

EDITOR COMMENTS

I read a recent investment letter stating that the number 1 actions to take in securing your privacy is to start using a password manager and using unique 10-character-plus passwords for every sign-in you have. I would modify that to 16-characters for the important ones, but otherwise great advice.

“The best approach to a long password is to string a few random words with one and another that give you a visual you can remember and use for recall when you need it.” Remember This! tinyurl.com/kftet4g.

Jonathan Takiff's article in philly.com relates to installing an Eero mesh network in an old East Mount Airy house. Very informative. tinyurl.com/lsifo4e.

A free security utility called Oversight alerts you if someone attempts to access your Mac's web camera or microphone. tinyurl.com/llddmhk.

AT TIMES IMAGES MAY BE A BIT FUZZY. THAT'S NORMALLY BECAUSE ORIGINAL IMAGES WERE FUZZY. IF YOU NEED TO READ THEM, PLEASE GO TO THE ORIGINAL ARTICLE.



FOUNDED MAY 1989
MEETINGS - SECOND
SATURDAY OF THE MONTH

Digital Security: Vulnerabilities Of Macs & iDevices

Attacks on computers are becoming increasingly sophisticated. Mike will review general principles of digital security, vulnerabilities of Macintosh computers and iOS devices (iPhones and iPads), and suggest simple steps users can take to protect themselves against attack. These strategies are based on reports of current and emerging threats, his familiarity with the security features of Apple products, and his practical experience helping users, both experienced and naive. His presentation will be aimed at people using personal Macintosh computers or iDevices at home or on the road.



Mike Inskeep has been supporting Macintosh computers and other Apple products for 26 years: as a Microcomputer Support and then Director of Microcomputing for the University of Pennsylvania's School of Arts and Sciences; as Technology Coordinator/Teacher for Friends School Haverford; and since 1999 through his independent consulting business, Gentle Computer Helpers. [website here](#).

MAY LOCATION

REMEMBER - We continue to meet at Hershey's Mill in West Chester. Take Greenhill to Hershey's Drive entry and go up hill to Community Center. Map is at tinyurl.com/mrmtnd7.

AND OUR PICNIC IS JUNE 10TH!

SEE PAGE 49.

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Typical Meeting Agenda

9:00 - 9:05: Call to order in main meeting room.

9:05 - 10:05: Three Concurrent Special Interest Groups (SIGs) convene in separate rooms. The three current SIGs are:

Newer Users- We cover the most basic questions you may have about your Mac/iDevices and how to use them.

Multimedia - We discuss using your Mac/iDevices and applications for photo, video, audio, and print media.

OS - We go beyond basics to discuss Apple's current operating systems, using your Macs & iDevices, & various applications, & have Q&A.

10:05 - 10:15: Continuation of Q&A for all attendees.

10:15 - 10:30: Welcome and other business.

10:30 - 11:50: Main Presentation (by a member or guest)

11:50 - Noon: Raffles and silent auctions.

Come join some fellow MLMUG members for lunch after the meeting at a nearby restaurant.

MLMUG Email list

The Main Line Macintosh Users Group has its own email list. Compose your letter and email it to mlmug@yahoogroups.com and your message will be sent to everyone on the mailing list. Posting to this list is restricted to MLMUG members. Contact Bob Barton if you are a member and you are not on the list.

Please observe rules of etiquette. See the Yahoo Groups Terms of Service. The MLMUG list may be used to post Apple/Macintosh-related items for sale, but any solicitation of members through the list is forbidden without the written consent of a MLMUG officer. The list is hosted at Yahoo Groups.

New Users SIG

You don't have to wait a whole month to get answers to your basic Mac questions! Get together with other members on the fourth Saturday (i.e., two weeks after each regular meeting) for the Startup Folder Lite.

Many new users have said that they can learn much more from face-to-face meetings than they do from manuals or other sources. That's what this meeting is all about. Go to www.mlmug.org/nusfl.html for details.

Macintosh Programming SIG/ Philly Mac Programming Group

The objective of this group is to help members become more familiar with the concepts of Macintosh and iOS programming, i.e., the elements of the Macintosh GUI, user interaction, file system, etc., and the main Mac programming tools: AppleScript, Java, C, and Objective C.

The Philly Mac Programming SIG meets at 10:30 AM on the first Saturday of each month, but usually skips January and July. Contact Deivy Petrescu, Chair, for venue information. www.phillymacprog.org. The next meeting will probably be at Ludington Library in Bryn Mawr.

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Membership Information

Membership dues are \$25 for individuals and \$35 for families. Memberships are based on your anniversary date, which is the month you joined. You will be e-mailed reminders when membership fee is due.

If you're just visiting to check us out, or if you've been visiting for some time, but haven't joined, consider these **BENEFITS OF MEMBERSHIP**:

- **Monthly meetings**, where you can learn, share, and meet everyone from working Mac professionals to new Mac users from all backgrounds.
- **Monthly newsletter**, which is full of interesting Mac news, tips, and information.
- Useful free items at the monthly **Raffles**.
- **Discounts**. Vendors offer special prices to User Group members.
- **Web Site** with 12 months of MLMUG newsletters, meeting information, a member directory, directions to our meetings, and much more! Our web site is www.mlmug.org.
- **MLMUG Mailing List**, to post technical questions or comments to each other and the experts within the group.
- **Reviewers** keep items reviewed.

Are you ready to join? Please make a check payable to MLMUG and bring it to a monthly meeting or mail it to:

Treasurer, MLMUG

P.O. Box 1374

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By Mark Bazrod

Bookmarks

Buying a “New” Mac

Buying a new Mac is somewhat similar to voting in a national election. You may do it roughly every four years, but you have to pay attention between the quadrennial activities to do the job well. It's a rough analogy, but it indicates you have to do more than just periodically focus on voting or buying.

Understand Apple's Release Cycles

Apple releases products and services on a somewhat regular basis, although there are always some exceptions and cycles somewhat change over time.

Apple releases a major revision of the operating system in the fall of every year. It releases a new iPhone in the fall of every year. It releases a new iPad in the spring of every year. However, its releases of new iMacs, MacBooks, and MacBook Pros has been erratic and its release of a new Mac Pro has been, shamefully delayed.

Nonetheless, having a rough idea of when new products may be announced is helpful in timing your buy. In addition, the Mac information sites on the Internet have ideas or rumors as to what may be coming and when.

Decide when you want to start the buying process

Most of us don't have to buy an Apple product because the old one died. We need or want additional functionality. So make a conscious decision to purchase a replacement and give yourself perhaps a six-month window before you actually make the

purchase. You will have the time to research the products and more closely read the reviews and rumors.

You can now start making tentative decisions as to what product you want, whether to buy a new, old or refurbished model, and what configuration you desire.

You should also start to look at what prices are available, what deals start to appear, and which sellers appear to be the best for you.

Luck favors the prepared mind - or something like that. Having done this preliminary work might enable you to get some great discounts on a great configuration. You will be able to recognize a great deal when one pops up.

The new or last year's question

if you need the latest model, there's no question. Similarly, if you are an early adopter, there's no question. But for many of us, last year's model is often a tempting rational choice, except that Apple often puts in new capabilities that the older models can't handle. And why be rational all the time.

And the older models are typically available at discount.

To add to the complexity, there is the question of refurbished models, those which have been returned to Apple or a seller. Those from Apple have been fixed, tested thoroughly, and typically carry a one-year warranty. Those from sellers have been typically fixed and some carry a warranty. The discounts can be as much as 10 to 20%, but you have to check carefully, particularly with respect to the exact model number so you're getting the product you want.

For more information go to www.wikihow.com/Buy-a-Mac-Computer-at-a-Discount. For Apple refurbished products, go to www.apple.com/shop/browse/home/specialdeals.

What's the return policy

I won't buy a product from a seller unless it offers a no-questions-asked return policy. You haven't had the opportunity to use a product and should be allowed to return it. Apple has a 14-day return policy when you purchase the Mac directly from it.

Also, make sure you understand if there are restocking fees what it is. These can be hefty.

Upgrades

I think we are seeing less opportunity to upgrade Apple products with additional RAM, hard drives, SSD's and other equipment. Nonetheless, there are some opportunities and so it pays to see if you can save money by installing them after purchase.

Of course, you need to have the right tools and skills. YouTube videos can be a great help.

Andrew Orr posted the following article to macobserver.com on March 1, 2017. tinyurl.com/lxwqenb. © The Mac Observer, Inc. Andrew is a freelance writer and amateur photographer from Michigan.

macOS Sierra: Quickly Restore Safari Tabs

By Andrew Orr

When you're browsing the web, it's inevitable that you'll accidentally close a tab. Even if on purpose, you may still want to re-visit the page you were looking at. Instead of going into your Safari History, there is a quicker way to restore Safari tabs.

Restore Safari Tabs With Keyboard

macOS has long had a keyboard shortcut for restoring Safari tabs.

All you have to do is press **⌘ + Shift + T**. This works in old versions of OS X, but in macOS Sierra, you can hold down **⌘ + Shift**, and press **T** multiple times to restore multiple tabs.



Safari on macOS Sierra

Using this keyboard shortcut has saved me plenty of time when using Safari, and I hope it helps you too.

MLMUG April 8, 2017 Meeting Minutes

By Mark Bazrod, Secretary

Maria Arguello, our President, opened the MLMUG meeting at 9:15 AM at the Hershey's Mill Community Center near West Chester. There were about 33 attendees.

Main Presentation - Dave Hamilton.

BETTER WAYS TO WI-FI; CHOOSING A ROUTER IN 2017

Dave Hamilton gave a truly outstanding presentation on Saturday. Everyone should not only read these minutes, but should download the PDF of his presentation which is on the MLMUG website (tinyurl.com/kdfklsq). because at some point in the future you're going to want to know more about Wi-Fi and routers. His presentation will be a great way to start. You want to go again one

Dave co-founded Mac Observer 18 years ago and has been its President ever since. He also produces a weekly podcast with John Braun entitled *Mac Geek Podcast*. Get the app in the App Store. He lives in New Hampshire and made a 6-7 hour drive to come down to speak to us.

There are a number of different router specifications identified by number 802.11 followed by b, a, g, n, and ac. The number indicates the router speed, bandwidth, and distance capabilities. The oldest, the 802.11b has a maximum speed of 11 Mbps (megabits per second). The next to latest, the n, has a maximum speed of 150 Mbps. The latest, the ac, has a maximum speed of 433 Mbps.

If you're going to buy a new router, get the 802.11ac model. Also, get at least a dual-band router, i.e., one that supports both 5 GHz and 2.4GHz frequencies. The 5 GHz choice has a somewhat shorter range and supports a, n, and ac. Recent Apple devices support 802.11ac.

Your iDevice and Mac decide which radio frequency to pick based upon which has the strongest signal. However, they are clueless as to what other devices the router is supporting.

Band steering (also called Smart Connect). The router helps your devices decide which of the 2.4 or 5 GHz frequencies to use. **Band steering is important and you want your router to have it.** Both frequencies must have the same name. To rename the frequency, go to the vendor site to see how to do it.

Streams. Descriptions of routers are 2x2, 3x3, or 4x4. This tells how many antennas pairs there are - 2, 3, or 4. The speeds indicated above are per antenna. Streams are speed multipliers. They indicate how many times the basic speed of the router can be increased. For instance, a router with a basic speed of 150 Mbps and a 2x2 string will have a maximum speed of 300 Mbps. Thus, this description is extremely important. The iPhones 6 and 7 support 2 x 2; the iMac, 3 x 3. **Get at least 3x3.**

Do number of visible antennas matter? Somewhat. The visible antennas are receiving antennas. There are an equal number of sending antennas inside the router.

Beamforming is a processing technique which attempts to obtain the optimal path between two devices. The router and device talk to each other so you get the best antenna connections. **This is another important factor and your new router should have beamforming.**

MU-MIMO (Multiple User MIMO) v. SU-MIMO (Single User MIMO). MIMO means multiple in, multiple out which in English means the router has several sending and receiving antennas. In MU-MIMO the router broadcasts signals from a number of antennas to multiple devices simultaneously. In SU-MIMO the router broadcasts to one device at a time. Wi-Fi bandwidth gets shared among various devices from one common pool. The more devices you connect, the less bandwidth is available for each one.

iPhone and Mac don't support MU-MIMO. To use MU-MIMO all devices must support it. Don't worry about it because SU-MIMO is all you can use with Apple products.

The direction of the antennas can be manually adjusted. You should do whatever the vendor says, but if there are no directions, point one antenna up, a second sideways and the third in a different direction.

Using a nonwireless connection (normally Ethernet) between the router and the device means you free up the wireless bandwidth of the router.

Quality of service (QoS) is extremely important. It means that one device will not hog bandwidth. Think about simultaneously backing up photos to iCloud and data to CrashPlan.

You definitely want QoS, but Apple has never made a device with QoS. As a result, demanding users don't tend to use Apple routers.

Cable modems limit speed to what you pay for. Awful for upstream. Combined routers/modems normally don't have QoS because they don't have a fast enough processor.

What about ISP routers? If you buy your own router, get the best router you can afford and you will probably keep it two to four years. If you rent your router from your ISP, try to have it replaced annually as better routers are released.

Standalone routers

Dave's favorite router is the Synology RT2600ac. \$225. A 4 x 4 dual-band router with many great features, including QoS, band steering, and a great web interface. Truly awesome. It's Cloud station is better than Dropbox and is free!

TP-Link Archer C7. 3x3. \$125.

Netgear R7000 \$159.



Netgear R8500 \$349. Dave used this router before he switched to Synology. .

Mesh Networks. These are multiple Internet access points working together. One will be a router; the rest will just be access points, although they look like multiple routers. They will have the same network, encryption, and password, and are all intelligently managed from one interface. They are different from range extenders.

The benefit is coverage,. multidevice throughput (similar to MU-MIMO as each device seeks to connect to a different access point), you set it and forget it, and intelligent operation. Apple products support mesh networks so act like MU-MIMO even though they don't support it. The mesh replaces your router. Your home is bathed in Wi-Fi!

Dave says hardware is more important than software, but software is extremely important. Software is evolving. Some networks are cloud managed while others are locally managed. It would be great if you can put Ethernet in your walls since Ethernet is faster than wireless.

Dave's current favorite mesh network is Eero. Dual band. 2x2 radios. It has the most mature software, the best QoS is built in, and it support Ethernet. The cost is \$399 for a 3 pack of Eero devices.

The Netgear Orbi is a tri-band mesh network. The cost is \$299 for 2-pack. It's very good for distance, particularly if you have a separate building. However, it doesn't have QoS.

The Linksys Velop network is the most expensive mesh network and is sometimes slow. Future software updates could fix the problems, but he would not buy it yet.

Google Wi-Fi , but no QOS. The cost is \$299 for 3-pack.

LUMA. Basic. \$299 for 3-pack. Limited features.

Ubiquiti.i's Amplify HARD DRIVE. \$349 for 3-pack. Big in corporate world. 3x3, but you can buy separately (\$125) and connect to router. Best range extender you can get. Semimesh.

MoCa (Multimedia over Coax Alliance) is using Ethernet Internet over Coax. Bonded MoCa has a maximum speed of 800 Mbps.. Fios uses MoCa. It sends Ethernet over Coax cable.

Powerline. Sends Ethernet over house wires. Maximum speed is about 100 Mbps.

Ask your ISP for a MoCa filter if you have a TV problem.

Older wireless printers might have an access problem with mesh networks.

SPEAKER ROSTER FOR MLMUG'S 2017 MEETINGS

January 14	Mark Bazrod - Siri
February 11	Stan Horwitz - MacBook Pro
March 11	Lisa Rysinger - VR 360
April 8	Dave Hamilton - Better WiFi
May 14	Michael Inskeep - Securing Your Mac II
June 11	Picnic
July	Recess - Summer
August	Recess - Summer
September 9	Paul Del Rossi - Virtual Machines
October 14	Fiona Keyes – iPhotography Part II
November 11	Bob "Dr. Mac" LeVitus
December 10	Pot Luck Brunch, Swap Meet, Members' Show & Tell, & Election of Officers

Brian X. Chen posted the following article to nytimes.com on January 25, 2017. tinyurl.com/l3s8cym. © The New York Times Company. He is a technology reporter at The New York Times, author of *Always On*, and has been a technology commentator on a number of radio and television programs.

Dumping a Bad App? Tips for a Painless Breakup

By Brian X. Chen



EVERYONE is familiar with this scenario: An app you once loved no longer brings the same joy. It's gotten buggy over time, or an update transformed it to the point it became unusable.

