

## EDITOR COMMENTS

Glenn Fleishman provides good advice on how to find and delete large unneeded files. Also how to create a Spotlight search and store it in a smart folder. [tinyurl.com/ybl2oqml](http://tinyurl.com/ybl2oqml).

And while you're at it, you ought to consider deleting apps you haven't used for quite a while. OSXDaily provides instructions. [tinyurl.com/ybl2oqml](http://tinyurl.com/ybl2oqml).

The Health app on your iPhone automatically tracks your fitness activity (even when you don't know it), but it can also be used to record emergency medical information which can be accessed even from a locked iPhone. [tinyurl.com/hzhz4a3](http://tinyurl.com/hzhz4a3).

Sound bars blow away the speakers built in flat-panel TVs and you can buy them for less than \$250 with the quality that will satisfy most listeners. [tinyurl.com/yb48py4a](http://tinyurl.com/yb48py4a).

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.

## OUR 17TH ANNUAL PICNIC



### JUNE LOCATION

**JUNE 10TH!** REMEMBER IT'S PICNIC TIME. PICNIC MAP IS ON PAGE 5.

**CONTENTS**

Editor Comments And Program Info.....	1
MLMUG And Newsletter Info.....	2-4
<b>Picnic Information.....</b>	<b>5</b>
Bookmarks: Mossberg's Last Column.....	6-10
Tim Cook Testing A New Apple Watch Device That.....	11
Monitors His Blood Sugar Levels	
Apple Watch Has 'Enormous' Potential.....	12-14
For Healthcare	
<b>May Meeting Minutes (Inskeep's Presentation).....</b>	<b>15-18</b>
The New iPad Review: Best Couch Computer Ever.....	19-21
iPhone 7 Financing For Fun And Profit.....	21-25
First Impressions Of Apple's AirPods.....	26-27
How To Save Ink? Try Grayscale Printing & More.....	28-29
Merging Calendars.....	30
Making Numbers Formulas Easier To Read.....	31
What Difference Between Cat 5, Cat 5E, & Cat 6 Cable...32	
What Is Airdrop?.....	33-34
Use Google Without Tracking In Startpage.....	35
Member Gets Pasted.....	35
Effectively Use the Notes App in iOS & OS X.....	36-38
Taking Notes in macOS Sierra.....	39-40
2017 Speaker Roster.....	40
Using the Mac Security Preference Pane.....	41-44
7 Tips to Improve iPhone Security.....	45-47
Five Security Settings In iOS 10 You.....	48-49
Software Review: ChronoSync 4.7.3.....	50
Should Immediately Put Your Signature.....	51
On The Digital Dotted Line	
iCloud Photo Library Vs. Google Photos.....	52-54
Joy of Tech.....	54

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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](mailto: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](http://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.phillymacproq.org](http://www.phillymacproq.org). The

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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](http://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

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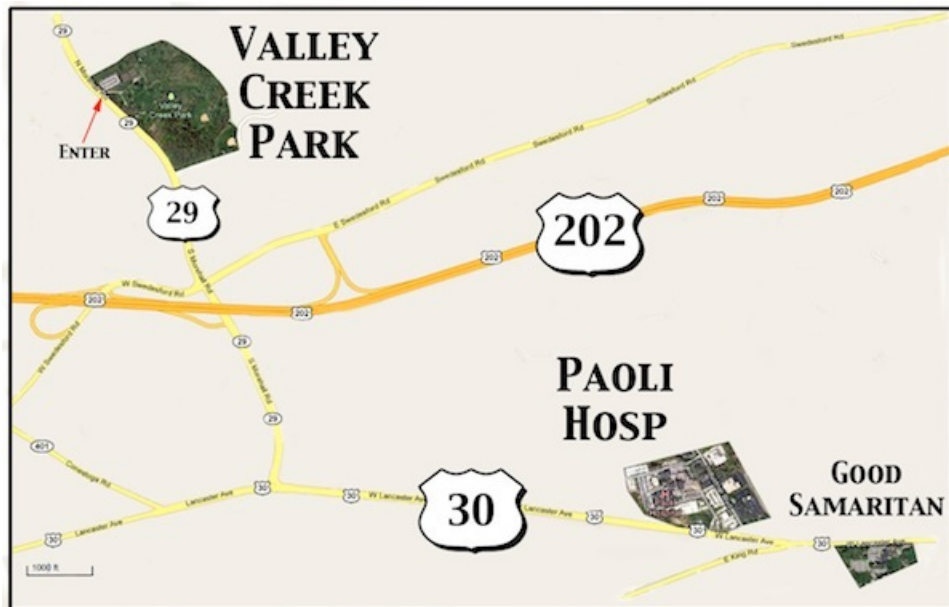


# PICNIC INFORMATION

## 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](mailto:gailmontgomery@aol.com)



## Bookmarks

By Mark Bazrod

### Mossberg's Last Column

Walt Mossberg started a weekly column for The Wall Street Journal back in 1991, has organized industry conferences, and is one of our most influential IT writers. He just published his last column, musing on the history and future of computer technology. I thought it would be appropriate to note his historic and insightful column.

