your mental health, which is Spire's end goal. ∎

# What's new at the App Store



## TEENAGE MUTANT NINJA TURTLES

Teenage Mutant Ninja Turtles ($4, go.macworld.com/tmntapp) isn't just another movie-based video game. It's filled with STEM concepts to help your child learn problem-solving techniques and skills that will serve them well in the classroom and the real world. Cowabunga!

## Homer

Read With Homer (freemium, go.macworld.com/readwhomer) has been updated with back-to-school-themed content about dinosaurs, giraffes, and presidential pets. As ever, the app features more than 1,000 phonics lessons to help kids ages two through eight learn to read.

## Aceable Drivers

Your iOS device is full of tricks—it can even teach you to drive. Aceable Drivers (freemium, go.macworld.com/aceable) lets you fulfill the classroom portion of driver's ed training—using memes, animation, and voice-overs—in Texas, California, Florida, Illinois, or Ohio. If the lesson doesn't quite take, Defensive Driving (freemium go.macworld.com/defdriving) lets you take the remedial class you need to clear away a traffic ticket from your record.

## Timelines

Timelines ($5, iPhone only, go.macworld.com/timelinesapp) helps you track the time spent on certain tasks—useful for lawyers, freelancers, or "simply someone who wants to understand and improve her time efficiency." You can even export the information as a PDF or spreadsheet.

## SampleTank

SampleTank ($20, iPhone only, go.macworld.com/sampletank) has long let you augment your band with an endless variety of musical sounds. Now IK Multimedia—the creator of a number of top-shelf iOS apps and accessories for musicians—has launched Version 2.0, which includes an interface redesign, more than 1,900 available sounds, and an "inspiring" new Sound Browser.

# STEM stuff!

This month's roundup of iOS accessories includes a kit that helps your kids master the basics of engineering, science, and math—and, oh yeah, it's fun to boot.

BY JOEL MATHIS

## ZMODO

The Torch Pro ($199 MSRP, zmodo.com, $198.67 on Amazon) is a camera system that connects your doorbell to your iPhone—the system lets you answer your door directly from your smartphone, allowing you to "see, hear, and speak to your visitors, even if you're not at home."

## OMNICHARGER

Omnicharge Portable Power Bank ($129 MSRP, omnicharge.co) is a mind-boggling 20,400-mAh power bank with two USB ports for your iOS devices and an AC/DC outlet to power up your MacBook. It's apparently popular—with more than a week left in its crowdsourcing stage, the makers' production goal of $50,000 has already been exceeded by a factor of 10.

## LITTLEBITS

The Rule Your Room Kit ($99.95 MSRP, littlebits.cc) is for your innovation-obsessed kids—it's a box of electronic doodads they can use to build eight different inventions, letting them have fun and helping them build engineering, science, art, and math skills along the way. The LittleBits Invent app on your iPhone helps guide the invention process.
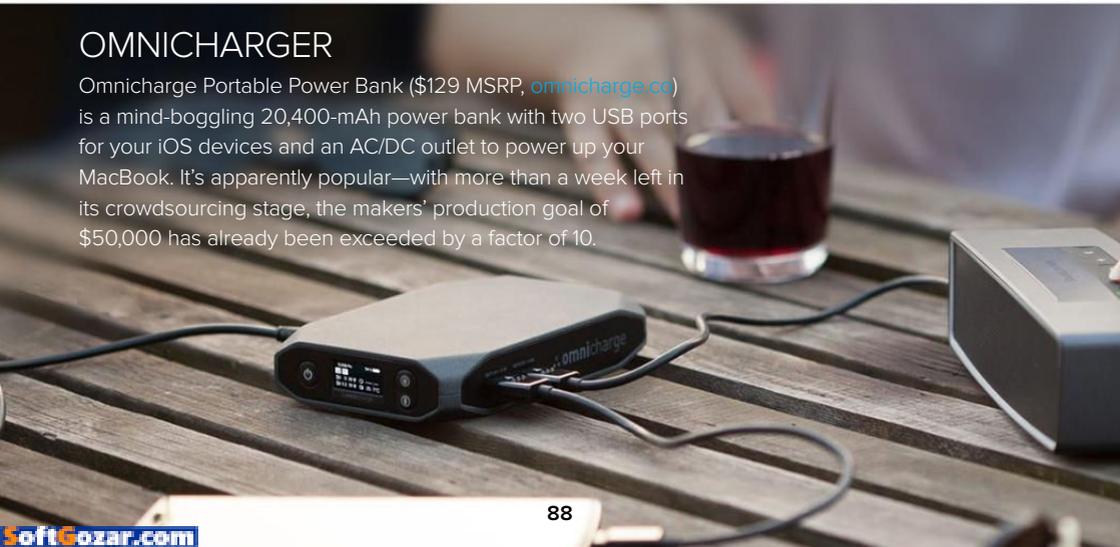


## HEREONE

Here One ($299 MSRP hereplus.me) is a "truly wireless listening system" containing two earbuds—you'll also have to download a compatible app—that lets you "stream music, take phone calls, reduce unwanted noise, amplify speech, access Siri and Google Now, and more." Here One is available for preorder now, and is scheduled to ship by the holiday season.

# STEM stuff!

## ZERAPH

The Flo ($40 MSRP, zeraph.co) is a "contact-free" thermometer—place the device about an inch away from the patient's head to get an accurate reading within a second. (You can also check milk or water temperature using the device.) Use the app to make profiles for family members and track their temperature over time.

## BOSE

You know all those apps that help your kid learn to code? BoseBuild ($149 MSRP, buildbose.com) is the real-world version of that—it's a high-performance Bluetooth speaker designed to be built by children, teaching them lessons about magnets, sound, and more.

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# iPHONE 7 HANDS-ON:
## PERFECTLY ADEQUATE, STILL UNDERWHELMING

PHOTOGRAPHERS GET A BETTER CAMERA, AND THE ACCIDENT-PRONE GET WATER RESISTANCE. WHAT ABOUT EVERYONE ELSE? **BY SUSIE OCHS**

**T**he iPhone we've been hearing rumors about for months (go.mac-world.com/iphone7rumors) is finally real, so let the anguish over its confirmed lack of a headphone jack begin. (Since this might have been the worst-kept secret in Apple history, hopefully you've worked through a few stages of grief already.)

It's true. Apple used the space freed up by removing the headphone port to add a Taptic Engine under the hood, as well as a second speaker to the bottom of the device. The company says this will give you stereo sound, and the speakers did sound louder, but the busy demo area was just too crowded and noisy to properly evaluate how much of a difference the second speaker makes. In fact, during my limited hands-on time after Apple's September 7 event, I found the iPhone 7 ho-hum—it's faster and it's got a better camera, but a lot of the changes (the new Home button, the dual speakers) are too subtle to make much of a first impression.

**THE HOME BUTTON** sits flush with the case.

## CHANGES TO THE HOME BUTTON

About that Taptic Engine, for example—it's there to enable a completely flush, motionless Home button. One of the rumors about 2017's iPhone is that Apple may ditch the Home button, embedding it in the screen instead. For the iPhone 7, Apple kept the "chin" at the bottom of the device, with the Home button and its shiny Touch ID ring in their familiar place. But the button no longer physically moves up and down. Instead, you press it and get a little vibration of haptic feedback so it *feels* like it's going down.

This is similar to the Force Touch trackpad in the 12-inch MacBook, which doesn't physically click but still mimics what a click should feel like. As on the Mac side, iOS developers will get access to the Taptic Engine for building more subtle vibration effects into their apps, reacting to your touch. In my hands-on time at the event, the new Home button felt pretty odd to click, with a split-second lag before I felt anything. Two of Apple's demonstrators mentioned that it takes a little adjustment before it feels normal. Luckily, there's a setting where you can customize the haptic feedback somewhat.

Physically, the iPhone 7 and 7 Plus are the same size as their predecessors, the iPhone 6s and 6s Plus. But don't expect any iPhone 6 or iPhone 6s cases to fit an iPhone 7, because the camera lens on the back is a lot bigger than it used to be, and so is the TrueTone flash. Similarly, iPhone 6 Plus and 6s Plus cases almost definitely wouldn't fit an iPhone 7 Plus, since that device has a dual-camera setup I'll explain a bit later. New cases all around.

If you can stomach slapping a case on your new phone in the first place, that is. The iPhone 7 comes in silver, gold, and rose gold finishes, but the "space gray" color has been replaced by not one but two versions of black. The matte version is just called black, and it's lovely, with an almost brushed aluminum effect that does pick up fingerprints, but more on its shiny black Apple logo than on the rest of the device. The highly glossy "jet black" version has a shinier finish, like a grand piano, and it's a magnet for fingerprints—and maybe tiny scratches too. Apple even has a disclaimer on the iPhone 7 pre-order page: "Its surface is equally as hard as other anodized Apple products; however, its high shine may show fine micro-abrasions with use." The company suggests you use a case if you're concerned, but then no one can appreciate your glossy phone. It's subjective, but I like the matte version better anyway.

## NEW CAMERAS AND WATER RESISTANCE

Like the iPhone 6s's, the iPhone 7's camera bulges out from the back of the phone, but the bulge rises directly out of the iPhone's rear panel. In the iPhone 6s, the camera bulge has an aluminum ring around it that makes it look kind of stuck on after the fact, while the iPhone 7

camera bump looks a little more like it belongs. I prefer the iPhone SE's design in which the camera is completely flush, but it's not a deal-breaker.

The 7 Plus has a dual-lens setup:

**THE CAMERA** and flash are a lot bigger, so 6s cases won't fit.

two 12-megapixel cameras side by side on the back. One is the same wide angle as in the iPhone 7, and the second is a telephoto lens. Tapping the 1x button above the shutter in the Camera app switches to the 2x view of the telephoto lens instantly—it's so fast it's like you're using the same camera, not switching between two. Holding the button down lets you push past the 2x optical zoom, up to 10x of digital zoom (in photos; 5.8x when shooting video), although digital zoom enlarges the pixels and thus degrades the image quality. The Portrait mode with its bokeh effect demonstrated on stage won't be ready until a software update later in the year, for iPhone 7 Plus owners only. None of the demo units in the hands-on area had it yet.

The iPhone 7 and 7 Plus have 25 percent brighter screens with a wider color gamut, although the sizes and

pixel dimensions remain the same. Every iPhone screen looks great to me, and these were no exception. But the difference wasn't so noticeable that it would sway me to upgrade just for the extra brightness. Maybe when we get to test the phones outdoors, we'll see a bigger difference.

Ready for one more thing? This is the first officially water resistant iPhone! Last year's iPhone 6s had

**THE IPHONE 7** camera bumps out of the aluminum around it.



**TWO CAMERAS** on the iPhone 7 Plus.

some under-the-hood water resistance ([go.macworld.com/iphone-6sh2oproof](go.macworld.com/iphone-6sh2oproof)), but Apple didn't advertise it. Instead of shoving ugly rubber plugs into the various ports to keep liquid out, the company added gaskets inside the case and waterproofed individual connections between internal cables and the logic board. Think of that as a beta test of



**THE MATTE BLACK** color is lovely, and there's a glossy "jet black" option too.



**THE IPHONE 7 PLUS** dual lens switches to the 2x view of the telephoto lens instantly. See it action at [go.macworld.com/vineiphone7zoom](go.macworld.com/vineiphone7zoom).

sorts, because now Apple is proudly calling the iPhone 7 splash, dust, and water resistant, with a rating of IP67 ([go.macworld.com/ipcode](go.macworld.com/ipcode)). That means it should withstand powerful streams of water right on it, as well as dunks in up to a meter of water for 30 minutes. Unfortunately, Apple didn't provide a dunk tank in the demo area, so that's another thing we'll have to test for the full review.

## BOTTOM LINE

So, Apple giveth us water resistance and a more powerful camera, even as it taketh away our faithful friend the 3.5mm headphone jack. The iPhone lineup still lacks built-in

## Macworld Recap: **Apple 2016 Event**



**VIDEO**
To view this video, go to go. macworld.com/ ae916recap

wireless charging, Apple Pencil support, and an OLED screen, but the iPhone 7 is no slouch. (Apple bragged that the 64-bit A10 Fusion chip makes this the most powerful iPhone in history, but that's a progression that we expect—obviously Apple wouldn't want the new phone to be slower than the older models.)