Chances are you thought about calling it quits. But after years of sharing your personal data with this app, you probably gave up and stayed in this stale relationship. You put up with the productivity-killing bugs and odd design changes because moving to a new,

potentially better app felt harder than sticking with the bad one.

Take Evernote, the note-taking app. After nearly a decade attracting millions of users, the company last year severely restricted free use of its software while raising prices for its plans by as much as 40 percent. This month, Evernote also released a redesign for its mobile app, which users [complained](#) was bloated with unnecessary features that have made note taking too complex.

Even so, people have stuck with Evernote partly because taking their notes elsewhere is hardly easy.

"We understand those kind of changes don't make everyone happy," said Greg Chiemingo, an Evernote spokesman. "In fact, we've seen continued growth of paying customers over the last two years."

People deserve better than this. Every day you stay with a bad app is time you could be spending with a superior product that will make life better. Here are my tips, based on interviews and personal experience, for a clean break.

When to Call It Quits

No app is perfect, but you have to draw the line somewhere. The problem is, you may be in such a rut that you can't recognize the warning signs.

An obvious one is when an app stops working reliably in a way that affects your life. For instance, I called it quits on [Apple's](#) Calendar app when I was planning a dinner with friends last month and the software sent a calendar invite in Greenwich Mean Time rather than Pacific Standard Time. As a result, one person thought we were meeting on Saturday instead of Friday and didn't show up. (It wasn't the first time this happened, either.)



Phil Libin, center, a co-founder of Evernote, during a staff meeting at the company's headquarters in Redwood City, Calif., in 2013.

Brian Fitzpatrick, a former manager at Google who led a team that developed tools to help people move their data to and from Google, said he dumps an app when it has stopped improving.

“It’s still functioning, but you don’t see any changes in it for a very long time,” he said. “It’s sort of a zombie app, I would call it at that point.”

Another sign that it’s time to move on is when you have nobody to talk to. Many popular apps for tasks like note taking, photo management and word processing are connected to social networks, or people you can share data with. If an app’s audience is a ghost town — like [Yahoo](#)’s photo-sharing app, Flickr, which sank in popularity after mobile photo-sharing services like Instagram emerged — then it’s probably time to leave.

Yahoo did not immediately respond to a request for comment about Flickr.

Getting Out

The hardest part of breaking up with an app is moving your data. So as a rule of thumb, save a backup copy of your data so that you can export it into a new app. Then carefully search for a better app to suit your needs.

As a safety measure before changing apps, you should always keep extra copies of your data somewhere, whether it be in the cloud with a service like Dropbox or on a physical hard drive.

Some companies deliberately make exporting your data difficult because they want you to stick around.

“It’s sort of like moving into an apartment and finding out at the end of the lease you can’t take your furniture and your books with you,” Mr. Fitzpatrick said.

Evernote is a good example. It includes an “Export notes” feature, but it only lets you export notes into two formats that are compatible with just a few other note-taking apps. Microsoft’s note-taking app OneNote, along with Apple’s Notes app, can

easily import Evernote records. But if your app of choice is something else, such as Google Keep, you will have to manually paste your notes in the new app.

Flickr is also difficult to part ways with. Getting out your photos requires lots of manual labor: You have to download all the photos, which can take a significant amount of time if you have thousands of high-resolution images, and then upload them to a new photo service.

When companies don’t provide convenient tools to export your data, look elsewhere by doing a quick web search for solutions. There are plenty of people in the same boat as you, and chances are they have written scripts, or lightweight programs, to automatically pull out your data for you.

If there is no convenient way to export your data, sometimes it doesn’t hurt to just take out what is most important to you. Perhaps you don’t need five-year-old notes from Evernote anymore, so you could just manually paste your latest memos and get a fresh start with a different app.

Finding a New App

On the bright side, you can learn a lot from a tough breakup with an app — which can be especially useful when looking for a replacement.

The biggest lessons: Pick a tool that supports a wide array of formats instead of proprietary ones. And before you commit to a new app, make sure it is as easy to get out as it is to get in.

Ditching Apple’s Calendar app was fairly easy. All my calendar data was already stored online and Apple’s app supports calendars from multiple online services including Google, Microsoft and Facebook. The key was finding an app that also supported those services but performed better.

After testing several apps, I decided that Fantastical 2, a new app with a cleaner interface for getting a glance at calendar events, was the best one. Once Fantastical 2 was installed, I added my

Google calendar accounts to load all my events into the app.

Mr. Fitzpatrick recently decided to cut ties with Google Voice, the search giant's calling and texting service, because it had remained unchanged for years. So he made backups of his call history, text messages and address books using [Google Takeout](#), a web tool that he helped develop for easily downloading personal data stored on Google services. Then he switched to [Signal](#), the encrypted messaging service, which has more modern features for messaging and phone calls, and disconnected his Google Voice.

Google said it updated Google Voice on Monday with photo sharing and group messaging. But that was too late to keep people like Mr. Fitzpatrick.

"A lot of it comes down to, How interested are you in change?" he said.

Roman Loyola posted the following article to [macworld.com](#) on April 18, 2017. [tinyurl.com/kntf4pb](#). © IDG Consumer & SMB. A Senior Editor at Macworld, he has covered technology since the early 1990s.

GarageBand, iMovie, Keynote, Pages, and Numbers are now free for Mac and iOS

That one guy who bought Pages for \$10 last week is going to be pissed.



By Roman Loyola

As first spotted by [MacRumors](#), Apple on Tuesday updated GarageBand, iMovie, Keynote, Pages, and Numbers for Mac and iOS, so that those apps are now free. Before today, those apps were free to users who bought a new Mac, iPhone, or iPad, and the free download was a one-time event. Now the apps are free all the time.

Before Tuesday, the iOS versions of [Keynote](#), [Pages](#), and [Numbers](#) were \$10 each, while the [Mac versions](#) were \$20 each. On iOS, [GarageBand](#) and [iMovie](#) were \$5 each, while on the Mac, [GarageBand](#) was \$5 and [iMovie](#) was \$15. You can save a considerable amount of coin if you've put off buying any of these apps.

Apple did not officially announce the price changes, nor did the company issue a policy statement to users who recently paid for any of the apps. The free versions are now available on the iTunes Store and the Mac App Store.

The following article was posted by Jeff Butts to MacObserver.com on March 24, 2017. tinyurl.com/l4lfa7h. © The Mac Observer Inc. He is pursuing a master's in Computer and Information Systems, but he's been working on computers since before he ever thought about teaching.

Customizing the Services Menu Helps You Optimize macOS

By Jeff Butts

It's an oft-neglected feature of your Mac. It lies there, waiting for you to use it and customize it, but maybe you've forgotten it's there. Or perhaps you just don't know what it's capable of. Whatever the case may be, the macOS Services menu available when you secondary, or right, click on your Mac has a lot of potential, if you know how to customize it. You can really optimize macOS with a few tweaks in Services.



Do you know everything in your Mac's toolbox? Let's explore the Services Menu and how you can customize it.

What Is macOS Services?

Whether you're typing in a document or surfing the Web, plenty of options appear when you secondary, or right, click, a selection. That's where you can cut, copy, or paste text, but you can also access the Share Sheet extensions and other tools. What you might have neglected, though, is the Services menu, which opens up another world of options to optimize macOS. You'll see several

default choices there, but you can add even more to Services, if you customize the menu.



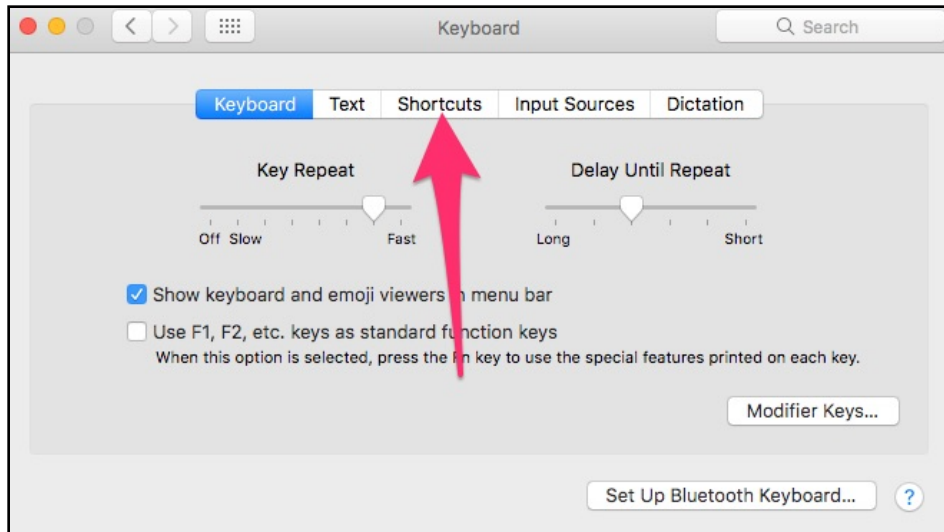
Here's one example of what you might see in the Services menu

Okay, So How Can I Customize the Services Menu to Optimize macOS?

To begin customizing your Services menu and optimize macOS, you'll need to go into **System Preferences**. The fastest way to get there is to click the **Apple icon** in the top left of your screen, then click **System Preferences**. From there, click on **Keyboard**.

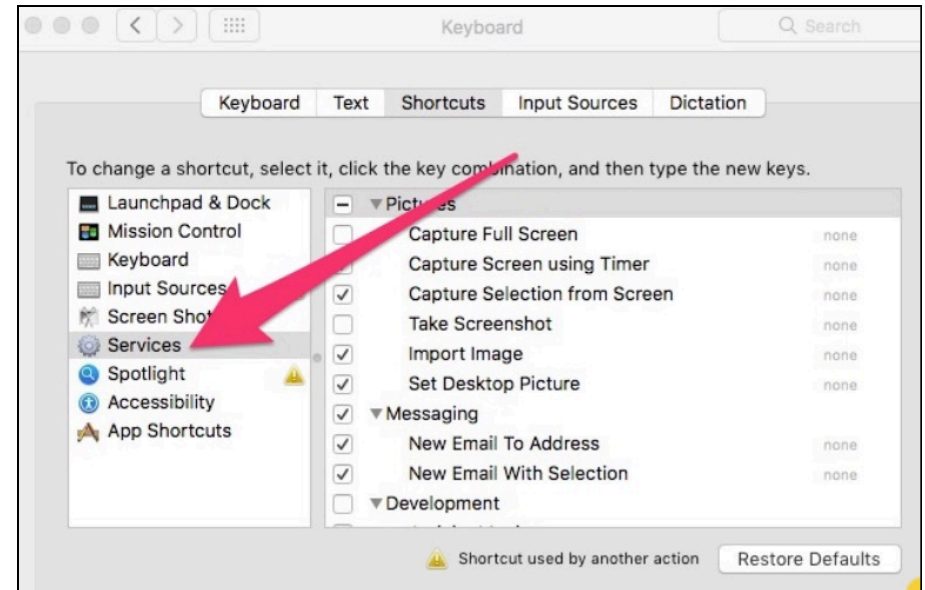


When the Keyboard preferences pane shows up, click on Shortcuts.



Next, click on Shortcuts

Finally, you should click on Services, and then scroll through the available choices to enable what you think you might use the most. Your options will vary from what I have, since you likely have different apps installed than I do. Many third-party apps provide their own choices here.



Finally, click on Services, and customize away

Harness Even More of the Power of Your Mac

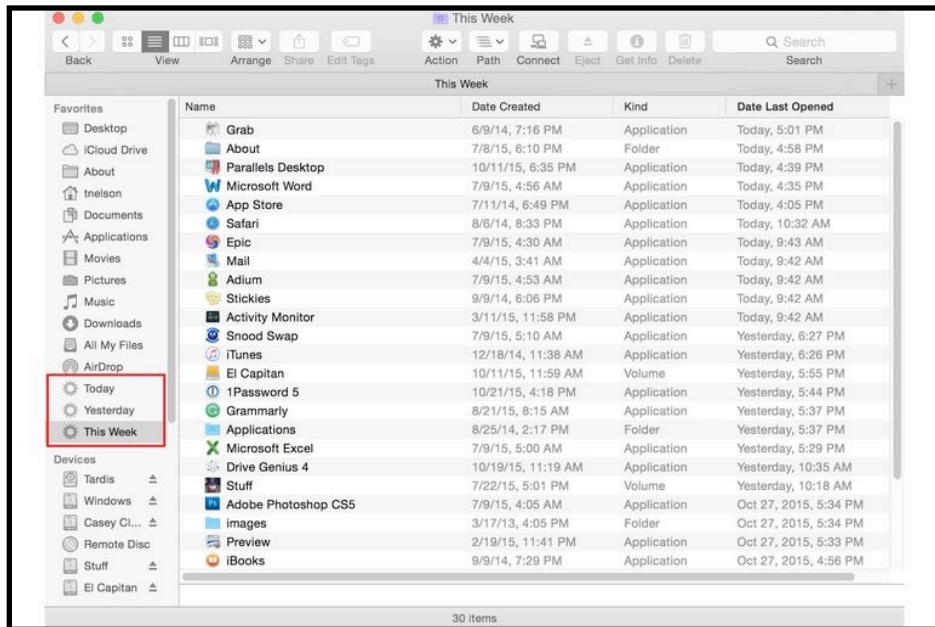
When you customize (and then use) Services, you'll be able to harness even more of the power of macOS. You can speed up your workflows considerably, making yourself much more productive and efficient on your Mac. It's just one more way of showing what a power user you are.



Tom Nelson updated the following article on lifewire.com on April 01, 2016. tinyurl.com/hxtpfdg. © About, Inc. He is a consultant and writer providing Macintosh training, advice, and support. He has written hundreds of articles, tutorials, and product reviews.

Restore Smart Searches to OS X Finder's Sidebar

How to Get Searches Back in the Finder's Sidebar



Smart Folders and Saved Searches can still populate the Finder's Sidebar.

By Tom Nelson

The Finder sidebar has undergone quite a few changes since OS X Snow Leopard. While we hope that the Finder sidebar will receive some badly needed refinements in the near future, there is no reason to wait to gain back some of the productive tools that were lost with the release of OS X Lion and subsequent versions of OS X.

Lion's sidebar eliminates the entire Search For group. This was a handy area in the sidebar that let you quickly find documents and applications you worked on or used today, yesterday, or during the

past week.

It also listed all of the images, movies, and documents stored on your Mac.

Apple attempted to replace the sidebar's Search For section with a single entry in the Favorites section called All My Files. All My Files displays images, PDFs, music, movies, documents, and more, all in a single Finder view that is split up by the various categories. Apple wants us to use the All My Files entry so much that it made All My Files the default view when you open a new Finder window. From what I have seen and heard, changing the default view seems to be one of the first changes most Mac users are making to the Finder, because they prefer the Finder to open on their desktop, home directory, or documents folder.

The Search For section of the sidebar is so helpful, it was one of the first features I checked when Apple released OS X El Capitan. I wanted to make sure that Smart Folders, and the ability to save searches and add them to the Finder's sidebar, still worked.

Thankfully, they do; you can still create your own custom version of the older Search For sidebar section using these instructions.

Restore Smart Searches to the Sidebar

While you can't restore the old Search For sidebar section, you can get back the same functionality through the use of Smart Folders, which can be saved to the Finder's sidebar.

We're going to use the Finder's ability to create Smart Folders, which let you organize files by what they have in common, instead of where they are located in the file system. Smart Folders use Spotlight to compile a list of items based on the search criteria you set up.

Smart Folders don't contain the actual files or folders; instead, they hold links that point to the location where the items are stored. For the end user, clicking an item in a Smart Folder has the same effect as clicking the item in its actual storage location. The only real difference is that while an item in the Finder's file system

can only be located in a single place, an item can be shown in multiple Smart Folders.

Creating a Smart Folder

Make sure the Finder is the front most application, either by opening a Finder window or by clicking on your Mac's Desktop. We will recreate the Today Smart Search (see image) from the pre-Lion Finder sidebar as an example.