### Mossberg: The Disappearing Computer



Tech was once always in your way. Soon, it will be almost invisible. Welcome to Mossberg, a weekly commentary and [reviews column on The Verge](#) and **Recode** by veteran tech journalist Walt Mossberg, executive editor at The Verge and editor at large of **Recode**.

This is my last weekly column for The Verge and **Recode** — the last weekly column I plan to write anywhere. I've been doing these almost every week since 1991, starting at The Wall Street Journal, and during that time, I've been fortunate enough to get to know the makers of the tech revolution, and to ruminate — and

sometimes to fulminate — about their creations.

Now, as I prepare to retire at the end of that very long and world-changing stretch, it seems appropriate to ponder the sweep of consumer technology in that period, and what we can expect next.

Let me start by revising the oft-quoted first line of my first Personal Technology column in the Journal on [October 17, 1991](#): "Personal computers are just too hard to use, and it's not your fault." It was true then, and for many, many years thereafter. Not only were the interfaces confusing, but most tech products demanded frequent tweaking and fixing of a type that required more technical skill than most people had, or cared to acquire. The whole field was new, and engineers weren't designing products for normal people who had other talents and interests.



Dow Jones Walt Mossberg's "Personal Technology" debut in 1991.

But, over time, the products have gotten more reliable and easier to use, and the users more sophisticated. You can now hand an iPad to a six-year-old and, with just a bit of help, she will very likely learn how to operate it quickly. That's amazing, given that the iPad is far more powerful than any complex PC I was testing in the 1990s. Plus, today's hardware and software rarely fails catastrophically like PCs did so often in the old days.

So, now, I'd say: "Personal technology is usually pretty easy to use, and, if it's not, it's not your fault." The devices we've come to rely on, like PCs and phones, aren't new anymore. They're refined, built with regular users in mind, and they get better each year.

Anything really new is still too close to the engineers to be simple or reliable. Many people aren't going to be able to hook up a dedicated virtual reality system, or want to wear the headset. And most of us can't yet trust Siri, Alexa, or Google Assistant for an accurate, useful answer much of the time. But it's early days for those technologies.

So: where are we now, and what's coming?

## The lull

As I write this, the personal tech world is bursting with possibility, but few new blockbuster, game-changing products are hitting the mainstream. So a strange kind of lull has set in.

The multi-touch smartphone, launched 10 years ago with Apple's first iPhone, has conquered the world, and it's not done getting better. It has, in fact, become the new personal computer. But it's a maturing product that I doubt has huge improvements ahead of it. Tablets rose like a rocket, but have struggled to find an essential place in many people's lives. Desktops and laptops have become table stakes, [part of the furniture](#).

The big software revolutions, like cloud computing, search engines, and social networks, are also still growing and improving, but have become largely established.

Consumer drones and robotics are in their infancy, a niche, with

too few practical uses as yet.

The biggest hardware and software arrival since the iPad in 2010 has been Amazon's Echo voice-controlled intelligent speaker, powered by its Alexa software assistant. It arrived in 2015, and was followed last year by the similar Google Home device. I expect others.



But the Echo and Alexa are just getting started. Amazon CEO Jeff Bezos [told me in an interview last year](#) that artificial intelligence was not just in the first inning of a long baseball game, but at the stage where the very first batter comes up. And, while Amazon doesn't release sales figures for the Echo family, third-party estimates say that, while they are growing fast, they were still [well below 10 million units last year](#). For comparison, even in a relatively weak period, Apple sold 50 million much costlier iPhones in just 90 days last quarter, and the combined total sales of the far more prevalent Android phones no doubt were much greater.

Google just [announced](#) that there are now 2 billion Android devices in active monthly use globally, and Apple announced a year and a half ago that there were over 1 billion iOS devices in active use. These are mostly smartphones, and they are no longer novel.

## Wait for it

But just because you're not seeing amazing new consumer tech products on Amazon, in the app stores, or at the Apple Store or Best Buy, that doesn't mean the tech revolution is stuck, or stopped. In fact, it's just pausing to conquer some major new territory. And, if it succeeds, the results could be as big or bigger than the first consumer PCs were in the 1970s, or even the web in the 1990s and smartphones in the first decade of this century.



All of the major tech players, companies from other industries, and startups whose names we don't know yet are working away on some or all of the new major building blocks of the future. They are: artificial intelligence / machine learning, augmented reality, virtual reality, robotics and drones, smart homes, self-driving cars, and digital health / wearables.

All of these things have dependencies in common. They include greater and more distributed computing power, new sensors, better networks, smarter voice and visual recognition, and software that's simultaneously more intelligent and more secure.



Examples of all these technologies already exist, but they are early, limited, and mainly attractive to enthusiasts. Compared to what's coming, they are like the Commodore PET (look it up, kids) or those huge car phones in old movies.

### Ambient Computing

I expect that one end result of all this work will be that the technology, the computer inside all these things, will fade into the background. In some cases, it may entirely disappear, waiting to be activated by a voice command, a person entering the room, a

change in blood chemistry, a shift in temperature, a motion. Maybe even just a thought.

Your whole home, office and car will be packed with these waiting computers and sensors. But they won't be in your way, or perhaps even distinguishable as tech devices.

This is ambient computing, the transformation of the environment all around us with intelligence and capabilities that don't seem to be there at all.