Photographers and the accident-prone have the most reasons to rejoice, but personally, I'm not excited enough about the new cameras or the waterproofing to preorder a new iPhone for launch. As much as I like the AirPods (which won't be ready for the iPhone 7's launch), the inconvenience of plugging headphones into the Lightning port until then is keeping me in wait-and-see territory, until I find out if the brighter screen and the better camera are really enough to make me screw up my "courage" and bid the headphone jack a permanent goodbye. ◼

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**Never underestimate 'just a few.'**
**Buzzed driving is drunk driving.**

AdCouncil.org

U.S. Department of Transportation

# Ceramic is stunning, but Hermès overpriced

**By Susie Ochs**

I t's really hard to tell the difference between the new Apple Watch Series 2 (apple.com/apple-watch-series-2) models and the originals—the aluminum and steel versions anyway—until you place them side by side. Turns out, the Series 2 models (top) are ever so slightly thicker than their predecessors (bottom). Just a hair, not enough to even complain about, really, and it's certainly not a deal-breaker. But from Apple, a company with a track record of sacrificing ports and redesigning keyboards in order to make its products thinner and thinner and thinner, the Apple Watch's extra bulk is a sign that the company is still adding hardware features to find the best mix. In this case, GPS.

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What remains to be seen—and isn't a one-size-fits-all answer anyhow—is whether GPS will be worth the extra cost for the Series 2. After all, GPS and 50m waterproofing are the only differences between the Series 2 watches and the Series 1, which is still on sale. Aluminum Series 1 models, formerly called Apple Watch Sport, are $269 for 38mm and $299 for 42mm, and those Series 1 watches even have the same S2 chips that Apple put in the aluminum Series 2 models, which are $100 more. (Series 2 watches also come in stainless steel starting at $549, but Apple isn't selling steel Series 1.) Since my hands-on time after Apple's September 7 event didn't include a chance to swim laps or go for a run, the Series 2's exclusive features didn't have the opportunity to impress me—yet.

Still, one Series 2 watch called out to me from the crowded table of demo units: the ceramic model.

**THE CERAMIC APPLE** Watch Edition caught me by surprise with its glossy white shine.

Shiny and pristinely white, it looks like it was carved from a solid block of unicorn horn. I'm a little surprised it only comes in white (colors next time, maybe?), but it's a pleasant throwback to when Apple offered a whole range of glossy white products, from iPods to MacBooks.

The ceramic Apple Watch Edition (apple.com/apple-watch-edition), which Apple says is four times harder than stainless steel, was the biggest surprise in Apple's keynote, both for what it is and what it isn't: gold. While it starts at a jaw-dropping $1,249 for the 38mm version, the ceramic Apple Watch Edition replaces the solid-gold Apple Watch Edition models that cost



**EVEN THE BACK** of the ceramic watch is pretty.

$10,000 to $17,000 when they launched in the spring of 2015. Funnily enough, that gorgeous ceramic watch is only sold with an off-white (sorry, "Cloud") Sport Band, a $49 strap that matches the look perfectly but didn't seem luxe enough to me considering the four-figure package price.

The Apple Watch Hermès (apple. com/apple-watch-hermes) models, on the other hand, have the opposite problem. For $1,149 and up, you get a stainless steel Apple Watch Series 2 with exclusive Hermès watch faces and a high-end leather band. I tried on the 38mm size with an Etoupe Swift Leather Double Buckle Cuff, which felt like butter even if it did take twice as long to put on as a

watch with, well, a single buckle. But it retails for $1,499, and that math doesn't come close to adding up: A stainless steel Series 2 watch with a Sport Band is $549, which means that stepping up to the Hermès is paying $950 more to get the fancier cuff and the Hermès watch faces. Well, looky here, the exact same cuff can be had on its own for $689 (go.macworld.com/hermesstrap)

That just leaves the faces, based on classic Hermès watches called Clipper, Cape Cod, and Espace—but honestly, I don't think they're good-looking. I wouldn't pay $5 for one in the App Store even if I could.

Finally, the Apple Watch Nike Plus (apple.com/apple-watch-nike) is an aluminum Apple Watch Series 2 in space gray or silver, with a special Nike Sport Band and exclusive Nike watch face. The bands are vented all the way around and stand out thanks to Nike's eye-catching neon-yellow Volt color. (Plainer black/gray and silver/white colorways are available too, but if you're gonna

go Nike, go neon, I say.)

Aimed at runners, the Nike watch face will even nudge you to pound the pavement more often, by reminding you how long it's been since you last ran, how nice the weather is, or how hard your friends are smoking you on the leaderboards. Keeping in mind that any Apple Watch running watchOS 3 will let you share Activity rings for a little friendly competition, but Nike's implementation seems like a lot of fun. And the prices are the

**THE HERMÈS FACES** just don't do it for me.

same as the rest of the aluminum Series 2 models, so whether you go Nike or not is simply a personal preference.

## Bottom line

I'm eager to test the GPS and lap-counting Swim workouts in the new Apple Watch Series 2, once they ship, and see how long the battery lasts compared to my trusty first-gen Apple Watch. Until then, I think the ceramic watch is the best looking if you're willing to shell out for it, the Hermès Edition isn't worth the money (but the à la carte bands might be), and the aluminum Series 2 watches continue to be a pretty good deal.

If you already have an Apple Watch, there's no need to upgrade, but if you've been waiting to jump on board, now's a great time, and if you don't mind forgoing GPS, the Series 1 option saves you money without sacrificing speed. Apple started taking preorders September 9, and

**APPLE WATCH NIKE PLUS,** neon yellow optional.

shipping the watches September 16. (Hermès models shipped September 23, and Nike models in late October.) New bands (go.macworld.com/watch bands) are in the Apple Store. ■

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# How to use Optimized Storage in macOS Sierra

This new feature in Apple's latest Mac operating system promises to free up precious storage space.

**BY ROMAN LOYOLA**

# A

pple's laptops rely on flash storage, and prices really shoot up if you want more local storage (the actual storage in your computer)—if the model you want offers an upgrade in the first place. The new Optimized Storage feature in macOS Sierra (go.macworld.com/macos-sierra) is designed to help free up precious storage space on your Mac.

Optimized Storage requires iCloud, Apple's online service. Apple provides 5GB of free iCloud Drive storage per Apple ID, so you may want more to take full advantage of Optimized Storage. iCloud storage pricing as follows: 5GB for free; 50GB for $1 per month; 200GB for $3 per month; 1TB for $10 per month. Apple has instructions (go.macworld.com/icloudstorageupgd) on how to buy more iCloud storage.

To access the Optimized Storage options in macOS Sierra:

1. Go to Apple menu ➔ About This Mac.

2. In the window that appears, click on the Storage tab, then click Manage.

This bar graph has changed a bit from the one in OS X El Capitan, which provided a color-coded key below the bar to tell you how your storage is being allocated. In Sierra, the color-coded key is gone, but if you move your cursor over the colored sections, you can see what each section represents. For example, the light blue section next to the yellow System section in the screenshot below is for Other Users.

If you look closely at the screenshot below, you can see a small white-with-gray-stripes section. This is what Apple calls Purgeable, and it
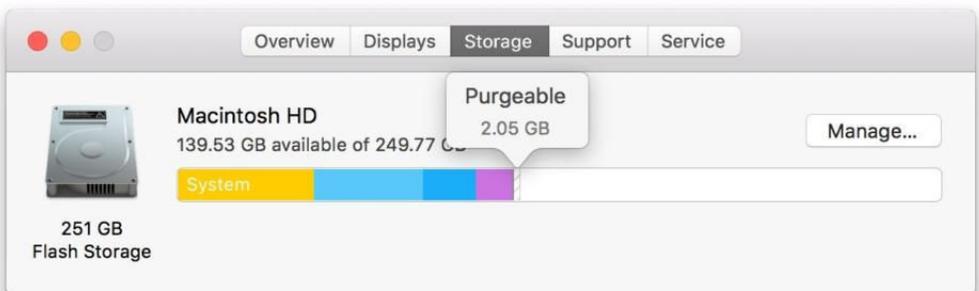
indicates that these are really old files that you can probably archive, save to the cloud, or delete in order to free up storage space.

To the right is the main interface for Optimized Storage. First, let's go over the choices in the Recommendations window that appears in the main section. Then let's look at the options in the left column.

## OPTION 1: STORE IN iCLOUD

This option houses your most recently used files and optimized photos in local storage. Here's why you might want to upgrade iCloud:

Your iCloud Drive is used as long-term storage for your original files and full-resolution photos and videos, which can be downloaded to your Mac when you need them.

You are able to fine-tune this option a little. When you click on the
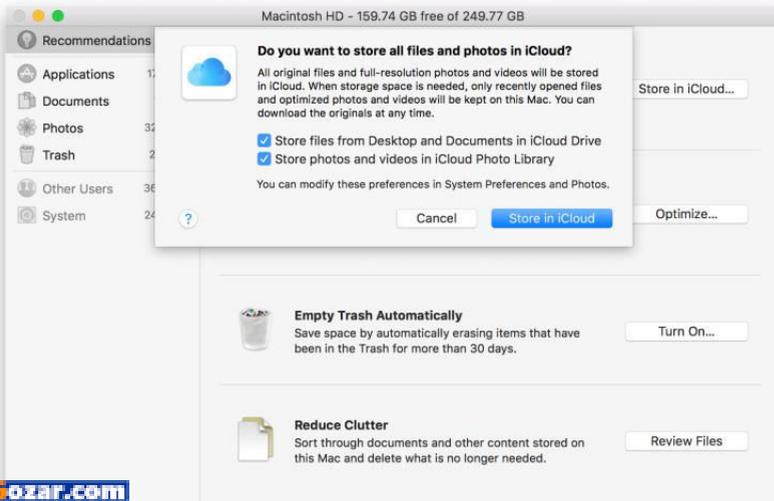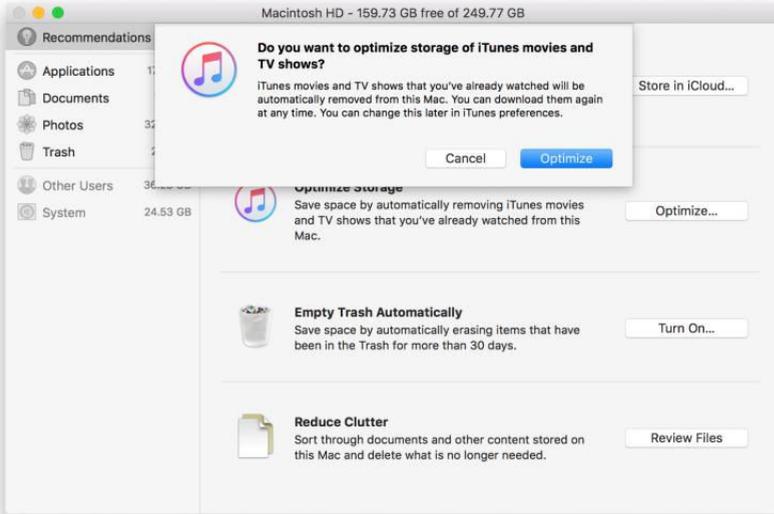
Store In iCloud button, you have the choice to save files from the Desktop and Documents folders (go.mac-world.com/iclouddesktopdocs) in iCloud. You can also enable/disable the ability to store photos and videos in iCloud Photo Library.

If you want to modify the Store in iCloud options after you have turned it on, you have to go to the iCloud system preferences for Desktop and Docu-ments, and the Photos app preferences for iCloud Photo Library.

## OPTION 2: OPTIMIZE STORAGE

Video files take up a lot of space. If you like to watch TV shows and



**MODIFY THE** Optimize Storage settings in iTunes' preferences.

Recommendations

Applications

Documents

Photos

Trash

Other Users 36.23 GB

System 24.53 GB

**Are you sure you want to erase Trash automatically?**

Items left in the Trash for more than 30 days will be automatically erased. You can change this setting later in Finder preferences.

Cancel    Turn On

Store in iCloud...

**Optimize Storage**
Save space by automatically removing iTunes movies and TV shows that you've already watched from this Mac.