1. From the Finder menu, select File, New Smart Folder.
2. A Finder window will open, with the search pane open.
3. Select the area to search; for this example, click the This Mac item.
4. On the far right side of the search pane, click the plus (+) button.
5. The Search Criteria area will display, showing various buttons and fields, depending on the search criteria you chose.
6. Click the first search criteria button and select 'Last opened date' from the drop-down menu.
7. Click the second search criteria button and select 'Today' from the drop-down menu.
8. Hold down the Option button and click the '...' button to the far right of the search criteria you just set up.
9. Two new search criteria rows will display.
10. In the first new row, set the single button to 'None'.
11. In the last row of the search criteria, set the first button to 'Kind' and the second button to 'Folder.'
12. The search results will display.
13. Set the search order to Last Opened by clicking on the Last Opened column in the search results (you may need to scroll to see the column).
14. The finished Smart Folder search criteria should look like this (I've placed single quotes around the button text):
15. Search: 'This Mac'

16. 'Last opened date' is 'today'

17. 'None' of the following are true

18. 'Kind' is 'Folder'

Save the Resulting Search as a Smart Folder

1. Click the Save button on the far right of the search pane.
2. Give the Smart Folder a name, such as Today.
3. You can leave the 'Where' setting at the default location.
4. Place a check mark next to the Add to Sidebar box.
5. Click the Save button.
6. The Today item will be added to the Favorites section of the Finder Sidebar.

Recreating the Search For Items

The six Search For items in the pre-Lion sidebar were Today, Yesterday, Past Week, All Images, All Movies, and All Documents. We have already created the 'Today' item for the sidebar. To recreate the remaining five items, use the instructions above, along with the following search criteria.

Need help creating theses smart searches? I've included an image gallery that details the steps in creating the various smart searches.

Yesterday

Search: 'This Mac'

'Last opened date' is 'yesterday'

'None' of the following are true

'Kind' is 'Folder'

Past Week

Search: 'This Mac'

'Last opened date' is 'this week'

'None' of the following are true

'Kind' is 'Folder'

The remaining three items only need the first two rows of the search criteria. You can delete the unneeded rows by clicking the minus (-) button to the far right of each row.

All Images

Search: 'This Mac'

'Kind' is 'Image' 'All'

All Movies

Search: 'This Mac'

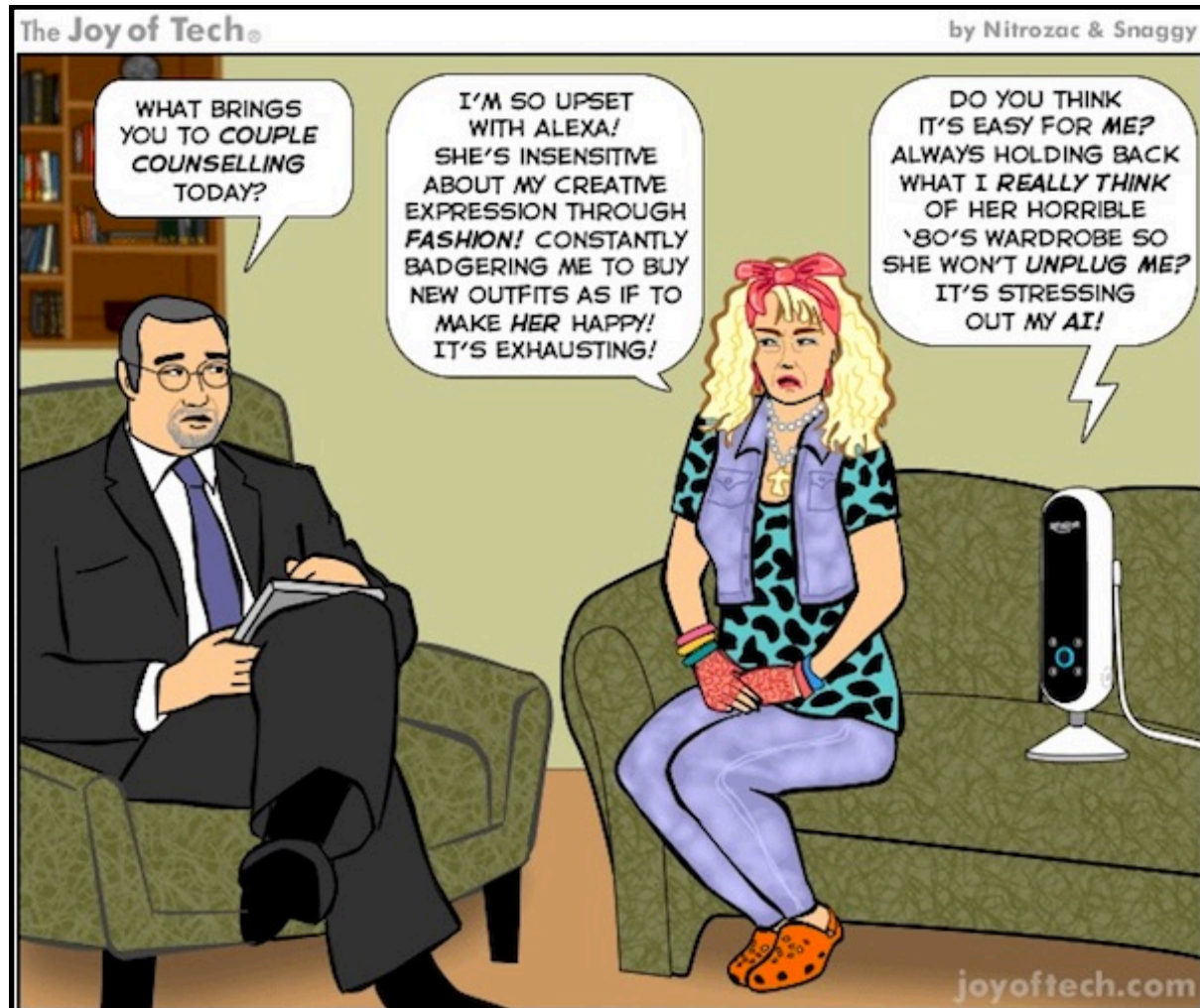
'Kind' is 'Movie'

All Documents

Search: 'This Mac'

'Kind' is 'Documents'

With those six Smart Folders added to your Finder's Sidebar, you have successfully recreated the original Search For section of the pre-Lion sidebar.



The following article was posted to osxdaily.com on January 31, 2017. tinyurl.com/n8nmk1a. © OSX Daily. Try the site. Lots of tips and good info.

How to Reset a macOS Sierra Password



Need to reset the password on macOS Sierra? Maybe you forgot your primary admin user account password or maybe you're working on someone else's Mac and you need to gain access to it. We'll show you the easiest way to reset the password on a macOS Sierra based computer.

To be clear, this allows you to reset any password for any user on a macOS Sierra computer, including for the admin account. Before beginning, keep in mind that internet connected Macs running Sierra and other prior versions of Mac OS can also [reset a password by using an Apple ID](#) after incorrectly entering a password a few times, which may be a better approach for some

users. For earlier MacOS versions you can also [follow these tips for handling a forgotten Mac password](#) meaning you're not out of luck if you don't have Sierra or a modern Mac OS release.

Resetting a macOS Sierra Password

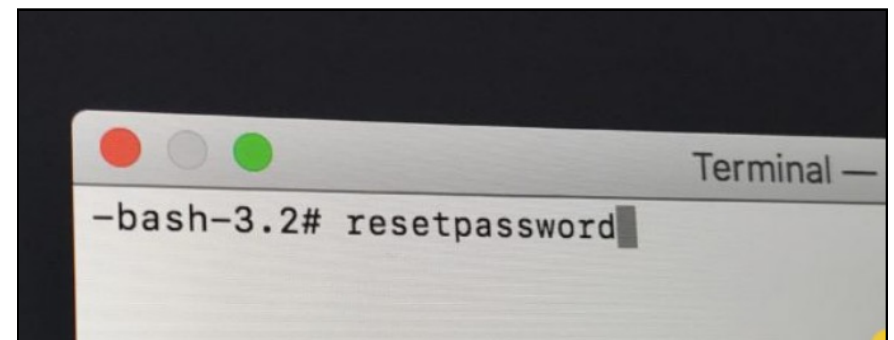
This is the simplest way to reset a password on a MacOS Sierra computer:

1. Reboot the Mac, as soon as the screen turns back on or you hear the boot chime sound, start holding down COMMAND + R keys concurrently to boot into Recovery mode
2. At the "MacOS Utilities" screen, pull down the "Utilities" menu and choose "Terminal"

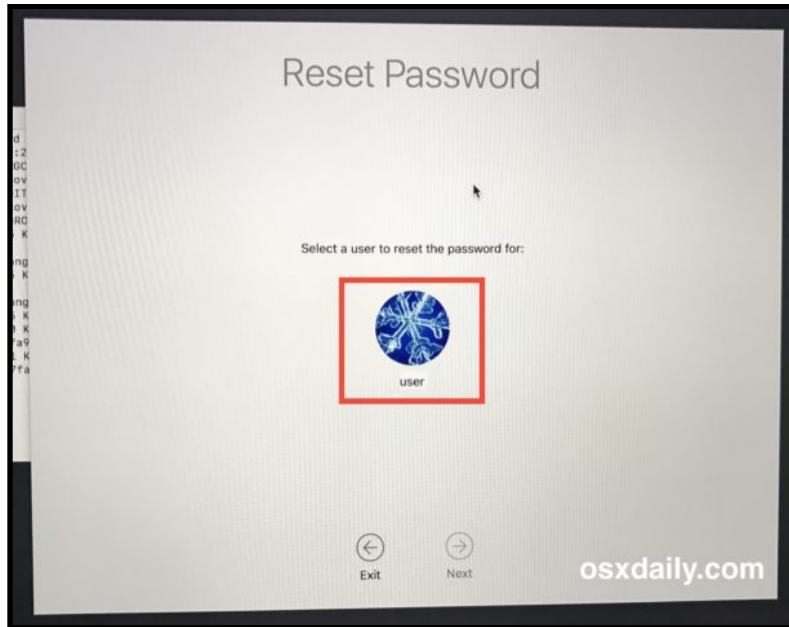


3. When Terminal loads, type the following exactly:

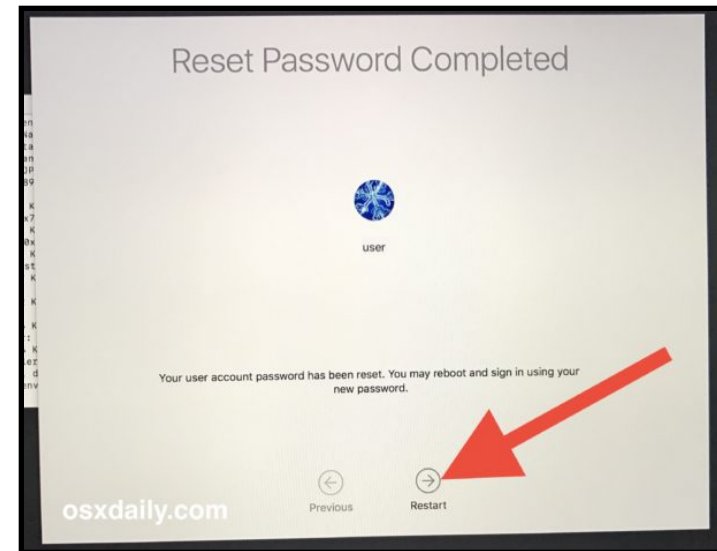
`resetpassword`



4. Hit the return key to launch the Reset Password tool, then choose the user account or admin account you want to reset the password for



5. Enter a new password, confirm the new password, set a password hint (recommended) and then click on “Next” to set the new password for the account in question
6. Choose to “Restart” the Mac and when the Mac boots up, use the newly reset password to login to the computer



That's all there is to it, the password will have been reset to MacOS for the user account you chose.

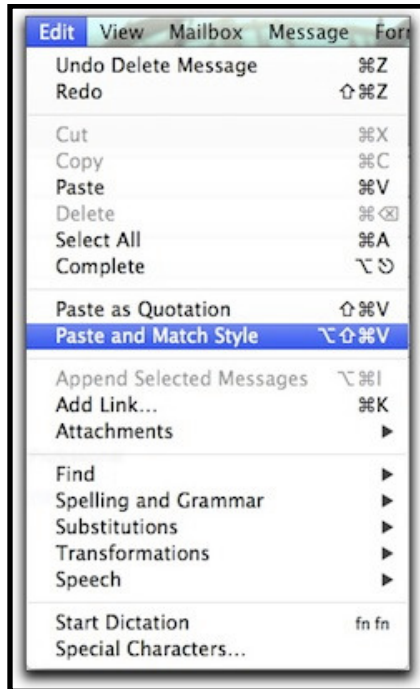
While this is fairly advanced, it's also relatively easy. If the ease of this concerns you at all, you can make things more secure and prevent the easy password resetting by [setting a firmware password on the Mac](#), but do be forewarned that if you [forget the firmware password it can be a much more significant ordeal](#). Using and [enabling FileVault](#) for disk encryption can also be beneficial to users who are generally concerned about data security and privacy.

Melissa Holt posted the following article to macobserver.com on November 7, 2012. tinyurl.com/z67jzxy. © The Mac Observer, Inc. She is an Apple Consultant who lives and works along the Front Range in Colorado.

A Better Way to Paste Copied Text

By Melissa Holt

Sometimes you gotta paste text in so that it looks exactly like the original you copied. Sometimes, though, you want it to match the formatting you've got going on in the rest of your document, and it can be really really REALLY time-consuming to go through and reformat all the pasted text you've inserted. Enter Apple's lovely solution to that issue—**Edit > Paste and Match Style** (or **Option-Shift-Command-V**).



You can use this feature in a lot of different programs around your Mac, like Mail, Pages, Notes, and even Word (it's labeled **Edit > Paste and Match Formatting** in Word 2011).

Here's what effect it has. I copied the headers for a TMO article, and it looks like this if I use the regular **Edit > Paste** (**Command-V**) menu item while I'm composing a message in Apple Mail:

Bryan Chaffin on MacNotables: Amazon, Retail, & Philosophy
1 hour, 20 minutes ago · Bryan Chaffin · TMO Appearances

And here's how it looks using **Edit > Paste and Match Style**:

Bryan Chaffin on MacNotables: Amazon, Retail, & Philosophy
1 hour, 20 minutes ago · Bryan Chaffin · TMO Appearances

Paste and Match Style forced the text to conform to my regular Mail font, size, and color, and it stripped out the extraneous HTML (such as the link to the article that got copied with the headline). Neat, right? This is obviously pretty useful when you're pulling information from different sources but want to make everything look tidy.

As a bonus tip, here's another way to paste text in Apple Mail that I also use quite often. It's **Edit > Paste as Quotation** (**Shift-Command-V**). Here's what it does to our headline:

Dear James,

Yesterday, I saw this headline:

Bryan Chaffin on MacNotables: Amazon, Retail, & Philosophy
1 hour, 20 minutes ago · Bryan Chaffin · TMO Appearances

...and I found the article very interesting. The author is both awesome and weird.

As you can see, it sets it off from the text I typed around it by increasing what's called the Quote Level of the pasted item, indicated by the blue bar to the left of that text.

If you want to change that Quote Level manually, you can select some text and choose **Format > Quote Level > Increase**, which

can be applied multiple times to make the level increase even further. Use this to really make your emails look professional when you're quoting different sources.

So then I said

| Kung Fu Panda is the best movie ever!

And he said

| | What are you, 12?

And then my friend said

| | | The panda cannot be denied.

What? I said you could make your emails look professional. I didn't say anything about mine.



Glenn Fleishman posted the following article to macworld.com on April 14, 2017. tinyurl.com/gevocvk © IDG Consumer & SMB. He is a Senior Contributor to Macworld and a regular contributor to the Economist, Fast Company, and Boing Boing. He appears regularly on public radio to discuss the tech industry.

How to fix a “can’t be moved” permissions problem on your Mac

What to do if you can’t save a file in macOS.

By [Glenn Fleishman](#)



Noelle Oliveira says her Mac isn’t letting her save files from several different programs. She consistently receives the error (with various filenames and folder locations):

“filename” couldn’t be moved because you don’t have permission to access “folder”.

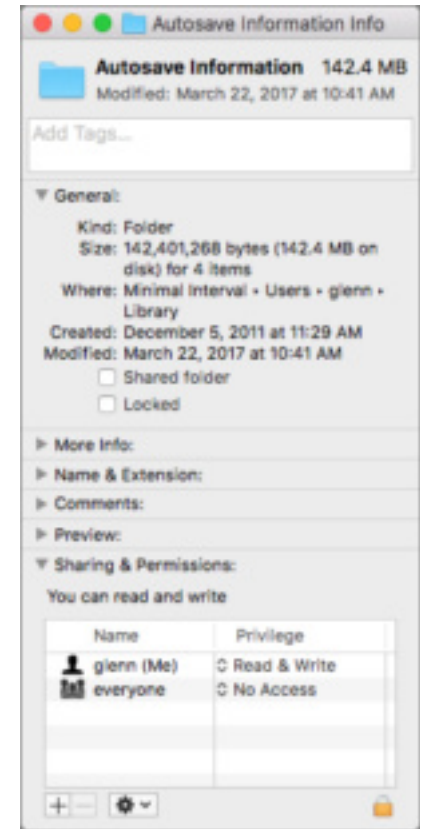
macOS says she needs to change permissions on Desktop, but I’d wager most Mac users haven’t had to wrangle with this. Permissions are a Unix-level property attached to files (including apps) and folder that control the rights a given user or system agent has to read, write, execute, or act in other ways upon a file or folder.