It reminds me of a great [Saturday Night Liveskit](#), from 2005, where cast member Fred Armisen, playing Steve Jobs, shows off an ever-smaller series of iPods, finally producing a model that's literally invisible, yet holds "every photograph ever taken."

Just in recent weeks, Facebook's famed researcher Regina Dugan has announced that her secretive team is working on [using the brain to type](#), and to control augmented reality devices. They are also developing ways to "hear" through your skin.

Their idea is that, even if augmented reality gets built into standard eyeglasses and can impose sophisticated virtual objects onto real life, it won't be seamless if you have to push buttons, use touch controls or utter commands.

Apple reportedly has [a secret project](#) to monitor the glucose levels of diabetics with new non-invasive sensors, ending the need for daily test needles.

Google has changed its entire corporate mission to be "AI first" and, with Google Home and Google Assistant, to perform tasks via voice commands and eventually hold real, unstructured conversations.

Several [small firms](#) are pursuing the prospect of recharging mobile devices with power sent through the air, so power cords won't be around.

I expect to see much of this new ambient computing world appear within 10 years, and all of it appear within 20.



## Why it matters

Every one of these efforts has the potential to create a new world that's unrecognizable. It's a radically different way of thinking about tech.

When the internet first arrived, it was a discrete activity you performed on a discrete hunk of metal and plastic called a PC, using a discrete software program called a browser. Even now, though the net is like the electrical grid, powering many things, you still use a discrete device — a smartphone, say — to access it. Sure, you can summon some internet smarts through an Echo, but there's still a device there, and you still have to know the magic words to say. We are a long way from the invisible, omnipresent computer in the Starship Enterprise.

Worse, those early computers were in your way. They were hulking objects that demanded space and skill. Even now, if you look around a restaurant, you'll see smartphones on the tables, waiting to be used.

Computers have gotten vastly easier to use, but they still demand attention and care, from charging batteries to knowing which apps to use and when to use them.

Technology has been a great thing, but it's been too unnatural, an add-on to life, for 40 years. What's going on in the labs has the promise to change that.

## The dark side

Some of you who've gotten this far are already recoiling at the idea of ambient computing. You're focused on the prospects for invasion of privacy, for monetizing even more of your life, for government snooping and for even worse hacking than exists today. If the FBI can threaten a huge company like Apple over an iPhone passcode, what are your odds of protecting your future tech-dependent environment from government intrusion? If British hospitals have to shut down due to a ransomware attack, can online crooks lock you out of your house, office or car?

Good questions.

My best answer is that, if we are really going to turn over our homes, our cars, our health and more to private tech companies, on a scale never imagined, we need much, much stronger standards for security and privacy than now exist. Especially in the U.S., it's time to stop dancing around the privacy and security issues and pass real, binding laws.

But, as tectonic shifts like this occur in technology, oligopolies get shaken up.

And, if ambient technology is to become as integrated into our lives as previous technological revolutions like wood joists, steel beams and engine blocks, we need to subject it to the digital equivalent of enforceable building codes and auto safety standards. Nothing less will do. And health? The current medical device standards will have to be even tougher, while still allowing for innovation.

The tech industry, which has long styled itself as disruptors, will need to work hand in hand with government to craft these policies. And that might be a bigger challenge than developing the technology in the first place.

## The oligopoly

Most of the work on this, especially what we and others can learn about and report about, is coming from the giant companies that make up today's tech [oligopoly](#) — Apple, Amazon, Facebook, Google and Microsoft.

But, as tectonic shifts like this occur in technology, oligopolies get shaken up. For instance: today, Apple is the biggest of the group. By all reports, it's working seriously on AR, self-driving cars, and health initiatives. But its strict and admirable privacy policies make it harder for it to gather the vast amounts of data required for the best machine learning.

Microsoft is still trying to find a way to meld its formidable software and cloud expertise with a significant hardware business. The ad-based business models of Facebook and Google, now so dominant, could prove fickle. And Amazon has only had one really

giant hardware hit — the Kindle — in its existence.

But, even if these oligarchs all do fine, and their ranks swell by one or two, the country and the world will have to ask if they have too much power — and, if so, how to curb it without killing progress.

### **The bottom line**

We've all had a hell of a ride for last few decades, no matter when you got on the roller coaster. It's been exciting, enriching, transformative. But it's also been about objects and processes.

Soon, after a brief slowdown, the roller coaster will be accelerating faster than ever, only this time it'll be about actual experiences, with much less emphasis on the way those experiences get made.

As a gadget-lover, this makes me a little sad. But, as a tech believer, it's tremendously exciting. I won't be reviewing all the new stuff anymore, but you can bet I'll be closely watching this next turn of the wheel.

Thanks for reading. Mossberg out.



Oscar Raymundo posted the following article to [macworld.com](http://macworld.com) on May 19, 2017. [tinyurl.com/lrn76e6](http://tinyurl.com/lrn76e6). © Mac Publishing.LLC. A staff writer for Macworld, he has written for Wired, National Geographic, Rolling Stone and Refinery29. He is currently working on his first novel.

## Tim Cook is testing a new Apple Watch device that monitors his blood sugar levels

Apple wants to develop the "holy grail" in diabetes: non-invasive, continuous glucose monitoring.

By Oscar Raymundo



Tim Cook is not only acting CEO at Apple, but he's also one of its beta testers.