Optimize...

**Empty Trash Automatically**
Save space by automatically erasing items that have been in the Trash for more than 30 days.

Turn On...

**Reduce Clutter**
Sort through documents and other content stored on this Mac and delete what is no longer needed.

Review Files

**ERASE TRASH AUTOMATICALLY** deletes files that have been in your Trash for 30 days.

movies from iTunes, you may not realize that the videos you have already watched are just sitting on your Mac. Optimized Storage auto-matically removes these files for you. You can download them from iTunes again whenever you want.

If you turned this on and decide later that you want to turn it off, you do so in iTunes (iTunes ➝ Preferences ➝ Advanced).

Optimized Storage also works with email attachments. These files are automatically removed from your Mac. The idea here is that since the email attachment is being stored on an email server, there's no need to keep it on your Mac. You can simply get the attachment from the server again, though if you've deleted the

email completely, the attachment is gone, too.

To use Optimized Storage with email attachments, you must use Apple's Mail app. You can use any of the popular email services, like Gmail, Yahoo, and Outlook.

## OPTION 3: EMPTY TRASH AUTOMATICALLY

What's cool about this option is that it's basically like the Recently Deleted folder of iOS's Photos app. Items stay in the Trash for 30 days; once the 30 days are up, the item is deleted.

Unlike the iOS Photos app's Recently Deleted folder, the files in the Mac's Trash aren't labeled with how many days are remaining before deletion. To get this information, you

have to go into the Optimize Storage interface (Apple menu ➜ About This Mac ➜ Storage ➜ Details), and then click on the Trash listing in the left column. You'll see a list of files in the Trash, with a date when the file was last accessed.

If you decide to turn this feature off, you will notice that there's no way to do so in this interface. You do it in the Finder preferences; in the Finder, select Finder ➜ Preferences, then click Advanced. Uncheck the box for Remove Items From The Trash After 30 Days.

## OPTION 4: REDUCE CLUTTER

This is an interface you can use to sift through your files and figure out which ones to delete or move to another storage medium. It's more efficient than opening a bunch of Finder windows and looking at the
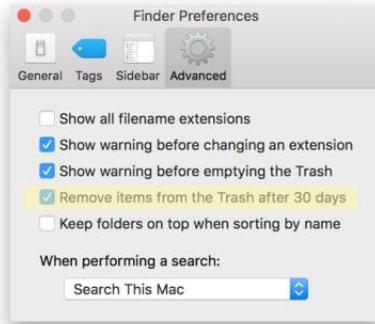


files that way. Also notice that when you click on the Review Files button, it's the same as selecting Documents in the left column.

There are three different ways to view the files on your Mac.

**> Large Files** lists the files on your Mac from the largest to the smallest.

**> Downloads** shows what's in your Downloads folder.

**> File Browser** lets you navigate your storage device. It's like viewing
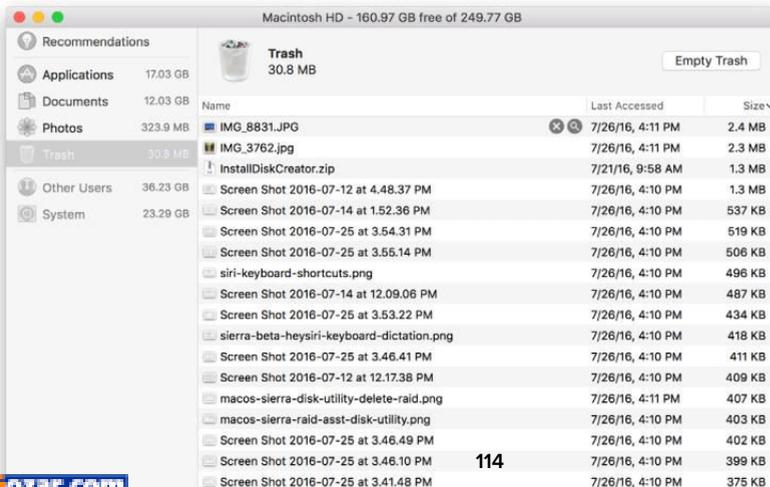
**SELECTING TRASH** in the left column provides more details about the files in your Trash.

a Finder window in List view.

> **iOS Backups** (not pictured). If you sync your iOS device to your Mac, iTunes keeps a few older backups, in case you want to restore to a previous point in history. These backups take up a lot of space, so you may want to delete older ones.

In Large Files and Downloads, if you move your cursor over a file, you can then click on the X button to delete the file, or click the magnifying glass to see the file in the Finder. In the File Browser, you need to right-click a file to move it to the Trash.

## WHAT'S IN THE LEFT COLUMN OF THE WINDOW

The items that appear in the left column vary. What appears depends on how you use your Mac. For example, if you use Mail, then you'll see an entry for Mail. If you use GarageBand, there will be an entry for GarageBand.

As of the macOS Sierra Public Beta 4, there is an Applications option in the left column. This provides a view of all the applications on your computer, and lists them by size. When you place a cursor over an app, you get the Delete and Show In Finder icons, like the ones that appear in Documents. But the Delete function didn't work for me. I tried to delete several apps this way, and the apps were still there, even after I restarted the computer. So it's unclear if this delete method also removes all of
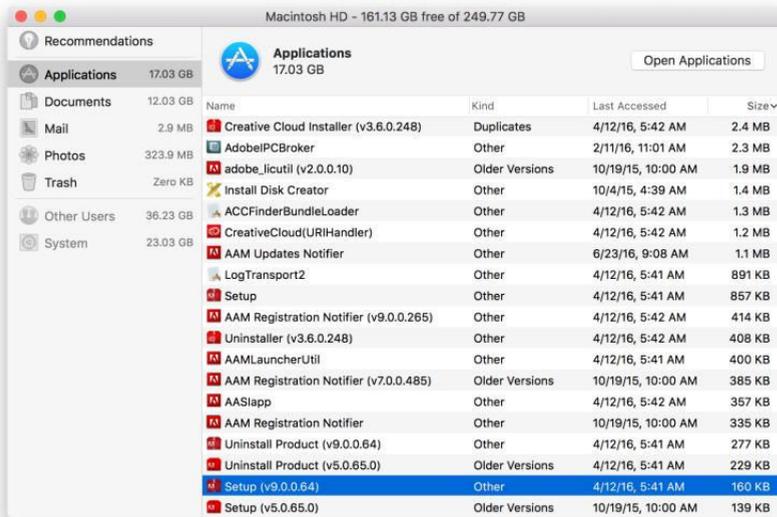
the files the apps install during the installation, a longtime pet peeve (go.macworld.com/uninstallma-capps).

Also, this view doesn't show every application on your Mac. None of the Apple apps that come with Sierra are shown here, though App Store apps do appear. Mostly, this view is for apps you've installed on your own from the internet or from external media. This leads me to the usual disclaimer...

## UPDATES ARE COMING

This look at Optimized Storage was done using the macOS Sierra Public Beta. It will be updated as OS updates become available and when Apple officially releases macOS Sierra. ■

# End the clutter: How to organize your Mac menu bar

The Mac's menu bar is a handy place for quick access to apps and system preferences. But it can easily be a crowded space.

BY JEFFERY BATTERSBY
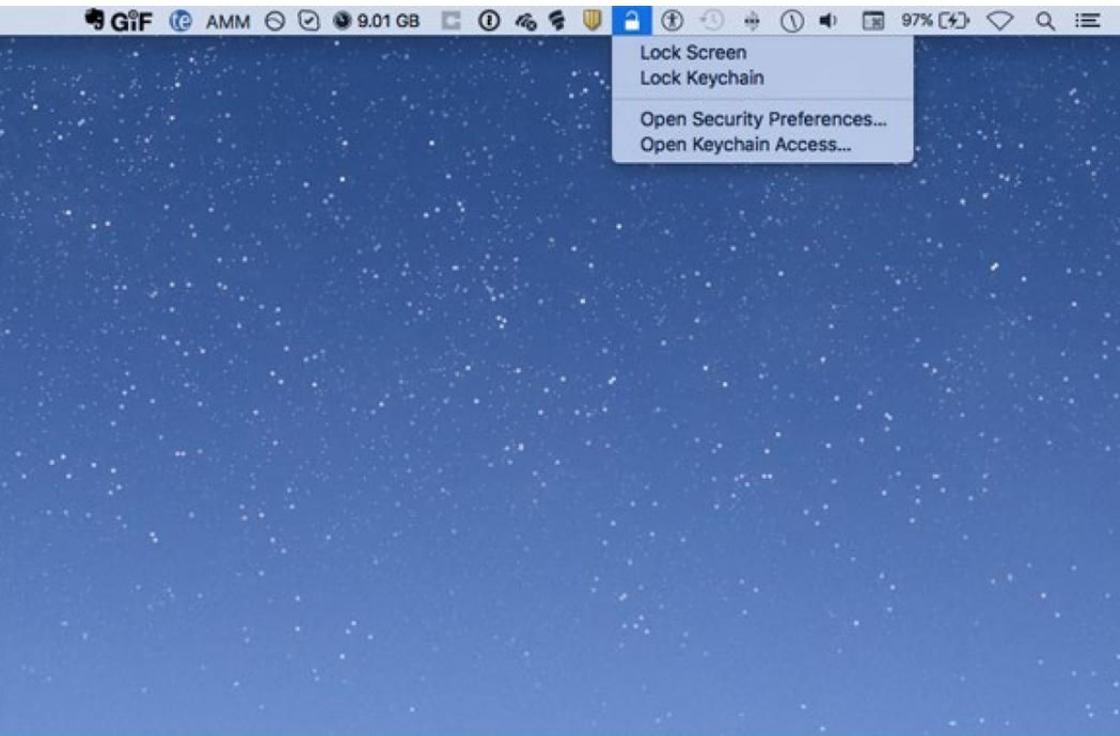
**Y**our Mac's menu bar is a useful tool. It displays "menu-bar extras," little icons that give you status information about your Mac, or that offer quick-access menus to certain settings. For example, you can click the Wi-Fi icon to turn Wi-Fi on or off, or to select a Wi-Fi network. You can click the User icon to go to the login window, or to select a different user and switch to their account. Or you can click the keyboard icon to change input methods, if you work with different keyboard layouts.

It's not just OS X that puts menu extras at the top of your display; third-party apps do as well. Some offer similar features, such as access to oft-used functions, and others can provide status information.

But all this comes at a price: clutter.

If you have a Mac with a large display, then you probably don't worry about how many icons are in your menu bar, though they can give you sensory overload. But if you have a laptop, you may find that not all of your menu-bar extras display when an application you run has a lot of menus of its own. App menus get priority, and if you're working with an app with lots of menus, some of your menu-bar extras simply disappear.

Here's what's in my menu bar, from left to right: Dropbox, Airfoil Satellite, TypeIt4Me, BusyCal, BitTorrent Sync, HazeOver, Moom, f.lux, Evernote, Plex, then a group of status menu-

bar extras from iStat Menus. Next come system menu-bar extras: Messages, Wi-Fi, Eject, Time Machine, Volume, Bluetooth, Input, User, Spotlight, Notification Center.

That's a lot of stuff.

### CHANGING POSITIONS

Menu-bar extras are in two groups: third-party items at the left, system items at the right. You can change the position of any third-party menu-bar extra by pressing the Command key, clicking it, and dragging it to a new location. (And you'll be able to do this with third-party extras in macOS Sierra.)

### REMOVING MENU-BAR EXTRAS

For system items, just press Command and drag a menu-bar extra away from the menu bar to remove it. For third-party items, you'll need to

**HERE'S THE** menu bar on my 27-inch iMac.

check the apps that added the menu-bar extras. Many of them can be removed, usually from a checkbox in the preferences or settings. However, some apps don't let you do this; there would be no other way of accessing settings or features. For example, while Dropbox offers access to settings from its app, there's no way to pause or resume sync, or to see what's syncing without the menu-bar extra.

The $15 Bartender ([go.macworld.com/mbt](go.macworld.com/mbt)) can solve this problem. It allows you to reorganize all your menu-bar extras, creating a second bar that only displays on demand. You can also rearrange all the menu-bar extras with Bartender, whether they're part of OS X or come from third-party apps.