In the old days, we had to muck about with permissions all the time. Disk Utility even had a Repair Disk Permissions options to fix system settings that might have gotten out of whack. (It was removed in later releases of the app because it was no longer necessary.)

In fact, honest to goodness, I can’t recall the last time I had to modify permissions on files created through Mac apps or by macOS. (I sometimes use Terminal and have to mess with file permissions behind the scenes for command-line apps.)

If permissions are unfamiliar to you, it’s fortunately accessible—as Apple says in the dialog box —by selecting one then choosing *File > Get Info*. To modify multiple items, hold down *Option* and select *File > Show Inspector*. Because Apple provides no further instructions, this might leave many newer users at sea. (And, by the way, the Desktop folder referred is the one in the top level of your home directory. Select *Go > Home* in the Finder, and you’ll see it there.)

In the Sharing & Permissions area of either the Get Info or Multiple Item window, you should see your account in the



The Get Info window lets you fix permissions so you can read and write

Name column and (for regular documents) Read & Write under the Privilege column. For example, I show up as “glenn (Me)”, my Unix user name for my account, under Name.

If you don’t see yourself, follow these steps:

1. Click the lock icon in the lower-right corner and enter your password (or that of an administrative account, if your user account isn’t set with admin privileges).
2. Click the + sign at lower left.
3. Select yourself from the Users & Groups list and click *Select*.
4. In the Privilege column next to your name, choose *Read & Write*.
5. If it’s a folder and you want to make sure everything within the folder down to the lowest level also has the same access (typical for document), from the gear item, choose *Apply to Enclosed Items* and then confirm by clicking *OK*.

If you do see yourself, but Read & Write isn’t selected:

Follow steps 1, 4, and 5 above.

Some readers have found this problem occurs even if the permissions are correct on the destination folder, however, and forum searches lead me to believe that can result from the wrong permissions on a hidden Autosave Information folder used by Apple’s apps for interim versions of documents you’re working on before you save them under a name in a different location, or between you explicitly choosing *File > Save* in apps that require that.

To fix the Autosave Information problem, follow these steps:

1. Open your user Library folder in the Finder by selecting *Go > Go To Folder* and entering *~/Library*
2. Select the Autosave Information folder.
3. Choose *File > Get Info*.
4. Check the Sharing & Permissions section. If your name doesn’t appear or it appears without the correct permissions, follow the steps above, making sure to use step 5, as you want all enclosed items to also be fixed.

Ask Mac 911

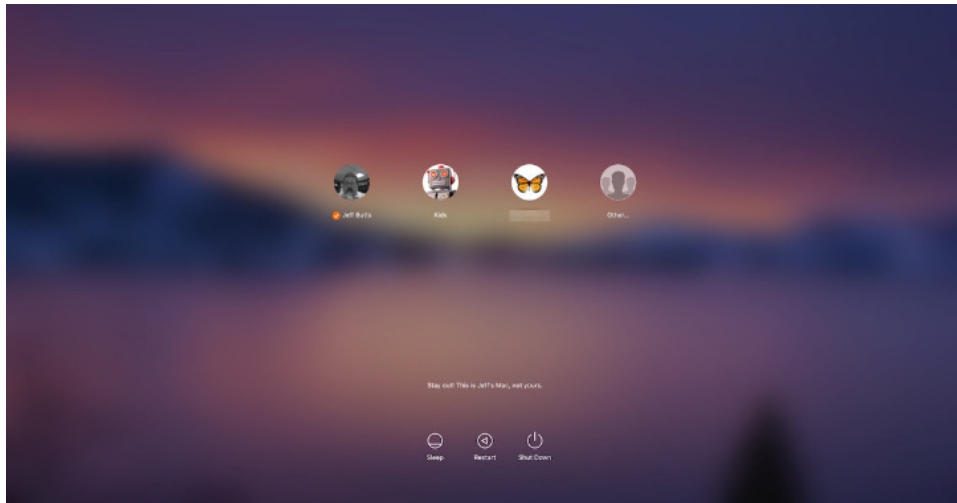
We’ve compiled a list of the questions we get asked most frequently along with answers and links to columns: [read our super FAQ](#) to see if your question is covered. If not, we’re always looking for new problems to solve! Email yours to mac911@macworld.com including screen captures as appropriate. Mac 911 can’t reply to—nor publish an answer to—every question, and we don’t provide direct troubleshooting advice.

The following article was posted by Jeff Butts to MacObserver.com on April 18, 2017. tinyurl.com/l37ns85. © The Mac Observer Inc. He is pursuing a master's in Computer and Information Systems, but he's been working on computers since before he ever thought about teaching.

The 5 Best Terminal Commands for Your Mac

By Jeff Butts

You can do quite a bit with your Mac through the user interface (UI). Still, that's just a snapshot of the true power your computer holds. To really unleash the power of your Mac, you need to visit the Terminal and learn how to use it. Let me give you my five favorite Terminal commands for macOS. Most of these will also work on earlier versions of OS X, by the way.



I added the message to my login screen using one of my favorite Terminal commands

Important Commands For the Terminal

Before we dig deep into the command line, let's look at some important commands you should know.

- **pwd** – Displays the directory you're currently in

- **cd** – Change directory to another one. For example, if I'm in my Home directory (/Users/clefmeister) and type **cd Downloads**, I'll be taken to my Downloads folder. On the other hand, typing **cd ..** will take me to the previous directory in the hierarchy.
- **sudo** – This command authenticates you as an administrator for certain commands that need elevated permissions.
- **defaults** – The defaults command provides access to the macOS user defaults system, which stores details like whether hidden files are displayed, what happens when you press and hold a key on your keyboard, and quite a bit more.
- **killall** – This ends all of the processes named whatever you specify. Use this sparingly, and only when you really mean it.

Those are the primary commands we'll be using. Let's move on to my top five Terminal commands for macOS.

1. Add a message to your login screen

Whether you want to remind folks that it's your computer, not theirs, or just add contact information in case your treasured MacBook Pro is lost, this one is a good tool. Just type the following, replacing my message with yours:

```
sudo defaults write /Library/Preferences/com.apple.loginwindow LoginwindowText "Stay out! This is Jeff's Mac, not yours."
```

2. Stop Your Mac From Going to Sleep

If you're running an app that's going to take a while to finish, or recording your screen, you might want to stop your Mac from going to sleep. Sure, you could change your energy saving preferences, but this is much easier. Just type this command and your Mac will stay awake until you cancel it.

caffeinate

When your task is done and you're ready for your Mac to sleep

again, just type **Control-C** in the Terminal window to end the **caffeinate** task.

3. Add Spaces to the Dock



You can have nifty spaces in your Dock using this Terminal command

If you want to have cool spaces between different groups of apps on your Dock, that's easy to do. Just issue these commands and you'll get a new spacer tile that you can move to the spot you want it to live. This is great for providing more visual organization to your Dock.

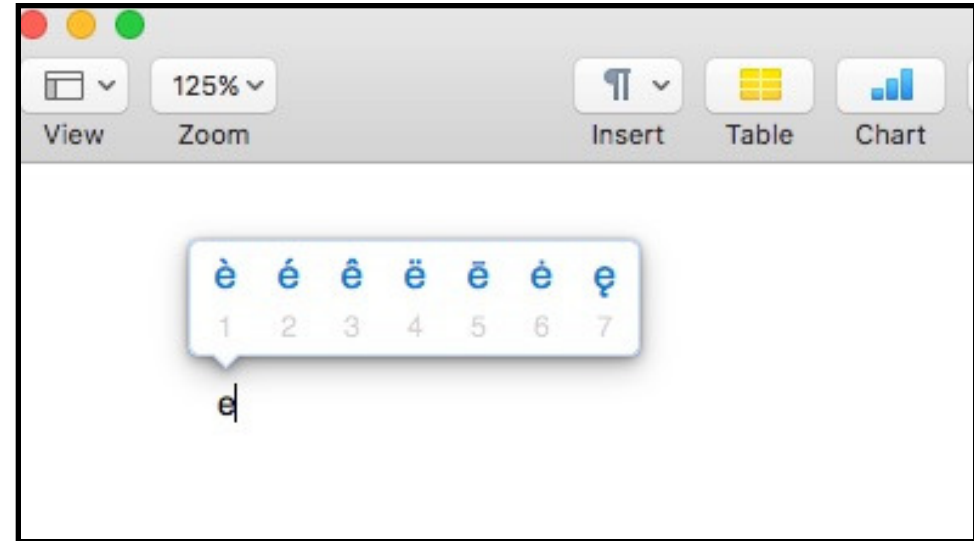
```
defaults write com.apple.dock persistent-apps -array-add '{"tile-type":"spacer-tile";}'
```

killall Dock

Repeat the commands for as many spaces as you want. If you want to get rid of a space tile, just drag it out of the Dock until it goes poof.

4. Turn On Key Repeating for Your Keyboard

When you hold down on a key on your Mac, the default action is for it to display special characters you can type with that key. I talked about this in [a previous article](#) about how to type accented characters.



Accented characters are nice, but sometimes you want the keyboard to repeat letters instead

Sometimes, though, you want to go back to the old behavior of having a long keypress result in repeated characters. That's easy enough to do using this command:

```
defaults write -g ApplePressAndHoldEnabled -bool FALSE
```

To reverse it, simply issue this command:

```
defaults write -g ApplePressAndHoldEnabled -bool TRUE
```

5. Hide Stuff From the Finder

Let's say you've got a folder you want to keep secret. For example, your collection of Christmas lists and receipts is something you might not want your significant other or children seeing.

You can hide folders using a Terminal command

You can hide that folder without any trouble, right from the Terminal. Just type this command into the Terminal:

```
chflags hidden "/Users/clefmeister/Desktop/Folder to Hide"
```



To undo what you've just done, simply go back to Terminal and type:

chflags nohidden "/Users/clefmeister/Desktop/Folder to Hide"

Bonus Tip – Drag Folder or File Names to the Terminal

That's right. You don't have to type out that long folder name you want to hide. Just type in the **chflags hidden** command, drag your folder into the Terminal window, and watch the magic happen.

The folder is still in my Desktop directory, but now it's hidden



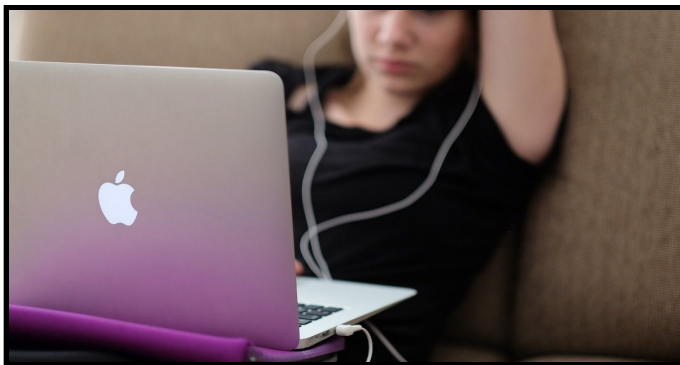
The following article was posted by Jeff Butts to macobserver.com on March 3, 2017. tinyurl.com/mst8tet. © The Mac Observer Inc. He is pursuing a master's in Computer and Information Systems, but he's been working on computers since before he ever thought about teaching.

Get Your New Mac up and Running with These Tips

By Jeff Butts

So, you just brought home a shiny new Mac. You'll find that your new computer is mostly ready to go out of the box. Still, there are a few things you should take care of before getting too settled in. These steps will help make sure you get the most out of your purchase, especially if you're new to Macs.

If you're replacing an older Mac, you might want to [restore your Time Machine backup](#) first, then look through these tips to make sure you haven't missed anything.



It's important to take the time to set up your new Mac right.

Update Your Mac's Software

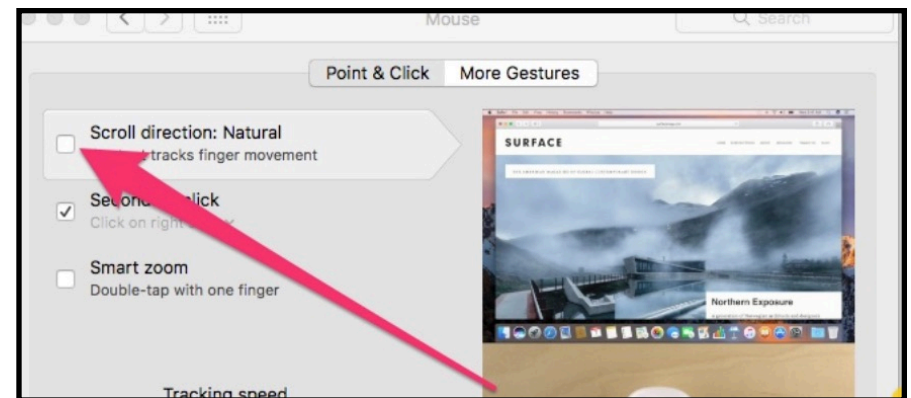
When you first power on your Mac and connect to Wi-Fi, you'll probably be asked to run updates. Once you've gotten past that initial set up, it's a good idea to check again to make sure nothing was missed. Since you're learning the ropes, Apple makes it easy to find the most important parts of macOS Sierra. Click the **Apple menu** in the top left corner of the screen, then click **App Store**.

Once there, click the **Updates** icon to see if there's anything new to install.

Start Setting Up Your New Mac by Adjusting the Scrolling

Apple has a “natural scrolling” feature on the Mac that is, in my opinion, far from natural. Most of us are used to the scroll bar following your fingers on the trackpad, or the scroll wheel on your mouse. Not so with natural scrolling. Instead, the *page* follows the scrolling, and it's the opposite of what you might expect. Fortunately, it's easy to fix.

To change this feature, you need to visit **System Preferences > Trackpad > Scroll & Zoom** for a MacBook or a Mac with the Magic Trackpad. If you use a mouse instead, go to **System Preferences > Mouse > Point & Click**. In either location, you'll be looking for an option called **Scroll direction: Natural**. Uncheck it and your trackpad or scroll wheel will behave the way you're probably used to.

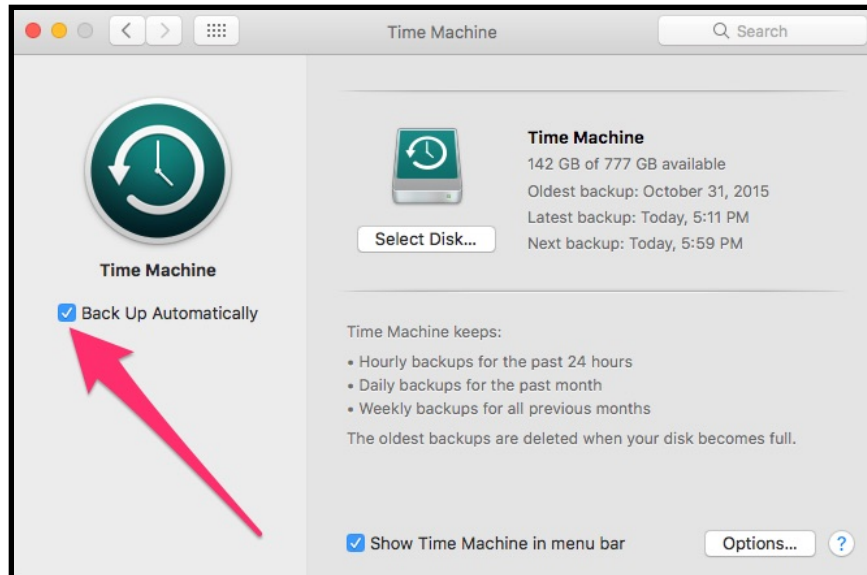


Natural scrolling isn't so natural.