This week, [CNBC reported](#) that Cook has been testing a new device that monitors his blood sugar levels. This glucose monitor is a prototype attached to Cook's Apple Watch that can track how food consumption and exercise affects the CEO's blood sugar levels.

Back in February, Cook told students at the University of Glasgow that he had been continuously wearing a glucose monitor, but did

not confirm it whether it was an Apple prototype.

[ [Further reading: The best DVRs for cord cutters](#) ]

"It's mentally anguishing to stick yourself many times a day to check your blood sugar."

"It's mentally anguishing to stick yourself many times a day to check your blood sugar," Cook said. "There is lots of hope out there that if someone has constant knowledge of what they're eating, they can instantly know what causes the response... and that they can adjust well before they become diabetic."

Apple has been very interested in developing what it calls the "holy grail" in diabetes: non-invasive, continuous glucose monitoring. Last month, it was [reported](#) that Apple has had a team of biomedical engineers working on this very project for five years. If successful, these sensors would be able to monitor blood sugar levels without breaking the skin.

According to CNBC, Apple is currently conducting feasibility trials in clinics near Cupertino. And the company has also reportedly been in conversations with consultants to figure out "regulatory pathways."

**Why this matters:** If Apple is successful in creating this next-gen glucose monitor, it would transform the Apple Watch from a wearable accessory to a revolutionary health device. Even though the Watch can now monitor your heart rate and track your activity, it's obvious Apple wants to add more significant health applications.

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Emily Price posted the following article to lifewire.com on March 20, 2017. [tinyurl.com/ycgzkkho](http://tinyurl.com/ycgzkkho). © About, Inc. She has been writing about tech for the web for over a decade. Her work has appeared in countless publications, including PC World, Reuters and the The Wall Street Journal.

## Apple Watch has 'Enormous' Potential For Healthcare



### By Emily Price

It looks like the Apple Watch might eventually have a lot more health features baked in. Speaking at Startup Fest Europe this week in Amsterdam, Cook said that he thought that the Apple Watch had “enormous” potential when it comes to healthcare, and could ultimately be used as a warning system of sorts for health problems, similar to how the check engine light works in your car. That way you might know something is wrong before you ever experience any physical symptoms.

“If you think about some of society's biggest problems and challenges, one of the ones that we are really focused on is health,” [CNBC reports Cook saying at the conference](#). “And arguably the health care system can be made much simpler, can have much better results, you can have patients that really feel like

customers...and have systems and applications that bring out the best in the medical professionals...I think the runway there is enormous.”

He goes on to talk about how much he enjoys using the Apple Watch, and how he feels the device might one day become even more common.

“I love the watch. One day, this is my prediction, we will look back and we will wonder: how can I ever have gone without the Watch?,” Cook said. “Because the holy grail of the watch is being able to monitor more and more of what's going on in the body. It's not technologically possible to do it today to the extent that we can imagine, but it will be,”

Healthcare is certainly something that Apple is becoming more and more passionate about.

Apple has also recently [published a job listing on its site](#), searching for a lawyer that specializes in health privacy regulations. The job, which will be based in Apple's Santa Clara office is for someone to work directly with the company's business and engineering teams to design new privacy solutions for products, as well as work with Apple's legal department on regulatory issues and other Apple activities.

“At Apple, we are about creating great products. Part of making products great is designing products that respect consumer security and privacy,” reads the ad. “This role offers the opportunity to work directly with key members of the business, engineering and legal teams on a variety of cutting-edge projects including privacy by design reviews and projects assist with privacy complaints and breaches support compliance and auditing frameworks advise on privacy aspects of licensing and procurement deals and corporate acquisitions assist with drafting of policies and procedures surrounding privacy laws.”

### Already in Use

The Apple Watch is already being used as a warning system of

sorts in some tests.

An [app called Epi Watch](#) being tested at Johns Hopkins University School of Medicine, has patients take daily surveys and make journal entries about their disease and tries to get them to document when they have seizures and what happens to their body prior to one come on. Thanks to the Apple Watch's heart rate monitor, accelerometer, and gyroscope, researchers are able to track changes in heart rate as well as body movement in patients, ultimately gaining a better understanding of the disease.

The hope is by tracking exactly what's happening to patients before they have a seizure, researchers will be able to determine exactly what happens in the moments before, and potentially warn patients a seizure is coming on. For someone with epilepsy, that knowledge could be exceptionally powerful and dramatically improve their quality of life.

"We foresee the app giving some parents the confidence to allow their children to play on their own," said Gregory Krauss, professor of neurology at the Johns Hopkins University School of Medicine in a statement on the [university's Hub](#). "For some adults, using it might allow them, for the first time, to live safely alone."

Cancer patients in Camden, New Jersey are also using the Apple Watch [as part of their cancer treatment](#). While the watch has very little to do with their treatment physically, wearing the Apple Watch allows doctors to monitor a patient's condition while they're at home. That means that a doctor can tell exactly how a particular treatment affected a patient, without requiring him or her to be under constant observation in a hospital environment. For instance, a doctor might be able to see that a person's heart rate was elevated after a particular type of treatment, or that something made him or her more sedentary than usual. The app is also used to monitor patient's moods, by asking them a few questions about their general mental state each day.