## ADDING MENU-BAR EXTRAS

For third-party menu-bar extras, as I said earlier, each app has a setting, and you may add or remove some of these. To add system items, you need to go into System Preferences. For example, the Wi-Fi menu-bar extra setting is in the Network pane; the User extra setting is in Users &



| Name | Date Modified | Size | Kind |
|------|---------------|------|------|
| AirPort.menu | Aug 23, 2015, 3:19 AM | 1 MB | MenuExtra plugin |
| Battery.menu | Aug 23, 2015, 3:25 AM | 1.6 MB | MenuExtra plugin |
| Bluetooth.menu | Aug 27, 2015, 1:25 AM | 445 KB | MenuExtra plugin |
| Clock.menu | Aug 23, 2015, 2:44 AM | 43 KB | MenuExtra plugin |
| Displays.menu | Aug 23, 2015, 3:04 AM | 181 KB | MenuExtra plugin |
| Eject.menu | Aug 23, 2015, 2:54 AM | 108 KB | MenuExtra plugin |
| ExpressCard.menu | Aug 23, 2015, 2:47 AM | 231 KB | MenuExtra plugin |
| Fax.menu | Aug 23, 2015, 3:40 AM | 192 KB | MenuExtra plugin |
| HomeSync.menu | Aug 23, 2015, 3:26 AM | 529 KB | MenuExtra plugin |
| iChat.menu | Aug 27, 2015, 4:53 AM | 167 KB | MenuExtra plugin |
| Ink.menu | Aug 23, 2015, 2:55 AM | 88 KB | MenuExtra plugin |
| IrDA.menu | Aug 27, 2015, 1:13 AM | 203 KB | MenuExtra plugin |
| PPP.menu | Aug 23, 2015, 2:52 AM | 300 KB | MenuExtra plugin |
| PPPoE.menu | Aug 23, 2015, 2:52 AM | 245 KB | MenuExtra plugin |
| RemoteDesktop.menu | Aug 23, 2015, 5:57 AM | 332 KB | MenuExtra plugin |
| Script Menu.menu | Aug 23, 2015, 2:42 AM | 180 KB | MenuExtra plugin |
| TextInput.menu | Aug 23, 2015, 2:48 AM | 545 KB | MenuExtra plugin |
| TimeMachine.menu | Aug 23, 2015, 6:28 AM | 340 KB | MenuExtra plugin |
| UniversalAccess.menu | Aug 23, 2015, 5:31 AM | 117 KB | MenuExtra plugin |
| User.menu | Aug 23, 2015, 5:38 AM | 312 KB | MenuExtra plugin |
| Volume.menu | Aug 22, 2015, 11:24 PM | 146 KB | MenuExtra plugin |
| VPN.menu | Aug 23, 2015, 2:52 AM | 300 KB | MenuExtra plugin |
| WWAN.menu | Aug 27, 2015, 1:11 AM | 556 KB | MenuExtra plugin |

Groups; the Volume setting is in Sound; and so on.

There are some other menu-bar extras you can add, but only if you know where they're hiding. If you go to `/System/Library/CoreServices/ Menu Extras` you'll find two dozen items you can add to your menu bar. Double-click any of these to add them to your menu bar.

Some of these are available from System Preferences, but not all. For example, I use the Eject menu extra to be able to eject discs from my optical drive; and if you like to use AppleScripts, you may want to add the Scripts menu extra.

Menu-bar extras are useful, but only if you don't get overwhelmed. Taking control of your menu bar can make you more efficient, and save you time. ■

**A HARD-TO-FIND** folder contains a number of useful menu extras.

# TEXTING AND DRIVING MAKES GOOD PEOPLE LOOK BAD.

**STOPTEXTSSTOPWRECKS.ORG**

Ad Council   NHTSA

# Hands on with macOS Sierra's Console: Now it's easier to get the Mac information you need

Improvements make the Console less intimidating to use.

BY KIRK McELHEARN

I
f you've ever looked at the Console app in OS X, you've seen how frustrating it can be to glean any useful information from its overladen logs. Console displays log information that can help you troubleshoot problems (go.macworld.com/consolelog) on your Mac, but it also records a plethora of status messages. Wading through a never-ending stream of messages in Console has always been difficult, but Apple has reworked Console in macOS Sierra, making it a lot more usable. Here's a brief overview of what's new.
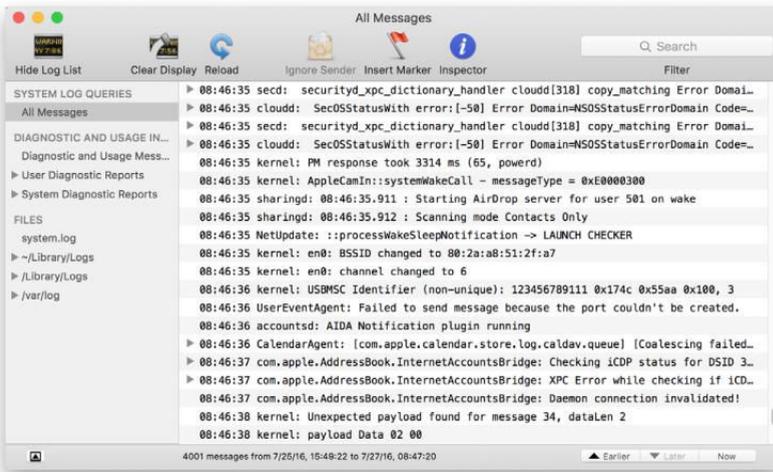
In the current Console, log entries show up as long lines of text. The names of processes and applications are bolded, but that's about it. In Sierra, Console gets a whole new display. As you can see on the next page, there are now columns that make it easier to view and sort messages.

There are four columns by default, and if you right-click on a column header, you can choose others. The default columns are Type, Time, Process, and Message, but you can add others, such as Library, PID, Thread ID, and more. Most of these are only of interest to developers, but users will find it easier to trouble-shoot when they can more easily view additional information.

Console (497 messages)

| Devices | Type | Time | Process | Message |
|---|---|---|---|---|
| Kirk's MacBook | | 10:11:31.280031 | iTunes | AplePushService: <APSConnection: 0x600000384100> s… |
| | | 10:11:31.280337 | iTunes | AplePushService: <APSConnection: 0x600000384100> _… |
| Reports | | 10:11:31.281289 | iTunes | AplePushService: <APSConnection: 0x600000384100> _… |
| Diagnostic and… | | 10:11:31.281551 | iTunes | AplePushService: <APSConnection: 0x600000384100> _… |
| System Reports | | 10:11:31.282342 | iTunes | AplePushService: Connection successfully flushed d… |
| User Reports | | 10:11:31.282466 | iTunes | AplePushService: <APSConnection: 0x600000384100> _… |
| system.log | | 10:11:31.282721 | iTunes | AplePushService: Connection Invalid for service co… |
| ~/Library/Logs | | 10:11:31.318339 | iTunes | 2016-07-27 10:11:31.318 [iTunesMR] kPlayerStopped |
| /Library/Logs | | 10:11:31.321605 | iTunes | Received Media Remote client notification <private> |
| /var/log | | 10:13:09.709680 | com.apple.iTunesLibrary… | switching to keychain-db: /Users/kirk/Library/Keych… |
| | | 10:13:09.710306 | com.apple.iTunesLibrary… | switching to keychain-db: /Users/kirk/Library/Keych… |
| | | 10:13:09.710758 | com.apple.iTunesLibrary… | switching to keychain-db: /Users/kirk/Library/Keych… |
| | | 10:13:09.711254 | com.apple.iTunesLibrary… | switching to keychain-db: /Users/kirk/Library/Keych… |

Subsystem: -- Category: -- More...

Another change is the ability to pause the display by clicking the Now button in the toolbar. Click that and the river of messages freezes, so you can see what's happening in the moment. And when you click on a log entry to view it, a new Info Pane below the entry list gives you more information, and lets you focus on a single entry even if you haven't paused the display.

Console displays both status messages and error messages, and an option above the message list lets you choose to view all messages, or just errors and faults. It's these latter that you are more often interested in,

and this is a boon for troubleshooting problems.

The Errors And Faults option is actually just a saved search. Another new feature in this version of Console is an improved search feature. Type a search term in the Search field, press Return, and Console displays a menu next to the term. Click this, and you can choose from a number of search criteria. As with the columns I mentioned previously, these include Process, PID, Message Type, and more. This makes it easy to narrow down messages from a specific app or process.

And you can save these searches,

**CONSOLE** in macOS Sierra has gotten a full makeover.

as you save smart folders in the Finder. Click the Save button, and your search displays in the search bar above the messages. (You can already save search queries in El Capitan, but this method is easier, and offers more options.) If you're a developer, you'll find this saves a lot of time when you need to check on what your app is doing.

Not everyone needs the Console app, but those who work with it will find these improvements make their work a lot easier. ∎
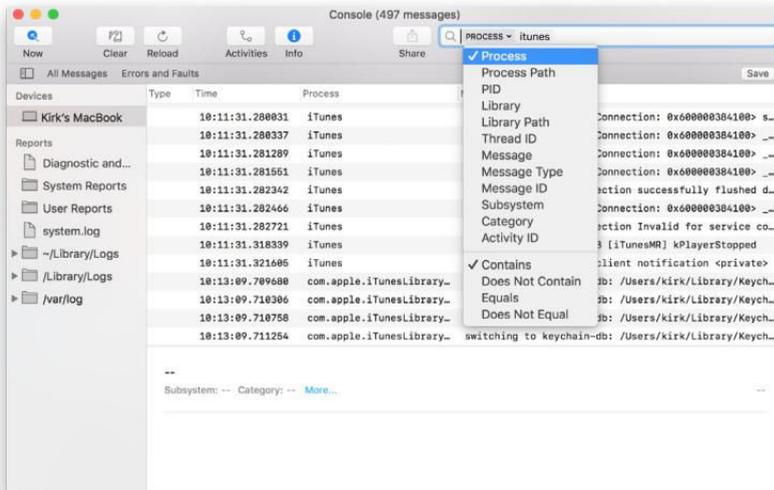


**THE NEW CONSOLE** app lets you create targeted searches.

# How to use dictation on your Mac

Instead of pointing, clicking, and typing, you can use your voice for input on your Mac.

BY JEFFERY BATTERSBY

# T

his month, I am in a place where I can't work directly with my servers to test the NetInstall steps and images, so...we'll take a brief detour and look at your Mac's built-in dictation features.

## I CAN HEAR YOU NOW

You may think you have to wait for Siri to appear in macOS Sierra before you can talk to your Mac, but your Mac already has a way to listen to every-thing you say and to turn what it hears into text. You can enable this feature, which supports over 30 languages and many more dialects, using the Dictation & Speech prefer-ence in System Preferences.

Apple's speech-to-text features are turned off by default, so before you can use this feature you need to turn it on.

1. Open System Preferences.

2. Click Dictation & Speech, which you'll find in the middle of System Preferences' fourth row.
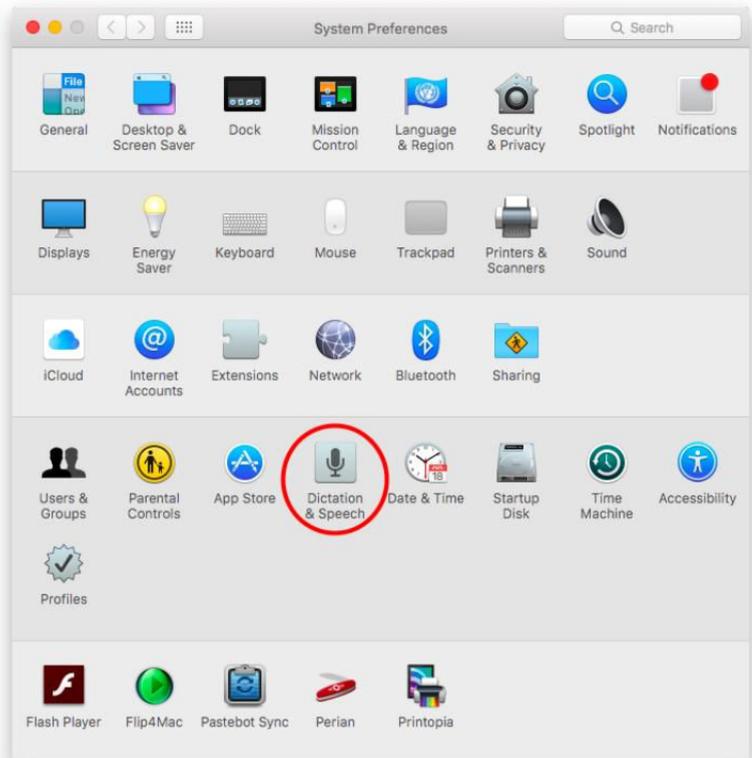
3. Click the radio button that says On. You will see a message warning you that using your Mac's dictation option the way it's currently set up will send your spoken text to Apple to be converted.