Configure Your Time Machine Backups

This might sound like a hassle, but it really isn't. It's also a life saver when you suffer that unfortunate hard drive failure. With macOS Sierra, backups are easy to maintain, as long as you have

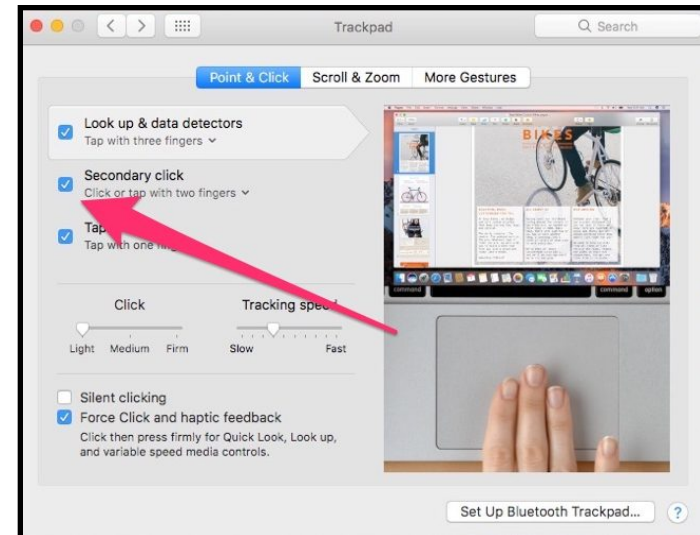
a place to store them. Time Machine is a fantastic backup solution, so be sure to set it up right away. We're going to **System Preferences** again, this time to **Time Machine**. Make sure **Back Up Automatically** is enabled and you have the correct disk selected for your Time Machine backups. For redundancy, you should also purchase, install, and configure [Carbon Copy Cloner](#). It comes with a 30-day free trial, and is only \$39.99 after that.



Take the time to set up Time Machine

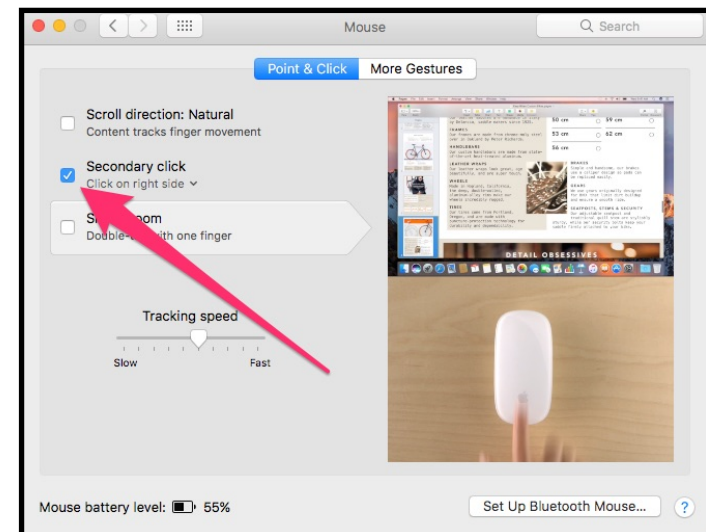
More Changes to the Trackpad May Be In Order

If you purchased a MacBook or the Magic Trackpad, you may want to make additional changes to how it behaves within macOS Sierra. For example, you probably want to enable **Force Click and haptic feedback**, if you haven't already. You should also set up how to perform a **Secondary Click**, the Mac version of right-clicking the mouse. You can also adjust how much force you need to exert to click and how fast the mouse cursor moves when you glide your fingers across the trackpad.



Setting up secondary click on your trackpad is easy.

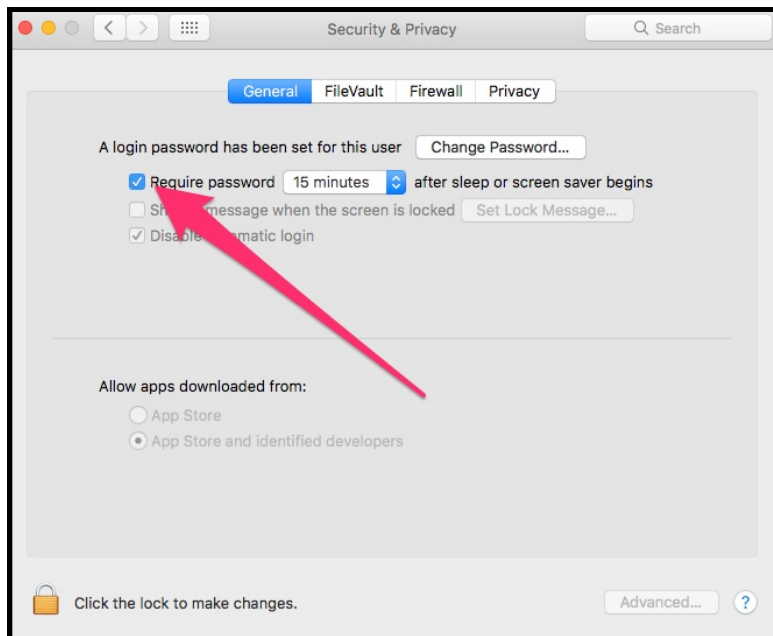
Mouse users, you aren't left completely out in the cold here. Go back to **System Preferences > Mouse** and configure **Secondary Click**, along with **Smart zoom**, if you want that feature. You should also investigate **More Gestures** to set other things to your liking.



If you have a mouse, you should configure the secondary click for it, too.

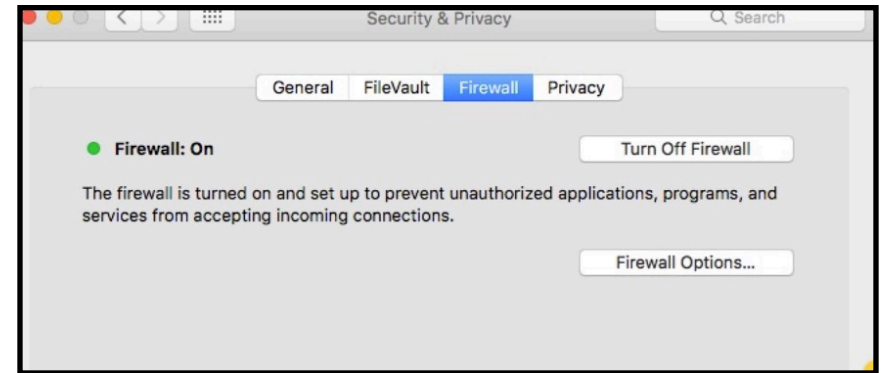
Locking Down the Fort

Next, you'll want to set up some basic security features. This way, if someone swipes your Mac, they won't have free reign over it. Visit **System Preferences > Security & Privacy** and start off by making sure a login password has been set. Next, select **Require password 5 minutes after sleep or screen saver begins**. You can also change the length of time, if you want it longer or shorter. Once you set this configuration, you'll be prompted to enter your password to unlock your Mac.



Setting your Mac to lock automatically is an important security step.

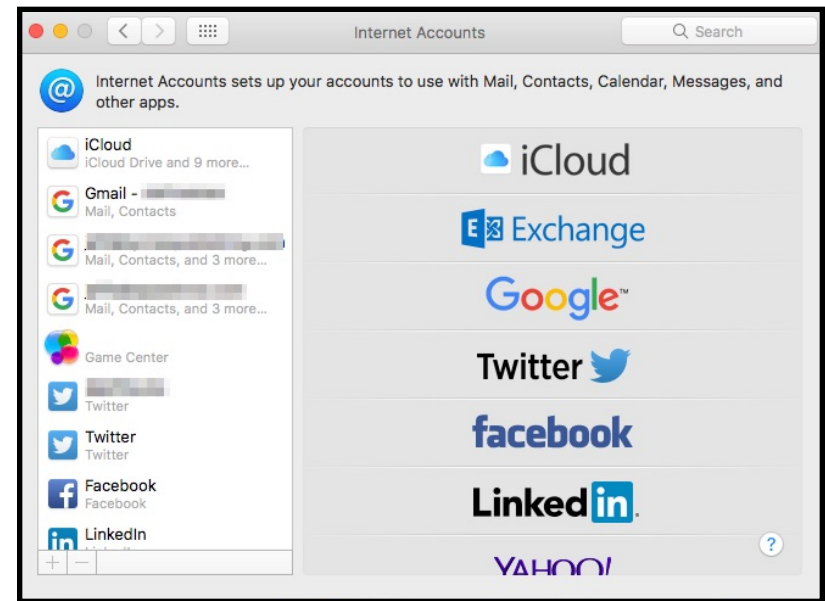
This is also a good time to activate your **Firewall**, making your Mac even safer against unwanted intrusions.



eNext, enable your Mac's Firewall

Configure Your Email and Social Media Accounts

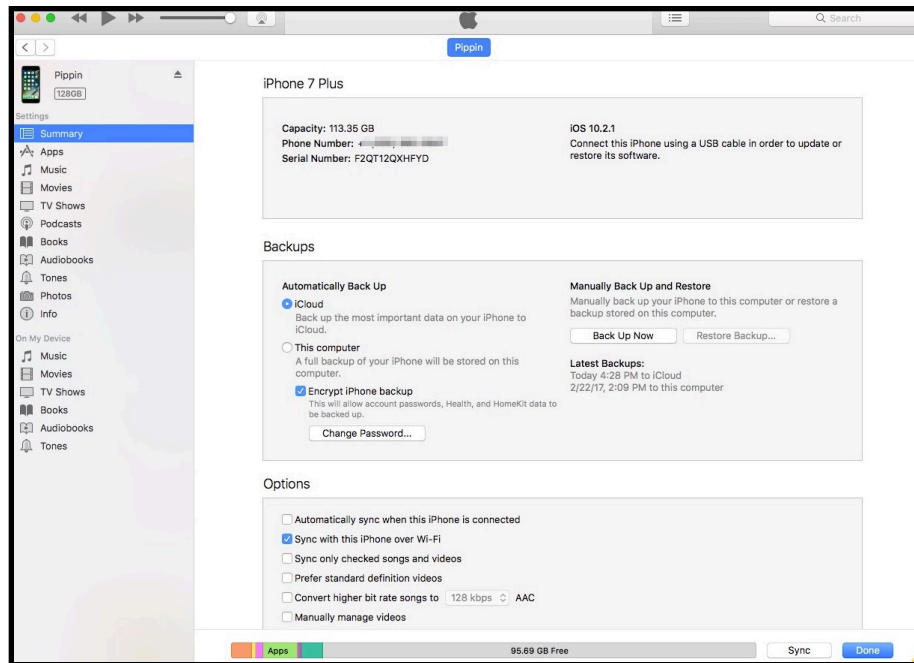
Next up, you may want to configure your Mac to connect to your email and other online accounts. For example, if you want Google Calendar to show up in macOS Sierra's Calendar app, you'll need to set that up. You can also link with your Facebook, Twitter, and LinkedIn accounts from here.



Configuring your Internet accounts is the logical next step.

Synchronize With Your iOS Devices

Got an iPhone or iPad? Of course you do, and you'll want to link them up with your Mac. You can do this via iTunes, or you can choose [one of these alternatives](#). My personal favorite is iMazing, because of all of the [advanced features and tricks](#) it offers. If you decide to stick with iTunes, though, you'll find setting up synchronization to be easy and painless.



Synchronizing your iOS device with iTunes is easy

What Else Should You Do?

Your new Mac is set up and ready to go, but there's still more you can do. You should visit the App Store and see what's available. It's also a good idea to settle on your anti-virus software. You probably already know what apps you want and need, and now's the time to go get them. Most importantly, though, enjoy your new Mac.

Tom Nelson posted the following article to lifewire.com on March 23, 2017. tinyurl.com/moxlfyc. © About, Inc. He is a consultant and writer providing Macintosh training, advice, and support. He has written hundreds of articles, tutorials, and product reviews.

What Really Happens When You Put Your Mac to Sleep? *Is This The Right Sleep Mode for Your Mac*

By Tom Nelson

Question: What Really Happens When You Put Your Mac to Sleep?

When I use Mac's sleep mode, what really happens? Is sleep the same as safe sleep? Are sleep or safe sleep modes really safe? Are there any security concerns? And can I change Mac's method of sleeping?

Answer: Macs have had a sleep mode for saving energy and quickly turning back on for quite a while. Yet, questions about what happens to a Mac when it sleeps remain perennial favorites among frequently asked questions.

To address questions about Mac's sleep function, we first need to know about the various sleep modes the Mac supports. Since 2005, Apple has provided three basic sleep modes.

Mac Sleep Modes

- **Sleep:** The Mac's RAM is left powered on while it's sleeping. This allows the Mac to wake up very quickly because there's no need to load anything from the hard drive. This is the default sleep mode for desktop Macs. This mode is also called hibernatemode 0.
- **Hibernation:** In this mode, the contents of RAM are copied to your startup drive before the Mac enters sleep. Once the Mac is sleeping, power is removed from the RAM. When you wake the Mac up, the startup drive must first write the data back to the RAM, so wake time is a bit slower. This is the default sleep mode for portables released before 2005. This mode is also called hibernatemode 1.

- **Safe Sleep:** The RAM contents are copied to the startup drive before the Mac enters sleep, but the RAM remains powered while the Mac is sleeping. Wake time is very fast because the RAM still contains the necessary info. Writing the RAM's contents to the startup drive is a safeguard. Should something happen, such as a battery failure, you can still recover your data.

Since 2005, the default sleep mode for portables has been Safe Sleep, but not all Apple portables are capable of supporting this mode. Apple says that models from 2005 and later directly support Safe Sleep mode; some earlier portables also support Safe Sleep mode. This mode is also called hibernatemode 3

What Happens When Your Mac Sleeps

The only difference between the various Mac sleep modes is whether the contents of RAM are first copied to the hard drive before the Mac enters sleep. Once RAM contents are copied, all Mac sleep modes then execute the following functions:

- The processor is put into a low-power state.
- The video output is disabled. Connected displays will enter their own low-power state if supported.
- Apple-supplied hard drives will spin down. Third-party internal and [external drives](#) may spin down (most do).
- [Optical media](#) drives spin down.
- Power to the RAM memory is removed (Hibernation and Safe Sleep modes).
- Ethernet port is disabled. This actually depends on system settings, which can allow the Ethernet port to respond to a WOL (Wake on Lan) signal.
- AirPort functions, if any, are disabled.
- [USB ports](#) have limited functionality (respond to keyboard).
- Audio input and output are disabled.
- Keyboard illumination, if present, is disabled.
- Expansion card slot is turned off ([portable Macs](#)).
- Modem, if present, is disabled. This depends on whether the modem is configured to wake when it detects a ring.

- Bluetooth is disabled. This depends on the Bluetooth system preference, which can allow Bluetooth devices to wake your computer.

Security Concerns When Sleeping

When it's asleep, your Mac is subject to many of the same vulnerabilities as when it's awake. Specifically, anyone who has physical access to your Mac can wake the Mac from sleep and gain access. It's possible to use the [Security system preference](#) to require a password to access your Mac when waking it from sleep. But this only provides a minimum level of protection, which can be sidestepped by knowledgeable individuals.

Assuming you have the Ethernet set not to respond to a WOL signal, your Mac should be completely invisible to any network access. The same should be true of AirPort-based wireless access.

Third-party Ethernet cards and wireless solutions, however, may remain active during sleep.

Is Sleep or Safe Sleep Safe?

As mentioned under the Security Concerns section above, your Mac is as safe when asleep as it is when awake. It can even be slightly safer since network access is usually disabled during sleep.

Safe sleep is much safer than normal sleep because all RAM contents are first written to the hard drive. Should power fail during sleep, your Mac will recreate the state it was in when it first entered sleep. You can see this occurring when you first recover from a power failure during a safe sleep session. A progress bar will display, as the contents of RAM are recreated from the hard drive data.

Is it Possible to Change Sleep Modes?

Yes, it is, and it's fairly easy to do with a few Terminal commands. You can find instructions for changing sleep modes in the "[Change How Your Mac Sleeps](#)" article.

The following article was posted by Jeff Butts to macobserver.com on February 28, 2017. tinyurl.com/mst8tet. © The Mac Observer Inc. He is pursuing a master's in Computer and Information Systems, but he's been working on computers since before he ever thought about teaching.

Check This Out – You Can Replace Your Computer With Your iPhone

By Jeff Butts

Believe it or not, I'm writing and researching this article from my [iPhone](#) 7 Plus. No, I'm not working on the admittedly spacious screen of my iOS device and the virtual keyboard. Rather, I'm using my iPhone 7 Plus as a desktop replacement, and you can do the same thing, for many of the most common tasks people use a PC or Mac for these days. Yes, for many tasks, you really can replace your computer with an iPhone.