"The app allows us to stay in touch with our patients while they're in care at home and in the hospital by measuring their physical condition through the watch and their mental condition through a

series of questions that we ask so we can get a more holistic view of their health," Mark Anthony, CEO of Polaris Health, told FOXBusiness.

## Smart Bands

Those potential healthcare possibilities don't have to be restricted to the Apple Watch body. Earlier this year, a third-party manufacturer called Kardia [unveiled the Kardia Band](#), an Apple Watch band that works as a medical-grade EKG reader.

"Kardia Band for Apple Watch represents both the future of proactive heart health and the introduction of the Wearable MedTech category," said Vic Gundotra, chief executive officer of AliveCor. "These combined technologies give us the ability to deliver personal reports that provide analysis, insights and actionable advice for the patient and their doctor."

Gundotra's name might sound familiar. He previously worked at Google as the head of Google+. He joined the company behind the band, AliveCor, in November of last year.

And then Apple itself has been rumored to be [working on its own "Smart Bands"](#) for the Apple Watch. The bands are rumored to connect to the smart port on the existing Apple Watch and will be able to monitor things like Blood pressure, blood oxygen, body temperature, and respiratory rate. The bands were initially rumored to be coming at the beginning of 2016. While that didn't happen, there's still the possibility that we'll see smart bands come during Apple's annual Worldwide Developer's Conference (WWDC) in June.

## Health Tracking

As it stands, the Apple Watch is already a fairly powerful health tool. the device can monitor your movement as well as your heart rate and can do things like track particular workouts, reporting back your calorie burn for those activities.

The Workout functionality in the Apple Watch is a feature that I've particularly enjoyed about the wearable. Each week, the Apple

Watch suggests workout goals based on what you were able to accomplish the previous week. It may sound like a small thing, but being able to gradually increase your workout/calorie burn week or week was exceptionally helpful for me, and allowed me to essentially triple a number of calories I was burning with each workout, without actually realizing I was increasing it.

That gradual increase is key, that way you're not starting out with too high of a goal, and then becoming frustrated when you aren't able to meet it. I also really enjoy the Apple Watch's standing reminders. Also a small thing, but when you work at a job that keeps you confined to your desk all day, a small reminder suggesting that you get up and take a walk around the room for a minute can go a long way, and ultimately make you a ton healthier over time.

## A New Apple Watch

One thing we definitely expect to see at WWDC: a new Apple Watch.

There have been quite a few rumors in recent months about the next-generation of the Apple Watch, a device that is expected to make its debut on stage at WWDC in June. Amongst other features, the device is expected to potentially [have cell connectivity](#). That means that you'll be able to use it even when your iPhone isn't around.

Other updates expected to come with the next generation of the watch include a thinner design, longer-life battery, as well as be a bit more durable than the current version. The newest version of the Apple Watch is also rumored to have a built-in FaceTime camera, enabling you to video chat with friends without having to pull out your phone or computer in order to do so.

The newest version of the Apple Watch is also expected to be a popular one, perhaps pulling in more sales than the previous version.

According to a recent survey, [two thirds of current Apple Watch owners plan on upgrading to the newest version of the Apple](#)

[Watch](#) when it is released to the public, even though they currently have no idea when that will be, or what improvements might come to the device. That same survey asked those who had yet to purchase a smartwatch what was keeping them from making the purchase. By in large, those customers indicated that price was the main barrier to them deciding to buy, even after the recent price drop for the Apple Watch.

Earlier this year, Apple dropped the entry price for the Apple Watch by \$50, a move that many felt was designed to increase sales before the company introduced a new version of the device.





## MLMUG May 13, 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 50 attendees.

Mike Inskeep ([mike@gentlehelpers.com](mailto:mike@gentlehelpers.com)) gave a outstanding presentation on security for your Mac. Everyone should not only read these minutes, but should download the PDF of his presentation which is on the MLMUG website ([http://www.mlmug.org/pdfs/Secure\\_Your\\_Mac\\_2017.pdf](http://www.mlmug.org/pdfs/Secure_Your_Mac_2017.pdf)) because you need to immediately start making changes in your Mac and in your procedures. His presentation is the place to start.

The basic approach is to identify threats & prevent them by removing or limiting the vulnerabilities they rely on. Change how your Mac is set up, change your standard operating procedures, slow down in risky situations, and plan for worst-case scenarios.

### Principles of Digital Security

Have robust and redundant data storage.

Build layers of security.


Keep the operating system and apps up to date. Minimize attack surface.

Limit permissions.

Use passwords and two-factor authentication. Pay for what you use.

### Minimize Network Attacks

The threats: gateway/router take-over. (e.g. the Mirai Botnet); rogue access points (e.g. the Wifi Pineapple which impersonates the hardware broadcasting the network you want to connect to so it can see everything you send and receive); gaining "Privileged network position" (the malware attacker gets on your local network).


Determine your router IP (numerical) address so you can change items. Go to:  > System Preferences > Network The IP address


for your Mac will be shown as four numbers separated by periods, e.g. 10.0.0.8. Replace the last number with 1 to get the router

address (in this case 10.0.0.1). Launch browser, enter the numerical IP address, enter user name and password (probably *admin* and *password*). Change the password, the user name (if possible), the wireless network name (if you wish), disable remote administration, and enable automatically update firmware.