4. Click Enable Dictation. The default keyboard shortcut to begin dictating is to press your Mac's Fn key (function key) twice. If you aren't using an Apple keyboard with such a key, choose a different shortcut key.

**When you dictate text without Enhanced Dictation, what you say is sent to Apple to be converted to text.**

To help your Mac recognize what you're saying, other information is sent as well, such as the names of your contacts.

Cancel    Enable Dictation

Let's give this a test:

1. Open the TextEdit app.

2. Select File ➜ New to create a new document.

3. Press the Fn key (or your selected shortcut key) twice and begin speaking to your Mac.

Note that what you say will almost immediately begin to appear on your screen. You should also note that your normal speech doesn't make for very good text, because your normal speech doesn't usually include punctuation. So, let's work out a little "speech-to-text."

### LEARNING TO SPEAK AGAIN

Instead of your normal speech, speak the following text exactly as it's written, but first, press the Fn key twice:

```
This is great
Exclamation point
I'm using Apple's speech to
text feature
Period
New paragraph
Pretty great
Comma
Isn't it
Question mark
```

When you're done, press the Fn key.

As you can see, this isn't exactly pretty sounding speech, but, as you can also see, what you said is exactly what appears on the page. And that's pretty great!

### SO, ABOUT THAT WARNING

By default, Apple's dictation feature uses Apple's servers to convert your speech to text. This can be a problem, because whatever you're saying gets sent across the Internet, converted to text, and sent back to you; and if you don't have access to the Internet you can't use this feature. So let's remedy that:

1. Open System Preferences.

2. Click Dictation & Speech.

3. Put a check in the box that reads Use Enhanced Dictation.

Your Mac will download the speech-to-text translation files to your Mac's hard drive. As soon as the download is complete you'll have access to the dictation feature without an Internet connection and you don't have to worry about your romantic love poetry traveling to infinity and beyond to get turned into text. ∎

# SHELTER PET & LIFE OF THE PARTY

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Maddie's Fund

# 10 ways to make your outdoor photos amazing

Tips and tricks for capturing great shots with your iPhone camera.

**BY LESA SNIDER**

# Spotting great photo opportunities is a talent in itself, but knowing how to quickly harness your iPhone camera's built-in features to capture the best shots is an entirely different skill.

Your iPhone is the camera you always have in your hand, but sometimes inspiration fails around the same old point-and-shoot methods.

Sure, there are plenty of ways to enhance your camera with specialized iPhone lenses or tripods, but you don't really need extra hardware to get great shots. Just sticking with the built-in camera and assorted photo apps can give you some uniquely standout memories. Here are some hints on how to achieve them.

## 1. SHOOT IN 360-DEGREES

With the rise of 360-degree cameras (go.macworld.com/360cameras), interactive spherical shots are becoming increasingly popular both to view and to create—without spending hundreds of dollars on a dedicated camera.

To capture a 360-degree landscape that you can view on the desktop, via a mobile device, or through a VR viewer, just fire up your Camera app or one of the several 360-degree apps available in the App Store. Facebook's new 360-degree photo feature (go.



Mobile Uploads   2 of 11       Make Profile Picture   Options   Share   Send   Like
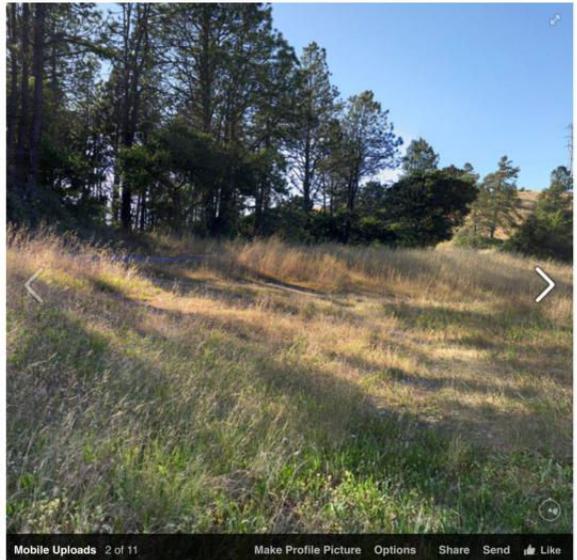
macworld.com/360camfeature) automatically converts a conventional panorama shot with the iPhone's native Camera app into a 360-degree image that viewers can explore directly in their Facebook timeline.

With Google Street View for iOS (go.macworld.com/streetviewios), you get step-by-step instructions on how to create and post a 360-degree image, which you can then upload to Google

**AN INTERACTIVE 360-DEGREE** shot uploaded from the Panorama app and viewed on the desktop in Google+.

SoftGozar.com

Maps, your Facebook page, or Google+. Just launch the app and follow the prompts to fill in the required number of panels. The app will stitch a pleasing photo sphere image that you can manipulate with a mouse or finger.

You don't have to stick with the iPhone Camera or Google's app. DMD Panorama (go.macworld.com/dmd-panorama), 360 Panorama (go.mac-world.com/360panorama), and others offer detailed instructions on how to shoot and post 360-degree images.

## 2. SHOOT HORIZONTAL AND VERTICAL PANOS

Panoramas are an excellent way to capture extreme wide-angle shots with your iPhone. Just launch the Camera app and hold the phone upright in



**SHOT WITH GOOGLE** Street View and viewed in Facebook or Google+ or Google Maps.
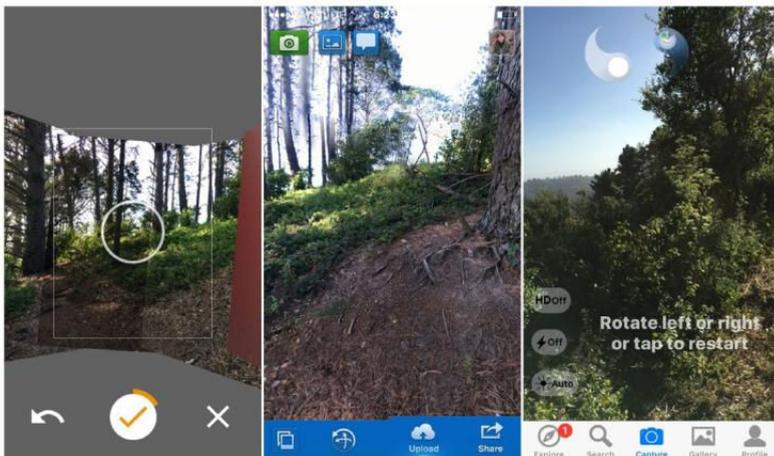


**GOOGLE STREET VIEW,** 360 Panorama, and DMD Panorama are among several apps available that facilitate mobile 360-degree immersive images.

portrait orientation. When you hit the button, hold the phone with both hands and steadily move it in one direction, following the arrow prompt. Note any messages on the screen and beware of moving too quickly.

Try to lock the exposure at a medium brightness in the landscape where the light is optimal before you tap the shutter button, otherwise you risk combining different exposures as the camera app adjusts to various points in the scene.

Panos can be vertical too, and are shot the same easy way, except that you hold the phone in landscape orientation as you move. To finish shooting the scene, just tap the start button again or move the phone slightly in the opposite direction.

## 3. MAKE YOUR LANDSCAPES COMPELLING

Wide vista landscapes are a perennial favorite of both photographers and viewers, but they are often a photographic challenge. Here are some simple composition tips to make your scenic image pop.

Always pick a main subject to focus on. A picture of a lake surrounded by trees and shimmering water can be an awesome sight to behold, but all too often it fails to come across in a photo because the

camera's lens does not take in all the majesty that your brain does. To compensate, focus on something—a bird, a person, a sailboat—some object that contrasts with the scene, generates interest, and guides the viewer's eye around the tableau. Try using the iPhone's built-in grid guide (Settings ➜ Photos & Camera ➜ Grid) that lets you apply the Rule of Thirds (en.wikipedia.org/wiki/Rule_of_thirds) to help you convey the scenic beauty you're after.

Another technique, called leading lines (go.macworld.com/leadlines), lets you use the natural landscape to cut a visual path through your composition, making the main vista both dynamic and easy to follow.

For gorgeous landscapes, apps
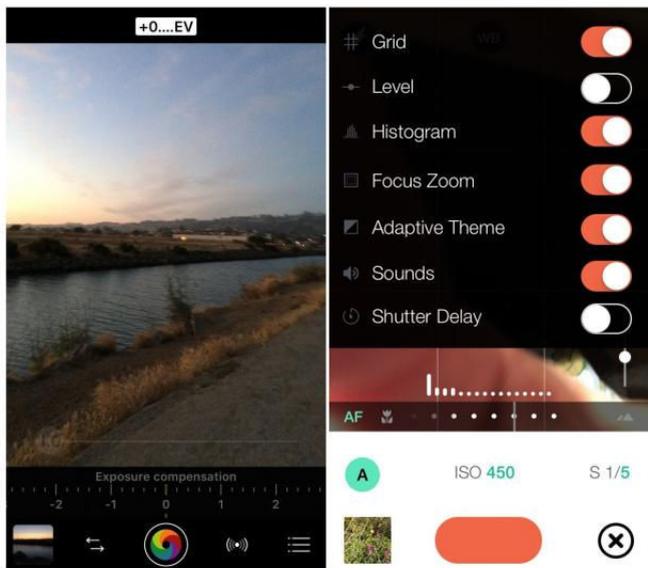


**PROCAMERA AND MANUAL** apps allow multiple settings.

like ProCamera (go.macworld.com/procamera) and Manual (go.mac-world.com/manualapp) both offer highly customizable and precise controls for ISO, shutter speed, white balance, focus, exposure, and more.

## 4. DRAMATIZE YOUR SKIES
Clouds are your photographic friends. Every landscape is enhanced by cloud formations because they provide unique points of interest and contrast. You don't have to wait for bad weather to get great-looking clouds. Just start with a cloud pattern that has some potential.

Make the most of cloud patterns by employing the Rule of Thirds, giving your sky the top two-thirds of the action.

Then, tap the HDR (High Dynamic Range) setting on the Camera app screen. That lets you capture more detail in the shadows and highlights than using the default setting. Slight tweaks in either the mobile or desktop Photos app can easily enhance a sky after the fact too, but you can even take the drama a step further with dedicated photo apps like MacPhun's Aurora HDR (aurorahdr.com) or JixiPix's Simply HDR (go.macworld.com/simplyhdr) iPhone app.

That's not to put down clear blue skies, not at all. While they may not seem inherently dramatic to look at, a pure, unadulterated cerulean hue, the kind that really brings out your subject, can be heart-stopping.

## 5. BE AT ONE WITH WILDLIFE

If you love the great outdoors, photographing wildlife is just part of the scenery. While getting a bird to sit still for a pose will take some effort, try your luck with Canada geese, ducks, alligators, peacocks, deer, and farm animals.

You may be tempted to use your iPhone's digital zoom to close in on feathers or fur, but you will likely be disappointed with the results. Instead of zooming in, get up as close and personal to your animal subject as possible without putting yourself in harm's way, of course. (Beware of geese, alligators, and elk especially, but any animal you don't know can react badly to close human proximity.)

Then, when you are at a good distance, circle the creature in order to capture a variety of angles. Use the camera's burst mode so you don't miss a shot. Make sure to use your exposure and focus lock and try to zone in on the animal's eyes for depth and realism, if possible.

## 6. EXPLORE COLORS, SHAPES, AND PATTERNS

Phone cameras may not be the best choice for capturing expansive

landscapes, but they are hard to beat for exploring color and detail. Not all images have to be about something or of a specific object. The best part of the outdoors is the seasonal colors, so consider capturing nature's hueful charm—beautiful foliage, flowers, leaf patterns or shadows—for its own abstract sake.