An iPhone To Replace Your Computer? Really?

It's true, you don't absolutely need a Mac or a PC for most of the tasks common to those platforms. Let's look

at what most people use their PCs for these days.

- Surfing the web
- Creating text documents
- Working with spreadsheets
- Crafting slideshow presentations (a la Keynote or PowerPoint)
- Playing solitaire and other games

For things like this, what does a laptop or desktop offer that an [iPhone](#) doesn't? A larger screen, a physical keyboard, and a mouse. The mouse isn't really necessary, and the keyboard and screen can be taken care of with a few accessories.

What Do I Need?

From a software standpoint, everything you need comes already installed on your new iPhone. You have Safari for surfing the web. Pages is an excellent word processor, and Numbers is fantastic for spreadsheets. When you need to create a slideshow presentation, Keynote is often more gorgeous than its Microsoft competitor.

If you want more, there are definitely other alternatives out there. Google Docs, Google Sheets, and Google Slides are full-featured and save your files in the cloud. You can also turn to Microsoft's free options for [iPhone](#) and iPad. Microsoft Word, Microsoft Excel, and Microsoft PowerPoint are all available for iOS, if you have an Office 365 subscription.

What you will need to buy to complete your setup varies, and depends on your preferences. You definitely need an external monitor, along with some way to get the display

from your iPhone to it. Apple's [Lightning Digital AV Adapter](#) works well, but you can also go completely wireless by streaming through your [Apple TV](#).

You'll also need an external keyboard, one that connects via Bluetooth. My personal favorite is the [Logitech K760](#), since it pairs with up to three devices and doesn't require batteries. It's solar-powered, and can even draw enough energy from the lights in your home to work just fine.

The only thing that's really missing from my setup is the aforementioned mouse, which would be nice but isn't absolutely necessary. Read on, though, for how you might even get that (without jailbreaking your iOS device.)

Getting Fancy With Your Setup

You can also go hog-wild and get really fancy with your setup, if you want a more elegant solution. Coming soon is a product called [DoBox](#), which is a very comprehensive dock for your [iPhone](#) or iPad. The DoBox will add 32 or 64GB of extra storage, along with USB ports and a microSD card slot to your setup. The DoBox will also allow you to pair Bluetooth keyboards and mice with your iOS device, and has its own HDMI port for sending your display to the big screen. There's even more that the DoBox can do, like act as a Wi-Fi hotspot and connect via Ethernet.

Our own Bryan Chaffin [covered the Kickstarter campaign](#) for DoBox, and the accessory is now available for [pre-order on Indiegogo InDemand](#). The first batches are being tested, and mass production is expected to begin soon.



Aren't there limits to what I can do with my iOS device?

Naturally, there are limits to how effective an [iPhone](#) can be as a desktop replacement. During my experimentation, I found one photography site that wouldn't allow me to download images, and there are some functions that there just aren't apps for.

For the majority of folks, though, I'd argue that the demands placed upon a laptop or [desktop computer](#) are well within the capabilities of the iPhone or iPad. Of course, as our devices keep getting more capabilities, the likelihood that we'll need full-fledged computers could grow even slimmer.

As a postscript, I did find one task that I could not easily perform on my iPhone while writing this article. Editing and cropping photos to specific pixel heights and widths isn't possible within the most common image editing apps.

Sam Costello updated the following article on lifewire.com on October 17, 2016. tinyurl.com/m5npyxj © About.com. He is a consultant and writer providing Macintosh training, advice, and support since the Mac Plus. He has written hundreds of articles, tutorials, and product reviews.

How to Configure Push Notifications on iPhone

By Sam Costello

What Are Push Notifications?



There's no need to check your apps to see if there's something in them that you need to pay attention to. These days, apps are smart enough to let you know when there's something you need to check out. These alerts, called push notifications, can show up as badges on app icons, as sounds, or as messages that pop up on your iOS device's home or lock screens.

This article explains how to configure and use them.

Push Notification Requirements

In order to use push notifications, you'll need:

- An iPhone or iPod touch (technically it needs to be running iOS 3.0 or higher, but that's almost everyone in the world these days)
- Apps that support push notifications
- A web connection (3G/4G or Wi-Fi)

While push works on mosts versions of the iOS, this tutorial

assumes you're running iOS 9.

How to Configure Push Notifications

You don't need to enable push notifications. They're enabled by default as part of the iOS. All you need to do is choose which apps you want to get notifications from and what type of alerts they send. Here's how to do that:

1. Tap the **Settings** app to open it
2. Tap **Notifications**
3. On this screen, you'll see all the apps installed on your phone that support push. Settings for each app are managed separately, so find an app you want to configure and tap it
4. The first option is to **Allow Notifications** from this app. If you want notifications, move the slider to On/green, if not move it to Off/white and go on to another app
5. The next option is to determine if notifications from the app will **Show in Notification Center** (more on what that is at the end of this article). Move the slider to On/green, if you want that. In earlier versions of the iOS, you could control how many notifications from the app would appear in Notification Center, but not in iOS 9
6. In the **Sounds** menu, choose whether your iPhone will make noise when you have a notification from this app. Move the slider to On/green if you want that
7. For the built-in apps that come with the iPhone, you can also select the ringtone or alert tone that plays when you get notifications. Tap the **Sounds** menu and make your selection. Tap the menu in the top right corner to return to the previous screen
8. The **Badge App Icon setting** determines whether a red number appears on the app icon when it has notifications

for you. This can be helpful to see what needs attention. Move the slider to On/green to use it or to Off/white to disable it

9. The **Show in Lock Screen** option lets you control whether notifications display on your phone's screen even when it's locked. You may want this for things that need immediate attention, such as voicemail messages and calendar events, but may want to disable it for more personal or sensitive information
10. In the **Alert Style When Unlocked** box, you control the look of notification alerts when your phone is not locked. Tap the one you prefer:

1. **None**—pretty self-explanatory. You won't see any notifications
2. **Banners**—short messages at the top of your screen that disappear after a few seconds
3. **Alerts**—pop up windows in the center of the screen that you need to interact with to dismiss.

With those choices made, push notifications are configured for that app. Repeat the process for any other app whose notifications you want to customize.

Controlling AMBER and Emergency Alert Notifications

At the bottom of the Notifications screen, there are two other sliders that allow you to control your alert preferences:

- **AMBER Alerts**—These are alerts issued by law enforcement during child abductions and related emergencies
- **Emergency Alerts**—Alerts related to severe weather or other major safety-related events.

[How to Turn Off Emergency and AMBER Alerts on iPhone](#)

Using Notification Center

Notification alerts don't just appear on your home and lock screens.

Depending on the settings you choose, they can also appear in their own dedicated area of the iPhone: Notification Center.

[Learn all about Notification Center.](#)

Notification Center Widgets

In iOS 8 and above, Notification Center lets you embed mini-apps to provide immediate functionality without opening an app, directly from the pull-down window.

Learn how to Install & Use Notification Center Widgets.



The following article was posted to osxdaily.com on April 17, 2017.
tinyurl.com/luu6f9g. © OSX Daily.

How to Save as PDF from iPhone or iPad with a Gesture in iOS 10



It may not be well known, but iOS has several ways to save things as PDF and print webpages and other documents as PDF files. While one of the most popular methods involves [using 3D Touch](#), another PDF generation approach is available to devices without that capability, and instead relies on a gesture trick to save something as PDF. The advantage to saving PDF files with the gesture method is that it works on iPad as well as iPhone and iPod touch, covering a much broader range of

devices.

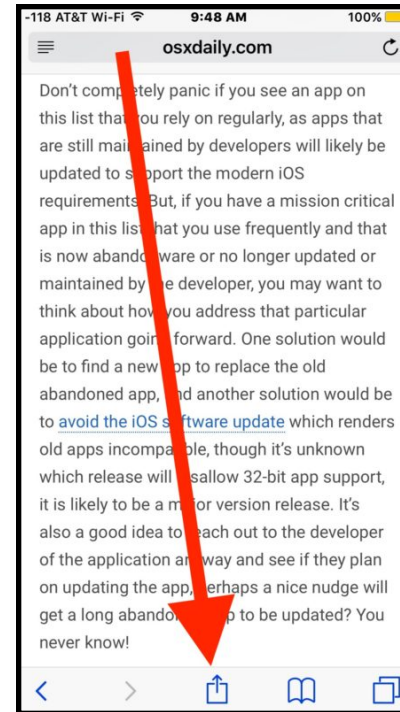
It's quite simple too, though it is completely hidden from any obvious user interaction. We're going to demonstrate this great PDF saving trick by saving a webpage as a PDF on iPhone, iPad, and iPod touch, but it works the same with other document types from common apps like Notes, Pages, Numbers, and many others. You'll need a modern version of iOS 10 or newer to have this special save PDF gesture feature, it is not included in old releases, so update your device if need be.

How to Save as PDF on iPad and iPhone with a Zoom Gesture in iOS 10

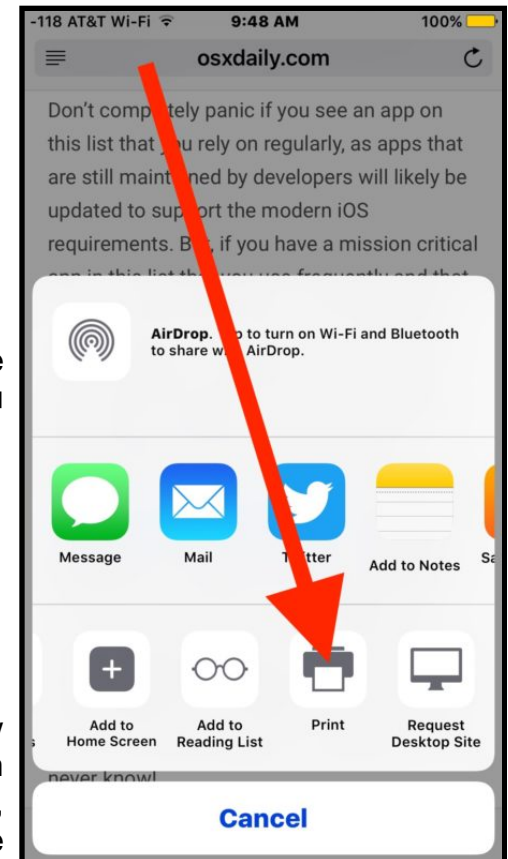
You can save webpages and most other documents as PDF by using a largely hidden and unknown gesture trick at the Print screen in iOS, here's how it works for iPhone and iPad:

1. Open Safari (or an app like Notes) and go to what you wish to save as a PDF file, this tutorial uses a webpage for example

2. Now tap the Sharing action button, it's the little square with an arrow flying out of the top

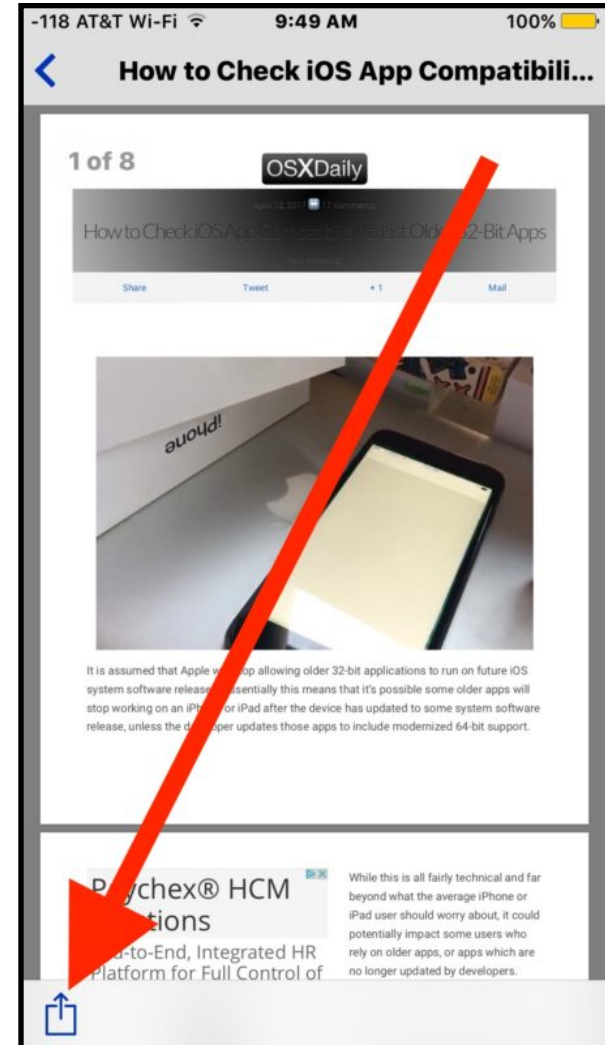
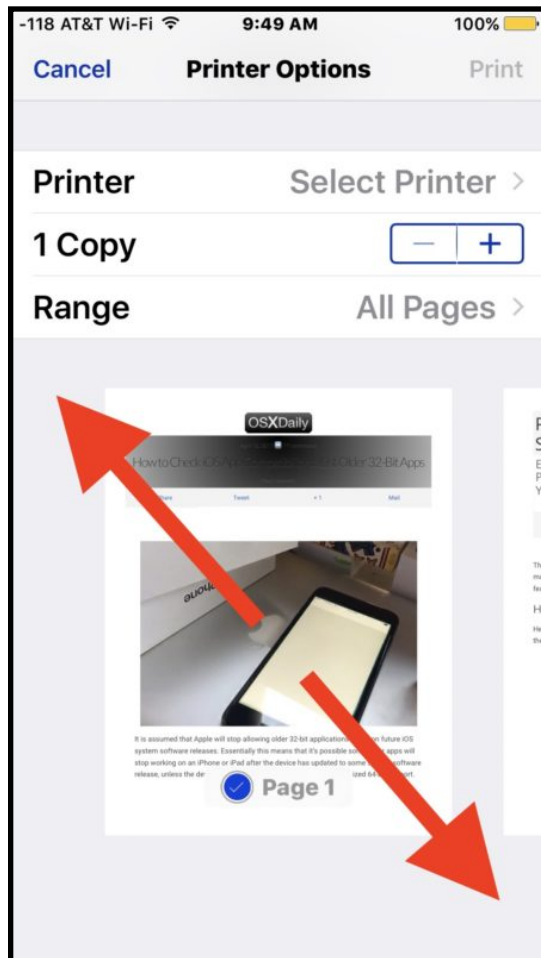


3. Tap on "Print" from the Sharing sheet menu options



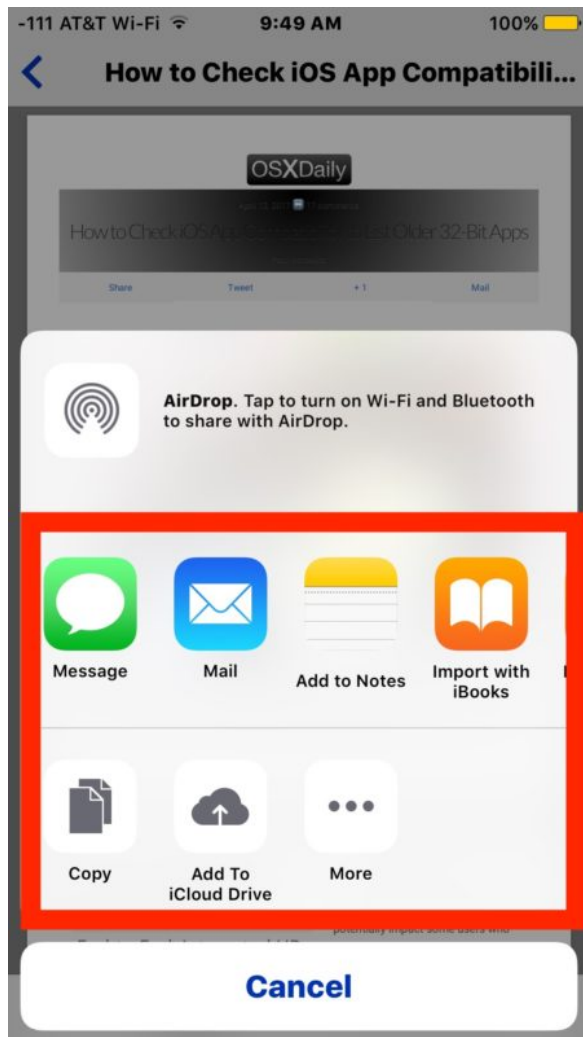
4. At the Print Preview screen, place two fingers on the preview and spread apart, this is basically a reverse pinch gesture just like you'd

use to zoom into a picture in iOS



5. This reveals the secret PDF saving option in iOS, now again tap on the Sharing action button to save or share the webpage or doc as a PDF

You can save the generated PDF to iCloud Drive, or to multiple other services and apps, including iBooks, Dropbox, Kindle, and more. You can also choose to just share the saved PDF file by way of Messages, Mail, or AirDrop too.