[Editor - I have a Linksys router which has a given network address of 192.168.1.1. Routers by other manufacturers have different addresses. I went to <http://192.168.1.1>, entered the admin password found on the router, changed the names of the two networks (2.4 GHz and 5 GHz), and entered a strong password. I then had to enter the new network name and password on all the devices in the house.]

If you have a gateway (combination modem/router) from your Internet service provider (e.g. Comcast or Verizon), install your own router so you will add another wall to your defenses. Apple is discontinuing Airport routers. You should review Dave Hamilton's presentation in the April minutes and recent online reviews before buying a new router. A Cat 5e or 6 cable connection is faster than a wireless connection. Change the router's administrator user name if possible and set a new strong password. Put them on a note on the router.

Change settings on your Mac to make it more resistant to network attacks.  > System Preferences > Network. Unlock, select *Ask to join new networks* and *Show Wi-Fi status in menu bar*, and click on *Advanced*. Delete unused networks, particularly if no security, drag to arrange in order of preference, and click on *Remember networks this computer has joined*. In Require administration authorization section, enable *Create computer-to-computer networks* and *Change network*. Click on the Proxies tab at the top. Uncheck everything except Use Passive FTP Mode.

 > System Preferences > Sharing. Give bogus name to your computer. You don't need printer sharing any more.

 > System Preferences > Security & Privacy > Firewall. Turn on.

Unclick the lock. Go to Firewall options. Allow or block by application. Click *Enable stealth mode* so not echo pings back. If

you turn off SSID (network name), others will not see your network.

🍏 > System Preferences > Bluetooth. Click on *Show Bluetooth in menu bar* so easy to turn Bluetooth off or on and see when connected.

## Subscribe To A VPN

You should subscribe to a VPN(virtual private network). This will encode what you send to servers and protect you against man in middle attacks. Mike uses Private Internet Access. \$40 year. Don't trust free VPN.

You should read reviews for VPNs. There are thousands. Nearly all online VPN reviews receive compensation for referrals. For unbiased reviews of VPNs, Mike recommends [thatoneprivacysite.net](http://thatoneprivacysite.net) & [pcmag.com/article2/0,2817,2403388,00.asp](http://pcmag.com/article2/0,2817,2403388,00.asp).

## Network Practices

You should change your network practices. If you are not using Wi-Fi or Bluetooth, turn them off. When you are traveling, put your laptop to sleep or shut down when not using. When you are using a public network, only use it to read or view. Do not do anything active such as buying, moving money, signing into accounts for checking email, sending or receiving texts. If you must do one of these, use your cellphone with Wi-Fi turned off.

## Scan For Malware

[KnockKnock](#). It's a free program. It checks for persistently installed items and then checks with VirusTotal, to identify malware. Doesn't list Apple signed apps by default. Best antivirus scanner. Doesn't run all the time.

[Dylib Hijack Scanner](#). This tool scans for apps were opened using resources stored in a fixed place in memory which makes them vulnerable to attack. This was fixed by Sierra.

In answer to a question, Mike said Malwarebytes identifies malware by snippets of code. However, if the malware is "packed" (using UPX for example) or encrypted, this technique will

not work. Even if it's not packed or encrypted, Malwarebytes can only catches if known malware. [Editor - If you want to know more, google *packers malware*.]

## Data Storage

Backup is essential. You should backup for protection in the event of mechanical failure, to revert to a prior state if an update causes problems, recover from a malware infection, restore damaged or lost items, or restore a previous version of a file (e.g. document, photo).

Good backups are automatic, reliable, not always connected, and in multiple locations, including one offsite.

Time Machine supports multiple drives, directly connected drives (e.g. USB, Firewire, Thunderbolt), and networked drives. It retains different versions of the same item. Time Capsule is not always attached so ransomware can not hit it. An alternative is to use and swap multiple drives.

A clone duplicates the internal hard drive so you can boot from it and be up and running immediately. Carbon Copy Cloner or Superduper are excellent for this.

iCloud can sync your data, including contacts, photos and docs, with Apple's computers. iCloud is like a clone, but sync goes both ways. No versioning in iCloud.

## Backup Suggestions

For local hard drives Mike recommends HGST Touro USB 3.0 drives. A little more expensive, but worth it. Also, Toshiba Canvio drives. USB 3.0 is backward compatible to USB 2.0.

For online storage, he recommends CrashPlan. It is relatively inexpensive. \$60 year. Reliable. Unlimited cloud storage. Not a resource hog. Very strong encryption. In beginning, it could take 3-4 days to backup all files.

## Backup Maintenance


Regularly (weekly) test your backups. Put it on your calendar.


Restore a couple files.

Monthly run Disk Utility First Aid on your backups to test the integrity of the drive. It checks the table of contents with what is actually on the drive. If not OK, reformat the disk and start over. Put it on your calendar.

## Accounts

When you are working, use a standard account, not an administrator account.

First create an administrator account with an unusual name and a strong password.  > System Preferences > Users & Groups

To demote your current account to a standard account, login to the administrator account, then in  > System Preferences > Users & Groups, uncheck *Allow user to administer this computer*. Have a strong password for your standard account [Editor - at least 12 characters].