Get up close to your subject and shoot from different angles to capture intriguing natural patterns. For darker environments, a judicious use of flash may come in handy.

## 7. USE SILHOUETTES
Silhouettes can dramatize just about any animate or inanimate subject,

and they're super-easy to accomplish. To create one, just look for the light source and position your subject in front of it. You can shoot silhouettes at any time of day, but the most dramatic time for outdoor silhouettes is when the sun is low in the sky, around sunrise or sunset (often referred to as the golden hour).

Most of the time, you can rely on the iPhone's auto exposure for great silhouettes, but to make sure that you get the image you're looking for—a blackened subject and a nicely exposed sky—tap on the brightest part of the image (the sky) and a silhouette will naturally form, provided the light source is behind the subject. If you need to darken the subject more, swipe down on the screen to further reduce exposure.

Need more help with getting the best silhouette-friendly exposures? Try shooting with an app like Camera+ (go.

macworld.com/cameraplusapp), which lets you separate focus and exposure controls.

## 8. BUILDINGS ARE LANDSCAPES TOO

You may wish you were going to some wild place on your summer jaunt, but maybe you can't get away. No problem. The city is the great outdoors too, and that means streetscapes and sidewalks filled with people and buildings. Architecture shots are just a different kind of landscape, and they can be equally challenging.

For building and street shots, the concept of leading lines will give you naturally dynamic images, while crazy

camera angles, contrasting colors, reflections, and mirrored windows can yield unique and fascinating looks. Just remember to look up, move around, and have fun snapping from different vantage points.

## 9. SHOOT IN THE BEST LIGHT

Timing is everything in photography. Time translates directly into available light, and light governs how your image will look. When shooting outdoors, the most unflattering light for just about any scene, person, or object is bright, mid-day, high-in-the-sky sun. It robs subjects of color and depth, often bathing them in harsh light and deep shadows.

The best times to shoot are early morning or twilight—the so-called golden hours—just after sunrise or before sunset when the light is mellow, though mid-morning or later afternoon may be more realistically convenient. Sometimes it's hard to figure out when the best shooting time will be. Not surprisingly, there's more than one app to help out.

Rizon (go.macworld.com/rizon), for example, lets you dial in optimal times and will notify you ahead of time to get ready for your shot.

## 10. STORMY WEATHER

It's not always possible to shoot when the weather is optimal. In some

places, a perpetual fog or constant rain can last for months. Does that mean you should retreat indoors with your iPhone cam? Heck no.

For the most dramatic atmosphere, compose your shot so that the stormy sky takes up a large proportion of the frame. Use leading lines, which draw the eye directly into the scene, to create powerful images. Moody skies and silhouettes also work well together for bad-weather drama.

Shooting through a window, car windshield, or from under an awning can produce distinctive shots. Darkened clouds create dramatic skies, while a little bit of rain can inspire unique and abstract compositions, even an accidental rainbow.

Try shooting with the HDR option turned on to boost vibrance.
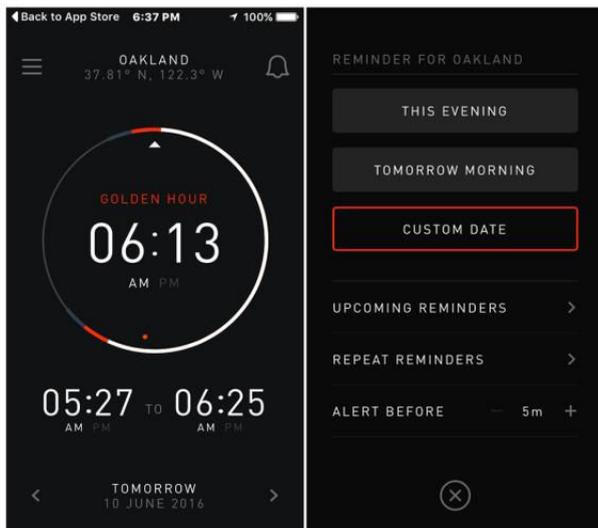




RIZON

## WHAT YOU SEE IS WHAT YOU GET

If you're posting photos directly from your phone, feel free to do some quick tweaks in the Photos app. If you're really ambitious about sprucing up a special shot, transfer images to your desktop for editing in Apple Photos and its various extensions (go.macworld.com/macphuncreative), or call on reinforcements like Pixelmator (go.macworld.com/pixelmator35), Adobe Photoshop Elements (go.macworld.com/pixelmator35), or Lightroom (go.macworld.com/lrnew).

Starting off with a good shot is always optimal, but don't be afraid to give a good photo a little boost. In the end, it's what the viewer sees that counts. ∎

# How to use Photoshop to turn a photo into a realistic painting

Create a digital painting, complete with canvas texture.

BY LESA SNIDER
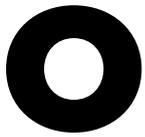
O ne of the most frequently asked Photoshop questions is how to turn a photo into a painting. Unless you're a fine artist who's skilled at digital painting, it can be a daunting task. Fortunately, the mortals among us can use a combination of Photoshop filters to get it done.

This technique works especially well on landscape shots, wherein you don't have to worry about distorting facial features. This column teaches you how to use Photoshop CS6 or CC 2015, specifically, to create a fairly realistic painting complete with canvas texture (your author learned this technique from Jack Davis of wowcreativearts.com).



**USING A** Smart Object lets you run filters non-destructively, plus you can reopen the filter's settings to adjust them.

### PREPARE THE PHOTO

In Photoshop, choose File ➜ Open As Smart Object and navigate to the soon-to-be-painterly photo. If the photo is already open, activate the layer(s) and convert it into a Smart Object by choosing Layer ➜ Smart Objects ➜ Convert To Smart Object.

If you're starting in Lightroom, select the image thumbnail and choose Photo ➜ Edit In ➜ Open As Smart Object In Adobe Photoshop. Once the image opens in Photoshop, take a peek at the Image ➜ Mode menu and ensure it's set to 8/Bits Channel.

### FUN WITH FIVE FILTERS

This technique employs several filters; however, Adobe shortened Photoshop's Filter menu a few versions back, so you may be viewing an abbreviated list in your copy of the program. If you don't see the categories mentioned here in your own Filter menu, you can access them by choosing Filter ➜ Filter Gallery instead. Alternatively, repopulate the Filter menu by choosing Photoshop CC ➜ Preferences ➜ Plug-Ins and turning on Show All Filter Gallery Groups And Names. The benefit of this route is that the individual filter names show up in your Layers panel, instead of a generic entry named Filter Gallery.

The first filter in this technique roughs up the photo a little so the end

result doesn't look unnaturally perfect. Choose Filter → Noise → Median, enter a Radius of 3 into the resulting dialog and then click OK.

Next, choose Filter → Stylize → Oil Paint and adjust the sliders in the Brush section to your liking (settings of 6.3, 10, 10, and 10 were used here). Leave Lighting turned off and then click OK. (If the Oil Paint filter is dimmed in your Filter menu, choose Photoshop → Preferences → Performance and turn on Use Graphics Processor.)
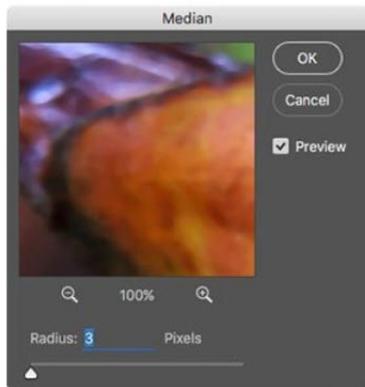
Now choose Filter → Stylize → Emboss. Set Angle to around –130, Height to 3, and Amount to 100 percent. Click OK and Photoshop turns the entire document gray— don't panic, you'll fix that next.

In the Layers panel, double-click the icon to the right of the Emboss filter (circled in the top middle image on the next page). In the Blending Options dialog that opens (top right image on the next page), change the Mode menu to Overlay and click OK.
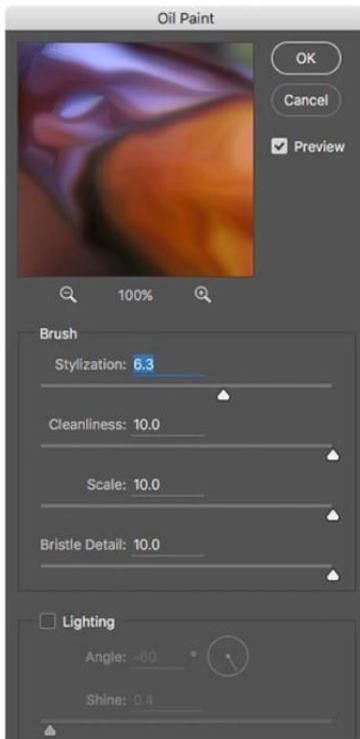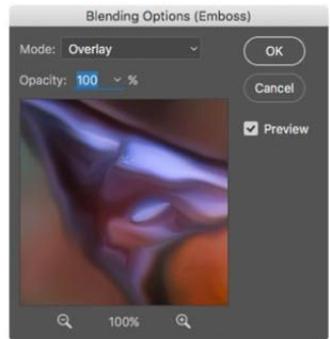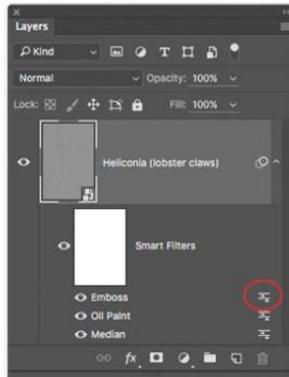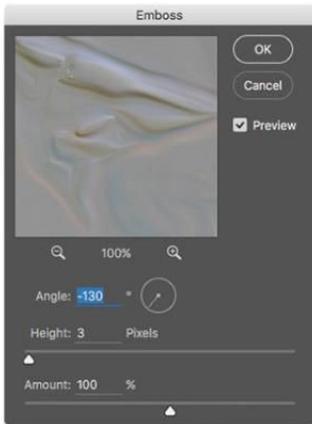
Next, choose Filter → Artistic → Rough Pastels. In the Filter Gallery dialog that opens, enter a Stroke Length of 9 and a Stroke Detail of 16. Set the Texture menu to Canvas, and then set Scaling at 100, set Relief to

2, and choose Top Right from the Light menu. Make sure Invert is turned off and click OK.

Last but not least, choose Filter → Texture → Texturizer. In the Filter Gallery dialog that opens, choose



**THIS DIALOG** gives you a big preview area and, as you can see, the painterly effect is beginning to take shape.

Canvas from the Texture menu. Set Scaling to 100 and Relief to 2. Here again, choose Top Right from the Light menu and make sure Invert is turned off and click OK. Whew!

## FINE-TUNE THE RESULT

To adjust the settings for any of the filters you ran, double-click its name in the Layers panel to reopen its dialog; this is why it's handy to see the individual filter names in the Layers panel.

If you'd like, you can reduce the painterly effect in certain parts of the image using the filter mask: the big white thumbnail in the Layers panel. To do that, click to activate the mask, activate the Brush tool, and set your foreground color chip to black (when dealing with masks, painting with black conceals and white reveals). In the Options bar, adjust the brush's Opacity setting according to how much of the effect you want to hide and then brush across that area in the photo. This masking trick is especially helpful when you turn a portrait into a painting and you want to bring back

SoftGozar.com

some of the photo's detail in the eyes and mouth area.

When you're finished, save the document in Photoshop format to retain your layers. Here's a close-up view of the final result, complete with the Layers panel.