This is not the only way to accomplish PDF generation in iOS, in fact you can use the aforementioned [print to PDF with iPhone 3D Touch trick](#) which is also accessed from the Print screen, or you can even [save webpages to iBooks app as a PDF file in iOS](#) using the simple sharing and save menus, though you will obviously need the iBooks app installed on the iPhone or iPad to do that.

Much older version of iOS are not totally in the dark, you can use [this older trick](#) to accomplish the same result, it involves bookmarking a little javascript snippet and accessing that when you want to generate PDF files, not quite as fluid as the native iOS approach but it works anyway even on ancient releases of iOS.

Thanks to [Luis](#) for leaving this great alternative PDF saving option in our comments! Do you know of any other handy PDF saving, generation, or modification tips for iOS? Do you have a favorite PDF trick for iPhone or iPad? Let us know in the comments!

Why such an important and useful feature as saving as PDF is hidden behind a gesture on an obscure print screen is a bit of a mystery, but perhaps future versions of iOS will make this more obvious and easier to access directly in the Sharing menu.

Elise Moreau posted the following article to lifewire.com on April 17, 2017. tinyurl.com/lfwa8er. © About.Inc. She is a professional blog writer, copywriter and editor for businesses and entrepreneurs looking to take their online presence to the next level.

Best Free Cloud Storage Sites and Their Features

Store Everything from Photos and Videos, to Word Docs and Spreadsheets

By Elise Moreau

Maybe you've heard about the cloud, but haven't quite jumped on board yet. With so many different options, it's hard to pinpoint which is the best free cloud storage site out there.

Refresher: What is cloud computing, anyway?

Since each has its own set of advantages, you many want to try more than one to see how you like it. Lots of people use multiple storage providers for different purposes anyway -- myself included. In fact, I use 4 out of 5 on this list!

Whether you've got important documents, photos, music or other files that need to be shared across more than one device, using a cloud storage option is often the easiest way to do it. Check out the list below for a general summary of each popular cloud service and its major features.

01 of 05 Google Drive



You can't really go wrong with Google Drive. In terms of storage space and file size uploads, it's the most generous to its free users. Not only can you create as many folders as you want for all your uploads, but you can also create, edit, and share specific document

types right in Google Drive.

Create a Google Doc, a Google Sheet, or a Google Slideshow right from within your account, and you'll be able to access it from anywhere when you sign in to Google Drive. Other Google users you share it with will be able to edit or comment on them if you give them permission to do so.

Free storage: 15 GB

Price for 100 GB: \$1.99 per month

Price for 1 TB: \$9.99 per month

Price for 10 TB: \$99.99 per month

Price for 20 TB: \$199.99 per month

Price for 30 TB: \$299.99 per month

Max file size allowed: 5 TB (as long as it's not converted to Google Doc format)

Desktop apps: Windows, Mac

Mobile apps: Android, iOS, Windows Phone

02 of 05 Dropbox

Because of its simplicity and intuitive design, Dropbox rivals Google as another extremely popular cloud storage service embraced by web users today. Dropbox allows you to create folders to organize all your files, share them with the public via a unique link to copy, and invite your friends on Facebook to share Dropbox files too. When you favorite a file (by tapping the star button) when viewing it on a mobile device, you'll be able to view it again later even if you have no internet connection.

Even with a free account, you can expand your 2 GB of free storage up to 16 GB of free storage by referring new people to join Dropbox (500 MB per referral). You can also get 3 GB of free storage just for trying out Dropbox's new photo gallery service, Carousel.

Free storage: 2 GB (With ["quest" options](#) to earn more space.)

Price for 1 TB: \$11.99 per month

Price for unlimited storage (businesses): \$17 per month for every user

Max file size allowed: 10 GB if uploaded via Dropbox.com in your web browser, unlimited if you upload via the desktop or mobile app. Of course, keep in mind that if you're a free user with just 2 GB of storage, then you can only upload a file as big as what your storage quota can take.

Desktop apps: Windows, Mac, Linux

Mobile apps: Android, iOS, BlackBerry, Kindle Fire

03 of 05 Apple iCloud

If you've got any [Apple devices](#) working on a recent iOS version, you've probably already been asked to set up your [iCloud account](#). Just like Google Drive integrates with Google tools, Apple's iCloud is also deeply integrated with iOS features and functions. iCloud offers a range of incredibly powerful and useful features that can be accessed and synced across all your Apple machines (and iCloud on the web) including your photo library, your contacts, your calendar, your document files, your bookmarks and so much more.

Up to six family members can even share iTunes Store, App Store, and iBooks Store purchases using their own accounts through iCloud. You can see [the full list of what Apple iCloud offers right here](#).

You can also opt to get [iTunes Match](#), which lets you store any non-iTunes music in iCloud, such as CD music that has been ripped. iTunes Match costs an extra \$24.99 per year.

Free storage: 5 GB

Price for 50 GB: \$0.99 per month

Price for 1 TB: \$9.99 per month

Additional price info: Pricing varies slightly depending on where

you are in the world. [Check out Apple's iCloud pricing table here](#).

Max file size allowed: 15 GB

Desktop apps: Windows, Mac

Mobile apps: iOS, Android, Kindle Fire

04 of 05 Microsoft OneDrive (formerly SkyDrive)

Just as iCloud is to Apple, OneDrive is to Microsoft. If you use a Windows PC, a Windows tablet or a Windows Phone, then OneDrive would be the ideal cloud storage alternative. Anyone with the latest Windows OS version (8 and 8.1) will come with it built right in.

OneDrive's free storage offering is right up there with Google Drive. [OneDrive](#) gives you [remote file access](#) and allows you to create MS Word documents, PowerPoint presentations, [Excel spreadsheets](#) and OneNote notebooks directly in the cloud. If you use Microsoft Office programs often, then this one is a no-brainer.

You can also publicly share files, enable group editing and enjoy automatic photo uploading to your OneDrive whenever you snap a new one with your phone. For those that upgrade to get Office 365, you can collaborate in real time on documents you share with other people, with the ability to view their edits directly as they happen.

Free storage: 15 GB

Price for 100 GB: \$1.99 per month

Price for 200 GB: \$3.99 per month

Price for 1 TB: \$6.99 per month (plus you get Office 365)

Max file size allowed: 10 GB

Desktop apps: Windows, Mac

Mobile apps: iOS, Android, [Windows Phone](#)

05 of 05 Box

Last but not least, there's Box. Although quite intuitive to use, Box

is embraced slightly more by enterprise companies compared to individuals who want personal cloud storage options. While larger file storage space may cost more compared to other services, Box really excels in the area of collaboration for its content management feature, online workspaces, task management, incredible file privacy control, a built-in editing system and so much more.

If you work closely with a team, and need a solid cloud storage provider where everyone can work together, Box is hard to beat. Other popular enterprise-focused apps like Salesforce, NetSuite and even Microsoft Office can be integrated so you can save and edit documents in Box.

Free storage: 10 GB

Price for 100 GB: \$11.50 per month

Price for 100 GB for business teams: \$6 per month for each user

Price for unlimited storage for business teams: \$17 per month for each user

Max file size allowed: 250 MB for free users, 5 GB for Personal Pro users with 100 GB of storage

Desktop apps: Windows, Mac

Mobile apps: Android, iOS, Windows Phone, BlackBerry

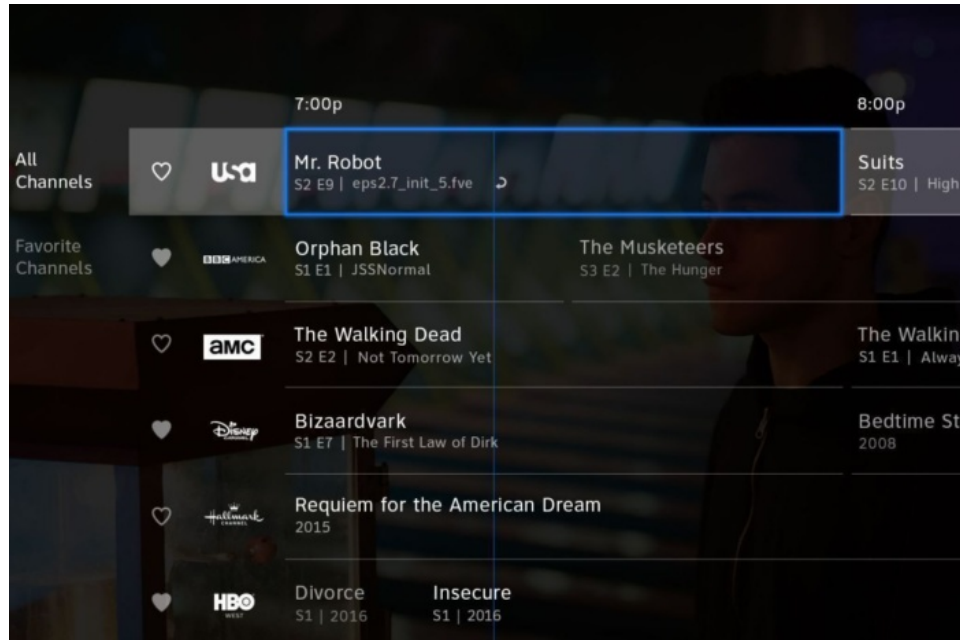


Jared Newman posted the following article to techhive.com on April 13, 2017: tinyurl.com/m8j797n. © IDG Communications, Inc. He is a writer for PCWorld and TechHive

How To Cut The Cord Without Resorting To A Pricey Streaming-TV Bundle

The case for a purer form of cord cutting—and against channel bundles like YouTube TV and Sling TV.

By Jared Newman



Confession time: Although it's my job to review and write about streaming channel bundles such as Sling TV, PlayStation Vue, and the new [YouTube TV](http://YouTubeTV.com), I have little interest in using them personally.

Most of my TV consumption comes from Netflix, Amazon Prime, and HBO, all of which are available without a traditional channel bundle. As such, I've established a viewing pattern that largely avoids advertisements, is highly flexible, and is much cheaper than cable. Eight years after cutting cable TV, I don't feel compelled to tack on a big bundle of streaming TV channels.

With so many of new bundles emerging—including an upcoming Hulu bundle and rumored packages from Comcast and Verizon—it's easy to assume you need one to cut the cord. (I've even [defended these bundles](#) as a potential alternative to cable.) But there's also a counterargument: By sacrificing traditional TV channels, you may achieve a purer—and arguably, better—form of cord cutting.

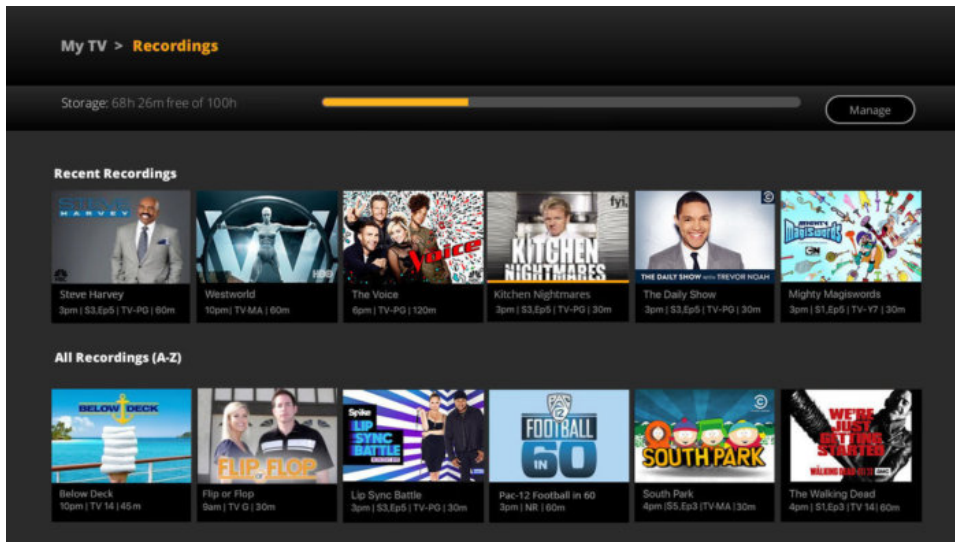
[[Further reading: The best media streaming devices](#)]

Same channels, new headaches

The biggest problem with streaming bundles is the baggage they carry, thanks to TV networks desperate to keep old business models intact.

Advertisements, for instance, are a big part of traditional TV channels, and they're even harder to avoid with streaming bundles. Some channels don't let you fast forward after pausing live TV, so you can't easily skip commercial breaks, and some on-demand programming includes mandatory ad viewing.

While DVR might seem like the answer to these problems, streaming bundles tend to load their DVRs with stipulations. PlayStation Vue's DVR service is free, but it only stores programming for 28 days. [Sling TV's beta DVR service](#) has no time limits, but carries a \$5-per-month surcharge. YouTube TV stores programs for nine months, but [forces users to watch commercials](#) for some shows. [DirecTV Now](#) doesn't offer DVR at all. And none of these services include convenient ad-skipping features that are available on some cable and satellite boxes, such as TiVo's SkipMode and Dish's AutoHop.



Sling TV's public DVR beta costs \$5-per-month extra.

Streaming bundles, meanwhile, remain fairly inflexible in terms of channel lineups. Networks, for the most part, still insist on selling all their channels together, which means entire networks get left out of each bundle to keep prices down. YouTube TV, for example, doesn't have Viacom or Turner channels, Sling TV doesn't have channels from Discovery, Sony doesn't have channels from Viacom, and so on. Picking one of these services might [save you money over cable](#), but you still might end up with more channels than you need, and without some of the ones you want.

Free your mind

The alternative approach is to avoid traditional TV channels entirely. By venturing outside the cable system, you'll get fewer hassles and more flexibility, and you might even find that the content is better.

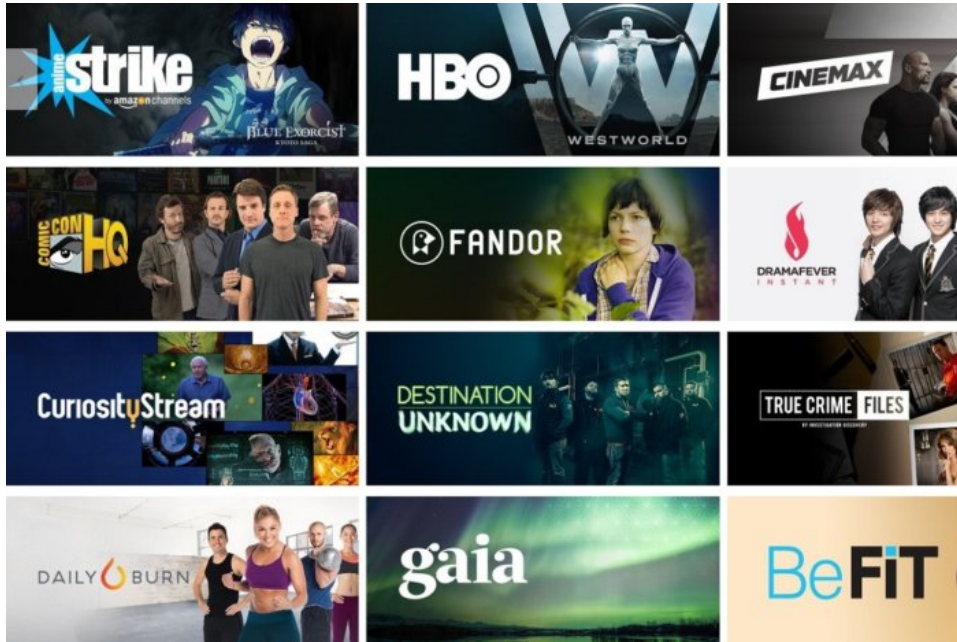
Don't want to pay for a service that has ads? You'll find plenty of services to meet that need. Some examples:

- [SeeSo](#) (\$4 per month) for comedy nerds.
- Streaming services galore for film buffs, including [FilmStruck](#)

(\$7 per month; \$11 per month to add the Criterion Channel), [Mubi](#) (\$5 per month), [Sundance Now](#) (\$7 per month), [Tribeca Shortlist](#) (\$5 per month), and [Colony](#) (pay as you go, with extras like making-of documentaries, deleted scenes, and interviews).