Have a guest user account for visitors which will not have access to your files. Remove outdated login items.

Remove outdated login items.

## Operating System

Keep your operating system up to date.

Sierra patched 65 security vulnerabilities. Most prevent arbitrary code execution by bad guys. Application path randomization prevents dynamic library hijacks. Dropped old insecure protocols.

Safari 10, bundled with Sierra, fixed 21 security vulnerabilities.

## OS Updates and Upgrades

Free.

Backup before you install an upgrade or update.

Often add new features.

Wait for 10.x.1 bug fix before you install a new upgrade, such as Sierra.

Upgrade to most recent version which your hardware supports.

Install updates as soon as possible.

## APFS Coming

APFS, the new file system, is expected later this year as an update to 10.12.

All Apple operating systems (macOS, iOS, tvOS, watchOS) will have same file system. This means better syncing between devices, native encryption. snapshots (better versioning), instant writable clones (more reliable and efficient backup).

## Application Security.

Remove (uninstall) unused apps because they have a door into your Mac.

Read reviews before you install an app.

Apply updates soon as available.

## Where To Get Apps

Safest place is the App Store. Next is the developer's website with https connection. Then reputable retailers such as Amazon, B&H Photo or highly rated eBay vendors. Do NOT go to download.com or macupdate.com.

## App Settings


 > System Preferences > App Store

Allow automatic updates. It will still ask your permission to install upgrades.

You have choice of time of installation if the update requires your Mac to restart.

 > System Preferences > Security & Privacy

Only allow apps if you purchase thru App Store.

When you attempt install a new app not purchased through the App Store, it will initially decline. Go to  > System Preferences > Security & Privacy, tap the button to allow it to install, then enter your administrator user name and password.



## SECURITY!

**The time for complacency about Mac security is over.** We are seeing more scary malware attacking Macs. There were 6 Mac-malware items released in 2016. There have been 7 already released this year.

Traditional antivirus programs can't detect new malware so some suggested apps to install are:

**Ransomwhere?** stops ransomware by detecting processes that are encrypting your personal files, stops the process and presents an alert to the user.

**KnockKnock** checks to see if software is persistently installed which may indicate a problem. It asks you to allow or deny the process. KnockKnock checks with the VirusTotal web site to see if the software contains known malware code.

**F-Secure XFENCE** (was Little Flocker) is a more comprehensive alternative to installing Ransomware and KnockKnock, but requires more intervention on the user's part. It observes every time an app tries to open, write, execute, or otherwise modify any file or folder, and lets you set rules. Asks you to set one-time, short-term, or permanent exceptions. In Beta.

**Little Snitch** does the same for network processes.

You should uninstall flash. It has tons of vulnerabilities and new ones keep being discovered. Flash components are located in Macintosh Hard Drive >Library> Internet Plug Ins. Drag them to the trash.

If you must view a website which uses flash, use Chrome where flash is an integral part of the app and flash contents are sandboxed. The best route would be to not run flash at all.

Firefox is the browser he uses most of the time with 4 extensions.

**Ublock Origin** is the best ad blocker and site tracker. Adblock is reputed to be subservient to the ad industry.

**Ghostery** detects and blocks tracking technologies to speed up page loads, eliminate clutter, and protect your data.

**Random Agent Spoofer** aims to hinder browser fingerprinting. It does this by changing the browser/device profile on a timer. Mike has it set to change every 5 minutes and tell the web server that it is a Windows browser. Windows malware will not run on a Mac.

**NoScript** blocks scripts, including JavaScript. You have the option to allow scripts by the domain they originate from (e.g. when reading the NY Times, allow from nytimes.com, but not from google.com).

If you need to log into a web site, particularly if it has sensitive content, use your Safari Browser with https. Only use Safari for these sites. Do not use it for anything else, including browsing or searching. Delete all bookmarks, except the sites you will log into.

Your browser can't tell if your Mac is infected. If a webpage claims your Mac has malware or a virus, it is a scam. Do NOT call any Apple support number displayed.

The actual Apple support phone number is 800.275.2273. Better yet, download the Apple Support app from the Apple Store. Apple will respond to your question faster than calling a support line.

## Phishing Emails

Be cautious about opening attachment and links. If you see attachments or links, slow down. Hover your cursor over the sender name to see if the sending address is the address of the person you think. Or compose a new email to the sender asking if he sent it. The longer the link, the more suspicious. Open Word docs in Pages. Pages will not run Word macros.

Use Quick Look to look at a document. It will not launch Preview.

Don't use webmail because a browser is designed to run scripts - which could be malware. Mail will display formatting; it will not run scripts.

## What Security Requires

Takes effort, but it's worth it. Often means accepting less convenience. Being thoughtful and paying attention. Keeping up with security issues.

*Kif Leswing posted the following article to [businessinsider.com](http://businessinsider.com) on May 8, 2017. [tinyurl.com/y7ejsjv9](http://tinyurl.com/y7ejsjv9). © Business Insider, Inc. He is a reporter at Business Insider covering Apple and the technology industry.*

## The New iPad Review: This Is The Best Couch Computer Ever

By Kif Leswing



The last time I bought an iPad was 2012. It was a good iPad. But increasingly — especially when the iPhone 6 came out with a bigger screen — I found that my iPad started gathering dust.