Although it may be a little tough to see the detail in this painting in this screenshot, you'll appreciate it more fully when you give it a whirl on your own photos. Be sure to experiment with the settings listed above to make this technique your own. ■
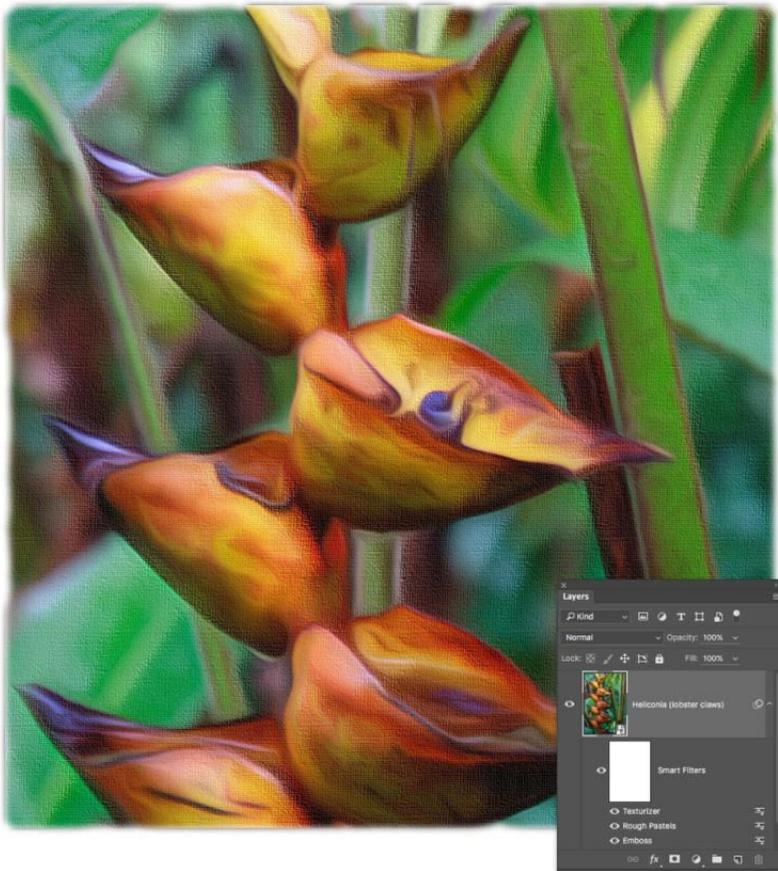
# How to edit video in Photoshop CC

Create a short movie by mixing video, stills, and text.

BY LESA SNIDER

P hotoshop CC is ideal for creating promotional video pieces, portfolio-based slideshows, and sellable videos for your photography business. Best of all, you don't have to learn another program—you'll use tools you're familiar with. In this column, you'll learn how to create a wedding video by mixing stills, video, and text.

## GATHER YOUR FILES AND CREATE A NEW DOCUMENT

Photoshop links to video and audio files, so start by gathering video clips, stills (including your logo), and audio files into a project folder. Happily, linking results in nondestructive video editing—Photoshop applies your edits to a copy of original clips upon export. Use sequential file-names to put files in the order you want them to play in the video.
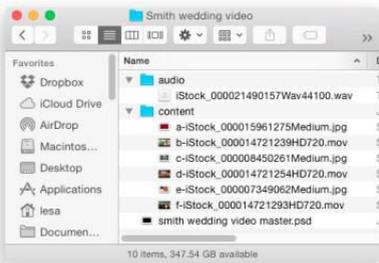


**HERE'S WHAT** a video project folder might look like, including the master PSD you'll create next.

Create a new document by choosing File ➜ New. In the resulting dialog, choose Film & Video from the Preset menu. For a 1280x720 video, pick HDV/HDTV from the Size menu and then click OK. In the Timeline
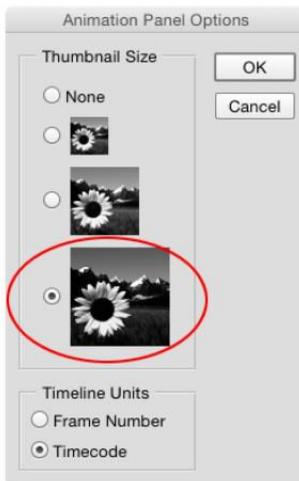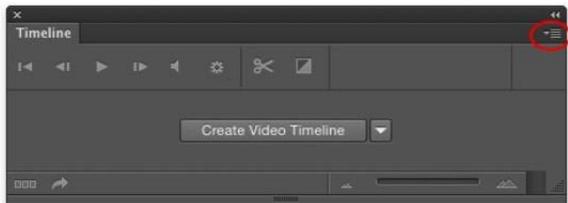




**YOU'LL SPEND** lots of time in the Timeline panel (above) so increasing thumbnail size is helpful (left). This trick works in several Photoshop panels.

panel that appears, click Create Video Timeline. Enlarge the Timeline panel's clip thumbnails by choosing Panel Options from its fly-out menu (circled above). Click the largest thumbnail size in the resulting dialog
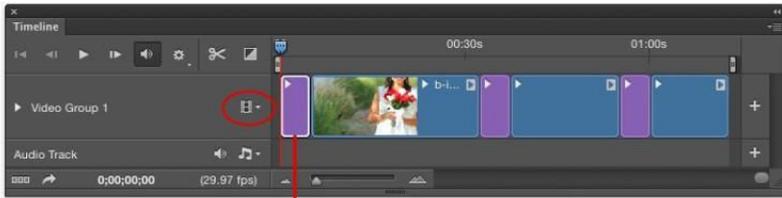
**Active Content**

(circled on previous page) and then
click OK.

### ADD AND EDIT YOUR FILES

Click the filmstrip icon in the Timeline
panel (circled above) and choose
Add Media. Navigate to your content
folder, select all the files, and click
Open. Photoshop plops them into a
folder named Video Group 1 in the
Layers panel and they appear in a
single video track in the Time-
line panel, where they're
referred to as clips. In your
Layers panel, delete Layer 0 (the
Background layer). Photoshop
activates the next layer in both
panels, which is the first item that'll
play in the video.

On-screen duration of any clip
(video or still) is determined by its
length in the Timeline panel. While
you can't extend a video (or audio)
clip beyond its original length, you
can extend other content indefi-
nitely—say, an image, text, shape, or
adjustment layer. Point your cursor at
the end of the first clip (a still of
roses) and your cursor turns into a



**Active
Content**

bracket with a double-sided arrow
(circled in top image on the next
page). The bracket points toward the
clip that'll be affected; when it's
facing left toward the roses, drag
right to extend it.

Drag the vertical playhead bar
(circled in the bottom image on the
next page) rightward across the next
clip to preview it. To trim it, position
the playhead where you want the clip
to end, point your cursor at the clip's
end and when the bracket faces left
toward the clip, drag it to the play-

head (the clip activates itself when you start dragging and a preview window opens). To trim the beginning of a video clip, position the playhead where you want the video to start, point your cursor at the clip's beginning and when the cursor bracket faces rightward toward the clip, drag it to the playhead. Repeat this process for each clip.
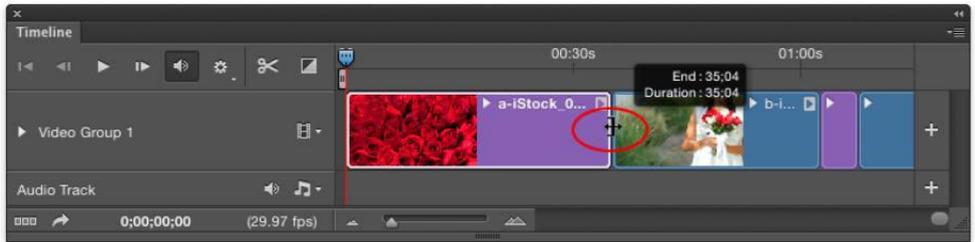
To restore a trimmed clip, drag its start point leftward or its end point rightward. To split a clip, position the playhead at the desired split point, click the scissors icon in the Timeline panel, and Photoshop splits it in two. To delete a clip, activate it in either the Timeline or Layers panel and press Delete (PC: Backspace). To reposition a clip in the video, activate it and drag left/right in the Timeline panel or up/down in the Layers panel.

Now let's add motion to all but the first still image. Click the triangle at the upper right of the still clips in the Timeline panel (increase the panel's zoom level if you can't see it). In the Motion menu that opens, choose Pan & Zoom, specify a zoom angle (say, 20), and pick Zoom In or Zoom Out. Drag the playhead across the clip to

**YOU CAN CHANGE** clip duration by adjusting its length. Just drag the bracket (circled).

**Drag to adjust zoom level**

preview the motion. Repeat on the next still clip, and enter an opposite pan angle (say, –20).

## ADD FINISHING TOUCHES

To create a safe space for branding at the end of the video, add a Solid Color fill layer. Click the half-black/half-white circle at the bottom of the Layers panel (circled below), choose Solid Color, and pick black. Position

this layer at the top of Video Group 1, which puts it at the end of your video, creating black frames onto which you can place text or a logo.

Now let's add some transitions. Click the half-black/half-white rectangle in the Timeline panel and drag the Fade With Black transition onto the beginning of the first clip to fade it in from black. To extend the transition's length,
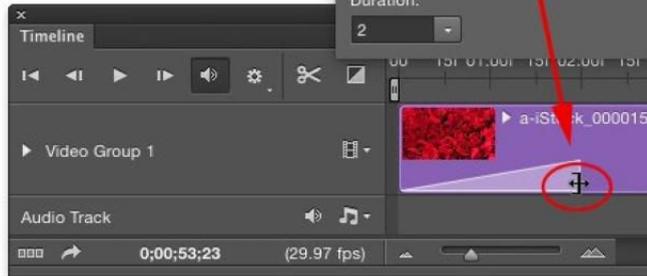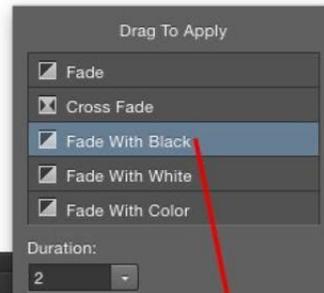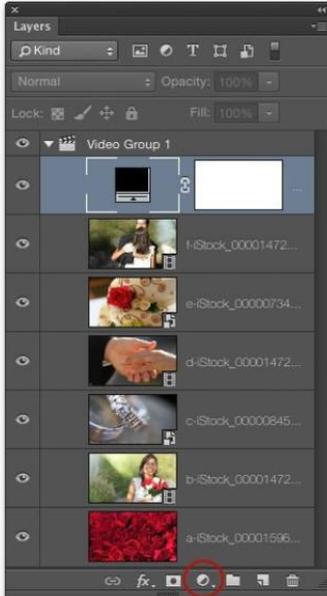




point your cursor at its end (circled above) and drag rightward. Next, drag a Cross Fade transition between the remaining clips.

Anything inside Video Group 1 will play in succession, so to stack other content on top of it—making the other content play at the same time—you can

add them to another video group. This works for text, images, shapes, video clips, and adjustment layers, which are handy for altering clip tone and color. In the Timeline panel, click the filmstrip icon next to Video Group 1 and choose New Video Group. Position the play-head atop the first clip slightly past the transition and press T to grab the Type tool. Click atop your document and add some text (to see the text, position the playhead atop the text clip). Adjust the duration of the text clip as described earlier and then add a Fade transition to the beginning and end of the text clip.

With the Type layer in Video Group 2 active, choose File ➡ Place Embed-ded and navigate to where your logo lives and click Place. In the Timeline panel, drag the clip rightward until it's at the end of the video, atop the Solid Color Fill layer you added earlier. Adjust clip position and length so it appears slightly after the fill layer transition resolves. In this example, a text-based logo was used. Add a Fade transition to the beginning and end of the logo or text clip.