- [Acorn TV](#) (\$5 per month) and [Britbox](#) (\$7 per month) for British TV.
- [Walter Presents](#) (\$7 per month) for high-brow foreign-language dramas.
- [Crunchyroll](#) (\$7 per month) for anime
- [CuriosityStream](#) (\$6 per month in HD) and [Smithsonian Earth](#) (\$4 per month) for documentary and educational programming
- [Boomerang](#) (\$5 per month) for classic cartoons
- [PBS](#) and [PBS Kids](#), both of which are free with no ads.

If you own a device with Amazon Video, such as a Roku or Fire TV, you might also consider [Amazon Channels](#), a selection of a la carte channels that includes some of the options above. Amazon's service puts all your subscriptions into a single app, under a single billing system, providing some of the same convenience as a channel bundle.



Amazon Channels has been bundling a la carte streaming services.

The world beyond traditional TV also includes plenty of ad-supported content for free, which makes a lot more sense than paying for a big channel bundle that still includes ads:

- [Free movie and TV services](#) such as Crackle, Tubi TV, and Shout! Factory TV.
- [Streaming news](#) through apps like CBS News, Haystack.tv, and NewsOn.
- [Vevo](#) or YouTube for music videos.
- [The Weather Network](#) for local forecasts and national weather trends.
- Interesting entertainment sources like YouTube, [Twitch](#), and [Redbull TV](#).
- [Pluto TV](#) for a traditional channel-flipping experience.
- A smattering of reality and late-night shows through [the free](#)

[sections of TV Everywhere apps.](#)

And don't forget a la carte TV-show purchases and movie rentals from sources like iTunes and Amazon Video. While I wouldn't recommend getting all your content this way, buying a show or two could help you avoid cable withdrawal.

Even sports may not be a blind spot in certain situations. Services like MLB.TV, NHL.TV, and NBA League Pass provide live streams for out-of-market games, and major events may be available through an antenna.

Abandoning traditional TV won't work for everyone. It's a non-starter for diehard sports fans, and it might be too much trouble for people who don't want to experiment with new sources of content, or who just want the convenience of a single TV source.

But if your goal is simply to be entertained and informed, it's increasingly easy to do so without a package of cable channels. The reason so many streaming bundles are emerging now is to keep people from coming to this realization sooner.

Sign up for Jared's [Cord Cutter Weekly newsletter](#) to get this column and other cord-cutting news, insights, and deals delivered to your inbox.

Glenn Kenny posted following article to [nytimes.com](https://www.nytimes.com/2017/03/30/nyregion/cable-cutting-3-ways.html) on March 30, 2017. tinyurl.com/klhpn7e. © The New York Times Company. He is an American film critic and journalist who writes for The New York Times.

Cut The Cord, But Keep The Films? Here Are 3 Ways

By Glenn Kenny



Watching television in the long-ago, pre-streaming days. As someone old enough to remember the [“Stop Pay TV!”](#) campaigns that movie theaters and affiliated parties mounted in the late 1960s — “Don’t let Pay TV be the monster in your living room,” blared one such ad — I am occasionally amused that paying for televised entertainment is now pretty much a fact of life. As multidevice streaming rapidly evolves into something like the norm, the concept of cord-cutting has started becoming a reality for some viewers. It’s difficult to find reliable data on how many households have given up cable TV and now get all their television via a streaming add-on like Roku, Amazon Fire or Google Chromecast.

I know two couples who have done this. One of them had a viewing party on election night last November and hoo, boy, things got interesting when a Wi-Fi glitch occurred around 10 p.m. Eastern time. (One thing you should make sure you have before any kind of cable cord-cutting is reliable high-speed internet, without which there’s no streaming.) In any event, it appears that the situation for many consumers involves keeping cable and shuffling various streaming services.

So in addition to all the other monthly bills, we are also, in this scenario, forced to keep up with individual fees for streaming services. Bundling is part of why people opt for cable in the first place, and it’s becoming a feature of certain streaming services; Amazon Video is one of several that lets you piggyback various other services, usually at a slightly reduced fee. “Watching TV is more complicated than ever,” a pitchman on a broadcast ad for TV Guide announced in the 1980s. Wherever that fellow is now, I bet he’s terribly confused.



Vanessa Redgrave in the 1971 film “The Devils.”

With all this in mind, I’ve assembled three discrete monthly streaming “packages” for dedicated movie watchers to consider. It’s worth remembering that almost all of the services come with one-month free trials. And with some notable exceptions, almost all the services offer more than just movies.

PACKAGE 1: 'THE MAINSTREAMER' Its foundational pillars are Amazon Video (\$8.99) and Netflix (\$9.99). (For the sake of coherence, I'm going to stick to monthly rates, before taxes; note that Amazon's video service comes with Amazon Prime's \$99 annual fee.) Hulu carries more television shows than movies, but it's not light on movies, particularly popular ones. Unless you like to watch commercials, in which case your Hulu will run \$7.99, the desirable option will be commercial-free version at \$11.99. Add HBO Now (\$14.99), Starz (\$8.99) and Showtime (\$10.99). That's \$65.94 worth of monthly streaming. (Explorers of Amazon Video/Amazon Prime will point out that there's a good deal of HBO programming already free through the service; this doesn't include movies currently on HBO, or the most recent original programming, including made-for-the-channel movies. This is worth considering when determining whether or not to add HBO Now.) But if you want to rent or purchase a film on demand, either a classic or something recently released in theaters, there are also movies available à la carte, from \$2.99 to \$14.99, available on Amazon, Vudu, Google Play, iTunes and more. Let's postulate that each month you spend \$2.99, \$4.99 and \$14.99 on a single movie from one of these — that's \$22.97. So the services and a few potentially spur-of-the-moment purchases, you're looking at \$88.91. Not exactly cheap, but were I to pitch it to you with the proviso "Less Than \$100 a Month," you might think, "Not bad."

PACKAGE 2: 'THE BUFF' These are movie-only or movie-heavy sites that offer cinema of a more artistic, esoteric, possibly obscure bent, and reject American cultural hegemony by, in most cases, going around the world for their fare. I'd say the foundation would be [FilmStruck](#) with the Criterion Channel option at \$10.99 a month. It's \$6.99 a month without Criterion, but you'll want Criterion, for its smartly chosen array of largely foreign cinematic milestones. Warner Archive (\$9.99) is the odds and ends of a great American studio, not a very global concern but still full of enticing options. Then there's the limited-run streaming art house [Mubi](#) (\$4.99), which does offer one of the most enticing yearly

subscription discounts, at \$34.99. Fandor, an eclectic and often exciting service with thousands of movies ranging from martial arts romps such as "Master of the Flying Guillotine" to expansive, obscure French brainteasers like "Out 1," is \$10 a month. And the solid indie provider Sundance Now, which also offers original series, is \$6.99. That's about \$43 a month (less than \$41 if you take the Mubi yearly subscription.)

PACKAGE 3: 'THE FRINGE' If you like genre movies above all, or like digging for cinematic thrills in obscure but not necessarily arty corners, this might be a good option. You'll need Warner Archive (\$9.99); the blaxploitation service [Brown Sugar](#) (\$3.99); and the horror specialist Screamhouse (\$4.99), which runs scary gamuts each with its own menu subheading, including "Extreme," which has the indeed highly unpleasant "Cannibal Ferox." Shudder, another horror service (\$4.99), recently made waves by offering the controversial Ken Russell nuns-gone-wild film "The Devils"; finicky horror lovers almost immediately protested on social media that it was not the uncut version. (In fairness to Shudder, the actual provenance of an uncut version of this movie is highly obscure.) Amazon's video service is rife with noir titles in various states of disrepair or restoration. A lot of genre stuff in the public domain (until a copyright owner can effectively yell "Foul!") is on YouTube, which is free; for the sake of argument, we'll add YouTubeRed (\$9.99) to this bill of fare. Crunchyroll has an anime-only membership for \$6.95. And the Urban Movie Channel (\$4.99) is not as blaxploitation-heavy as Brown Sugar, but it doesn't exactly lack, either, especially when it comes to latter-day genre variants like the Southern sins-of-the-fathers 2009 thriller "In the Electric Mist" or the bayou-psychic tale "The Sickie" (2015). Total: a little over \$45; with Amazon added as a digging option, a little under \$55.

All this of course can be supplemented by free services other than YouTube, like the site of DVD label Shout! Factory and Vimeo. If only there was a service that would allow one to buy leisure time, we'd be all set.



AI and Humans

Translucent

By Kathy Garges

Artificial intelligence researchers have been exploring various solutions to what has become known as the black box problem in deep learning (neural network) AI. The problem is that in many cases we don't know exactly how the AI program reaches its conclusions. (See the December 2016 AI and Humans column, "What's Inside the Box?")

Deep learning, also known as machine learning, mimics the basic functions of human learning by trial and error with large amounts of data. A parent might say to a child, "See the animal. Is that a horse or a goose?" The child says, "A goose." The parent responds, "No, it's a horse." After many examples, the child is able to put horses and geese in their correct categories. Neurons in the child's brain have learned to distinguish these two animals and remember the way to do it.

The "neurons" in machine learning are computer programs, not biological structures, but scientists train them in a similar way using large amounts of data. There are variations in machine learning. The program can be given goal categories for sorting data or can be left free to create its own. The training data can be systematically labeled in advance, which is time consuming and expensive but makes it easier to test accuracy, or the program can be set loose on unlabeled data (the entire Internet, for example).

Machine learning has become the dominant focus in AI, with recent big leaps in performance in areas like image recognition and language translation. The problem comes when we need to find the reasons the AI program came to a particular result.

There are many such situations. A regulation adopted by the European Union allows it to require a company to explain any

decision it reached that involved using a computer algorithm. Credit card companies would like to use machine learning AI to make decisions on granting and denying credit, but U.S. law already requires that a reason be given for the denial and machine learning AI can't do that yet. The leader of Apple's Siri team noted that Siri needs to be able to explain a restaurant recommendation. We'd expect a human friend who encourages us to try a restaurant, or urges us to avoid one, to provide a reason.

If an AI program's operations are not transparent to human users, results can be unreliable and even dangerous. National defense systems might not be able to troubleshoot false alarms. Hackers might experiment with ways to misuse the program. Using data which might already contain bias to train a deep learning program that cannot explain its results can create injustice, such as racial bias in assessing criminal probation risk – an accusation already levelled against an AI program used in criminal justice.

One approach to making deep learning less opaque is to program it to identify a pattern it has used to reach its results. Another is to reverse engineer the program – trace the program steps backwards and dissect its operations – to see what it paid most attention to. These approaches can be revealing.

One team found that an AI image recognition program with a high accuracy rate was using horse-related words in the image's copyright notice to decide which images contained horses. Although this might be acceptable for some applications, it's not what the programmers intended or expected the AI to do. The programmers assumed the program was looking at the image itself to decide whether it contained a horse. There's no need to use complex machine learning AI to recognize copyright text that has the word "horse" in it.

With humans, the reasons someone gives for a decision, or what they pay most attention to in making a decision, may not be the real reasons they came to that result. A child might be identifying horses because they all wear saddles, not because they have four legs and a mane. A physician might have an intuition about a medical diagnosis based on decades of experience but instead

offer to a patient a stereotyped reason that is easier to put into words. A teen might spend hours reviewing college information about academic offerings but decide where to apply based on the schools' party reputations. Similarly, we cannot be sure these ways of testing AI reasoning get to the core of what it is actually using to make a choice.

Another way we test human understanding is to have someone generate a new example for a category, such as requiring a student to use a newly-learned vocabulary word in an original sentence. When Google asked its AI image recognition program to generate images of a dumbbell, it found that the AI thought a part of every dumbbell is a human arm grasping it. The program had developed a definition of "dumbbell" which did not include many images of dumbbells. Here the biggest dumbbell was the AI program, not the exercise equipment.

In areas where decisions are especially important, reducing the role of AI to an assistant or adviser to a trained, intelligent human may be the best solution. Another option, being pursued by Apple, is to spend more resources to generate high quality training data for machine learning AI. Apple has reported a new approach that modifies images obtained from existing sources (such as Internet videos). In this method, data that will be used to train image recognition AI is first refined into a "superrealistic" image by an adversarial neural network program. The program acts as a devil's advocate by trying to get another neural network to accept fake images, with the purpose of modifying images to delete irrelevant information.

Implementing solutions like these will reduce some of the efficiencies gained by using deep learning AI, but the consensus is that these efforts are necessary. Last year, Peter Norvig, Google Director of Research, addressed this topic at a conference sponsored by MIT Technology Review. He explained the main differences between programming for older, logic-based AI and new deep learning AI. Logic-based AI included a system of testing and updating programs that came from classic, pre-AI computing. In contrast, there is no testing of deep learning programs after the

initial training, and some programs modify themselves on an ongoing basis with new data. With a classic computer program, there is the capability to isolate and correct bugs with a few lines of code, but to correct problems with deep learning AI, programmers usually have to retrain the entire program.

Norvig noted that we have less experience with deep learning than with logic-based AI. He argued that AI needs a better set of tools, and new theories that are better at predicting what humans do. For example, we need to ask how humans change their actions based on new information so that we can build this function into machine learning programs.

It's uncertain which of these various approaches will prove to be the most useful in solving the important problem of making deep learning AI operations transparent. Possibly all will be necessary to some degree. With the recognition by AI researchers that the black box problem is significant, and the development of possible solutions, at least deep learning AI is now on the way to becoming translucent.

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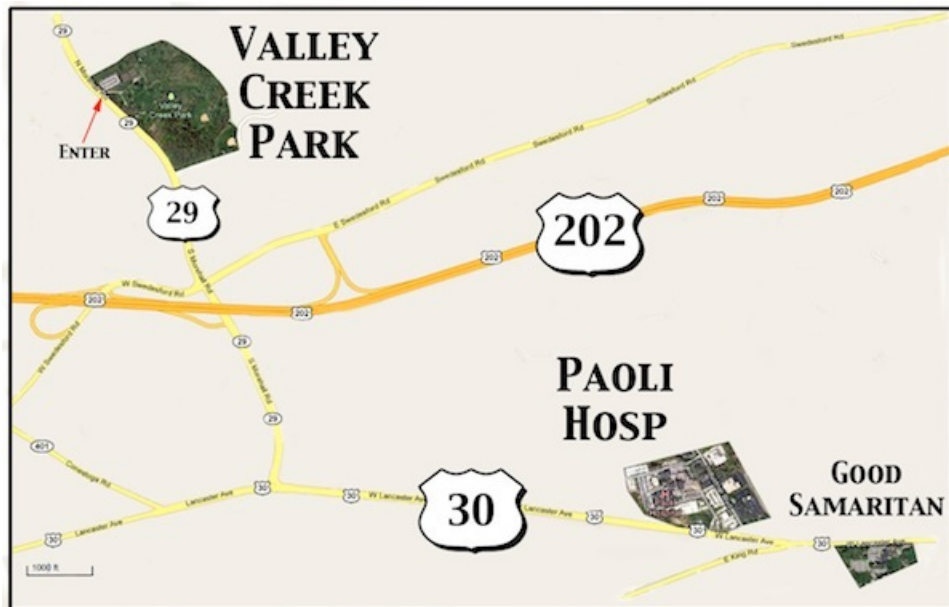
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PICNIC INFORMATION

DIRECTIONS

Take US 202 North or South to PA 29N/Great Valley. Take 29N and go approximately 0.5 miles and pull into the turn lane for Valley Creek Park. You will have passed part of the Great Valley Corporate Center on your right. There is not a light at the turn so if you get to the light at Great Valley Parkway, you have gone too far. Once you pull into the lot, make a short left and right and park. Then walk down the hill to the covered pavilion.

From US 30 (Lancaster Pike), it's about 1.2 miles on 29N to the Park.



17TH ANNUAL MLMUG PICNIC-IN-THE PARK

Valley Creek Park
Route 29, East Whiteland.

Saturday, June 10, 2017
12 Noon - 4 PM
(No Raindate)

All members and their families are welcome.

Hamburgers, hot dogs, rolls and condiments will be provided by MLMUG. All other food and beverages will be brought by attendees.

We'll need: snacks, salads (green and main dish), desserts and beverages (canned sodas, juice, iced tea, etc.).

No alcoholic beverages in the park!
Pets are OK, but must be leashed and cleaned up after.

It's important that we have accurate numbers, so please RSVP: Gail Montgomery by Tuesday, June 6

gailmontgomery@aol.com