Last but not least, add some audio. Click the musical notes next to the Audio Track in the Timeline panel and choose Add Audio. Navigate to the audio file and click Open. Position the audio clip as described above. To alter volume, or to fade audio in/out, click the triangle at the upper right of its clip.
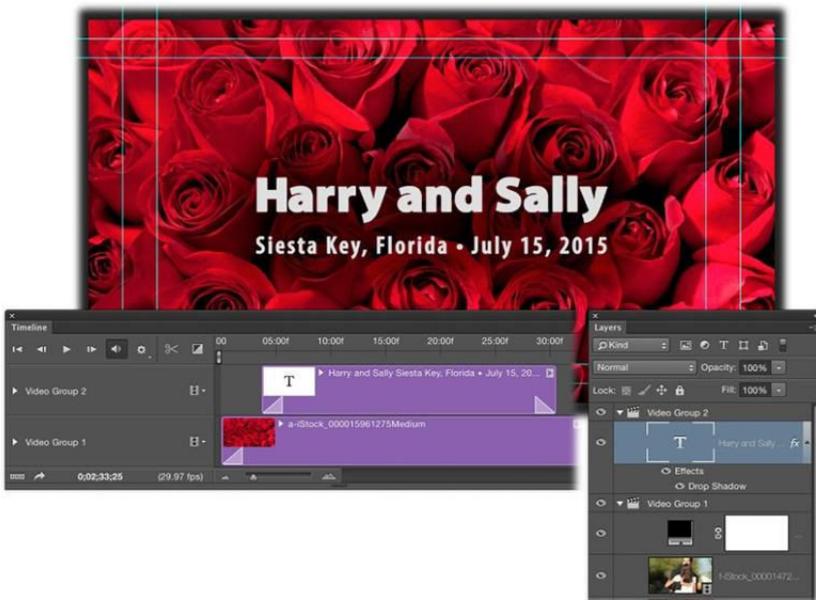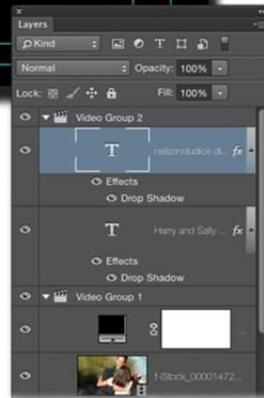
(To match your video to audio length, add the audio earlier in the process.)

Tap your keyboard's spacebar to play the video and then adjust clip and transition lengths as necessary. When you're finished, choose File ➤ Export ➤ Render Video. In the resulting dialog, choose Adobe Media Encoder, H.264 from the Format menu, and High Quality from the Preset menu, and click Render. You can view the final result at https://youtu.be/qC-stfh-sUnM:

As you can see, creating video in Photoshop is well within reach. Until next time, may the creative force be with you all! ■
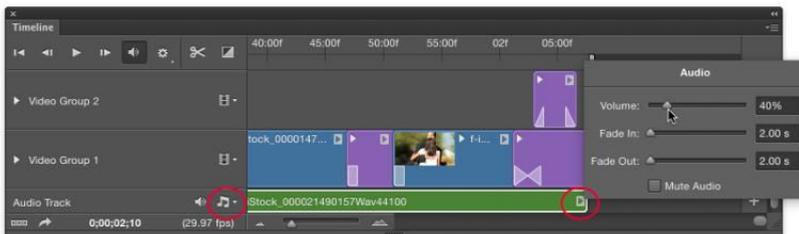
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# Mac 911

Solutions to your most vexing Mac problems.

BY GLENN FLEISHMAN

## How to make Sidebar shortcuts for removable drives

**Q:** All of my Sidebar shortcuts go to folders on an external hard drive where I keep all my working files. I use shortcuts to these folders often, but when I disconnect the hard drive to pack up my laptop on the go and reconnect my external hard drive, the shortcuts are gone. Is there any way to save the shortcuts and reinstall them?

— Glenn Ruga

**A:** Apple treats its Sidebar shortcuts differently than the aliases you can make in the Finder for the desktop. Even though the document describes them as an alias, they're a different sort of creature, because when you eject a volume on which a Sidebar shortcut exists (whether the drive itself or anything on it),

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the shortcut disappears instantly from the Sidebar.

However, in testing this there's a super sneaky way around this: Make a Finder alias of the links you want and Command-drag the alias into the Sidebar. Aliases stop working when the destination disappears, but they aren't deleted. But you *must* keep the alias active somewhere on a mounted drive, or the Sidebar will delete it.

**1.** Make a folder on your startup volume called Sidebar Aliases or the like.

**2.** Select an item or items, whether a drive, a folder, or a document, or any combination, from the mounted drive.

**3.** Hold down Command-Option and drag the item or items into the Sidebar Aliases folder. The Finder creates links.

**4.** Open the Sidebar Aliases folder and Command-drag all of the short-cuts you want.

When you eject the volume, the Sidebar icon may switch from a drive or folder to a generic document icon. If you click it while the volume is ejected, you see the usual alias error dialog—click Cancel to dismiss it.

However, when you remount a drive, the aliases of which are in the Sidebar, you can now click them again and they work just the same as before. Hurray!



## Does your AirPort Extreme Base Station work but is unreachable via AirPort Utility?

The other day, my wife texts me (from upstairs; I work in a home office in the basement): the printer had stopped working, and could I take a look? Our printer is connected via USB to an Apple AirPort Extreme Base Station (5th generation), which shares it over the network. The base station is an extension of a network, so it's in bridging mode.

Since the green LED was lit on the base station, I checked out the printer first; it was fine. I restarted the base station, and it came up again with a green LED, but the printer still didn't show up on the network. Only then did I use AirPort Utility to see what was up, and that app put up a yellow yield sign on top of the base station, and, when I clicked it, noted Device Not Found.

But I'm looking right at it! And its green light! I was able to confirm that the base station was routing both ethernet and Wi-Fi, and that my

laptop was connected to it. (I use WiFi Explorer for OS X ($15; go.macworld.com/wifiexplorer) to look at local Wi-Fi network setups, and it provides the unique adapter interfaces, called BSSIDs, broadcast by Wi-Fi base stations.)



Power cycling didn't help me out, though several colleagues who had the same problem when I polled on Twitter said a power cycle would fix this issue for a while, as long as several months.

I tried a soft reset and then a factory reset. A soft reset should clear any transient problems with a running base station; a factory one wipes everything, but I had no custom configuration on this base station that I needed to retain. (Apple's base stations have three kinds of reset: soft, hard, and factory, which you can read about on Apple's lengthy support page; go.macworld.com/airportbaseresetfaq.)

The factory reset put the base station back in business for about 20 to 30 minutes, during which time the printer re-appeared and I was able to print. But then it reverted to its previous Device Not Found status. A couple days after I witnessed this, a reader wrote in with a nearly identical experience. Querying on Twitter, half a dozen people said they'd had the same thing, but a power cycle or form of reset helped.
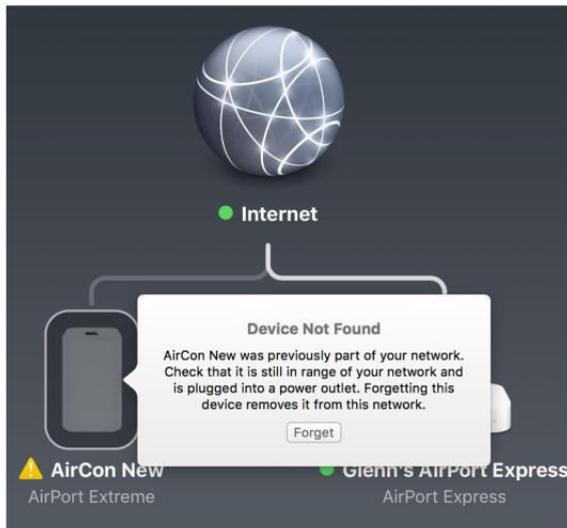
One colleague on Twitter suggested that removing all Apple IDs from the Back To My Mac configuration section would fix the problem. (Click a base station in AirPort Utility, click Edit, and then make changes in the Base Station tab. Click Update to apply changes.) I did another factory reset, removed the Apple ID, and the base station (and its

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printer) have remained working for a few days so far. This does prevent remote access to attached drives and Time Capsule volumes as well as remote configuration.

I've reached out to Apple for any insight it may have about other fixes. It may need to be replaced due to hardware failure—but it's fascinating to me that the networking part can work independently of the other subsystems.

### Replace a base station under a Mac or Apple TV AppleCare warranty

Here's a **bonus tip** for you related to Apple Wi-Fi base stations: Apple incudes them in AppleCare extended warranties purchased for Macs and Apple TVs, even when you didn't buy the base station at the same time. This appears to be a little-known fact, but it's spelled out in details in AppleCare's terms and conditions. Every base station you purchased new as far back as two years before the purchase date of a new Mac is covered for the duration of the AppleCare warranty. (Read Section 3.2, go.macworld.com/applecare4 mac, of the U.S. terms; warranties vary by country.)

I purchased my base station in June 2013, and bought a new USB-C MacBook in April 2015 along with AppleCare. That makes that base station
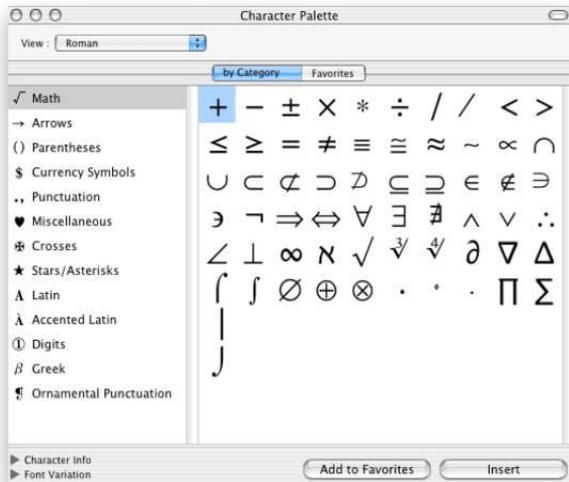


eligible for service. If my fix doesn't stick, my next plan is to navigate the repair and replacement process.

**THE OLD CHARACTER** Palette had font variants at the bottom.

### How to find all the characters in a font

**Q:** **In the old system, I could click on the [input palette] icon in the menu bar and see all the characters within any font that I chose, then double-click it to add it to my document. In El Capitan, that icon produces nothing but emoji and symbols. Where can I find all the characters within a font so I can do what I used to do?**

— Lynn Garwood

**A:** In a recent Mac 911, I answered Lynn Garwood's question about character

selection when she upgraded from Mavericks to El Capitan. Except I didn't! I read her question as asking about key combinations, and pointed her to the Keyboard Viewer. Astute commenter "xploraiswakco" very politely noted that I had answered her question *sort of*, but not really the core of what she was asking: the Character Viewer had changed to the Emoji & Symbols palette, and no longer has the same approach to showing characters (not key combinations) in every font. (Thank you, xploraiswakco!)



**YOU CAN CUSTOMIZE** the Characters palette to reveal frequently used subsets.

Why don't I go ahead and answer Lynn's actual question, then?

The most likely thing she's experiencing is the minimized option for the Characters palette, which is the floating window that shows up when you select the Input system menu's Show Emoji & Symbols option. If you click the little palette icon in its upper right—kaboom!—it shrinks to an emoji palette, and gives no indication that it's anything but that.

Click the tiny palette icon on the emoji palette, and it expands back to full size. That's probably what Lynn needed. Apologies.

Here's another part of what's confusing, too. Until a few versions ago, the place where you could see



**THE EMOJI PALETTE** hides the full range of characters available, showing just emoji and some symbols. Click the tiny palette in its upper right to restore the Characters palette.

the full panoply of all characters available in various sets (along with versions available in locally loaded fonts) was called the Character Palette with the word *Palette* in the name. Now, when you select Show Emoji & Symbols the *Characters* (plural) palette shows up.

It's a little reorganized, too, though the current form dates back several versions of OS X. You can click the Settings icon (gear icon ➜ Customize List) to select additional character sets to show in the list at left, which is handy when you frequently need certain kinds of symbols, like various currencies or technical/keyboard characters.

With any character selected, the palette shows a larger version with markings for cap height, descender, and left and right edges, as well as details, including the Unicode value, useful for embedding in Web pages by hand. Below that, it shows Related Characters, if any, and scroll down to see Font Variation.

If you want to insert a character from a given font, click the variation, which then shows a larger preview and the font name. Double-click the variation,

## Ask Mac 911

We've compiled a list of the most commonly asked questions we get, and the answers to them: read our super FAQ (go.macworld.com/mac 911faq) to see if you're covered. If not, we're always looking for new problems to solve! Email us at mac911@macworld.com including screen captures as appropriate.

*Mac 911* can't provide direct email responses or answers for every question. For that, turn to Apple-Care, an Apple Store Genius Bar, or the Apple Support Communities.

and it's inserted at the current text-insertion point in a document or text field; if the app you're using supports rich text and fonts, the pasted-in character should be in the typeface shown in the Characters palette.

The same commenter reminds us that the Font Book built into OS X lets you select a font and then select View ➜ Reperoire to see a font's entire character set. ■