The bigger iPhone could do all the same things as my iPad, and as my iPad's hardware got older — it still used Apple's old-style charger — I stopped using it.

But Apple's newest iPad reminded me that for iPhone users, a big tablet that does the same things can be a huge luxury. Browsing

the web, playing games, and checking social media is all more pleasant with a bigger screen.

So a few weeks ago, I bought Apple's newest iPad. Apple just calls it iPad, but you might have better luck Googling "2017 iPad" or "iPad fifth generation."

Ultimately, it's not that much different than the other iPads sold over the past two years, except for one thing: It's cheap, or at least less expensive than what previous iPads cost. I paid \$329 for mine.

But I couldn't be happier with my purchase. It can't do anything new compared with other iPads, but it's a great value, and it's clear Apple has refined the iPad over the past seven years to be a great tablet for most people.

I don't use my new iPad for anything productive. I mostly use it for content consumption, and it almost never leaves my house. And after using it for the past six weeks, I'm confident it's the best couch computer ever.

### Here's what I do on my iPad

- **I surf the web.** Mobile Safari, the iPad's built-in browser, is awesome, stable, and fast, and there aren't many websites the iPad can't handle.
- **I play games.** I've been exploring a large number of games available on Apple's App Store, and there is a surprising amount of deep games you could pour 20 or more hours into. I've been playing "[Crashlands](#)" lately.
- **I watch videos.** I've been using my iPad to keep up with Nationals games on MLB At Bat while my roommates watch what they want on TV. I've also watched HBO, Netflix, and other



streaming services on the iPad's sharp 9.7-inch screen. It's pretty engrossing, especially with headphones.

- **I check social media.** If there's one issue I have with Apple's iPad in general, it's that there isn't Instagram or Snapchat for iPad. That said, it's a perfect device to catch up with most of my social feeds, including Facebook and Twitter.
- **I iMessage my friends.** Texting from an iPad is difficult, but if your contacts use iMessage, it's easy to send them notes and stuff from the iPad.

Here's what I don't do on my iPad: anything resembling productivity. I set up my various email accounts on the device, but I turned notifications off, and I don't really check or send emails on the iPad. I can handle quick notes from my iPhone, and if I need to do any word processing or work, I'll boot up my Mac.

## Design

This iPad's design is not going to surprise you. It's a rectangle, centered on a beautiful, dense, high-pixel screen.

I hadn't used a 9.7-inch iPad on a regular basis since 2012, and I immediately noticed two things about this new iPad. First, it's light enough to use for long stretches of time — something I didn't find with my older, heavier iPad.

Second, there's no physical mute switch. You'll have to turn the sound off on the touchscreen or hold the "volume down" rocker until it goes silent.

Finally, all of Apple's new iPads, including the 2017 model, come with a fingerprint sensor. While the sensor is less useful on the iPad than on the iPhone, it can still be handy, especially if you plan to share your tablet with your family — just give everyone a fingerprint password.

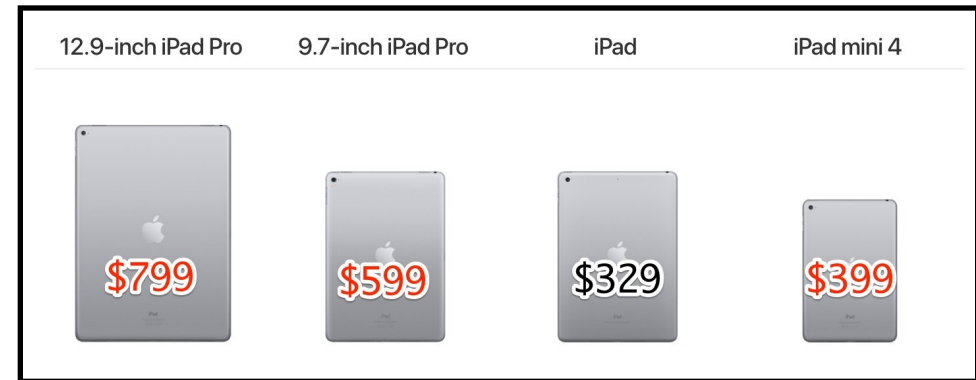
## Battery life

Apple says this iPad can manage 10 hours of battery life, and I believe it. I haven't timed how long it takes this iPad to run out of

battery, but it doesn't seem to lose charge from day to day when I'm not using it, and it can last an entire afternoon gaming. I haven't ever had an issue where the iPad ran out of battery and I needed to charge it.

For my use, the battery life is just good enough — it's unclear whether an improvement would make the iPad significantly better.

## Which iPad should I get?



I got the \$329 model of the new iPad in space gray because I prefer the black border around the tablet's screen. It comes in gold and silver as well, but those come with a white bezel on the front.

The entry-level model has 32 GB of space, which is more than enough for me because I'm not uploading videos or music onto my tablet. So far, it's plenty of storage space for me, and unless you know you use a lot of space, it probably will be for you, too.

After a month of heavy use, I still have over 15 GB available.

e iPad without connecting to a Wi-Fi network. Of course, the cell service requires a monthly fee. Since I use my iPad at home, connected to Wi-Fi, I didn't need it — so I saved the money.

## Should you buy it?

For nearly everybody, Apple's newest iPad is the best value if you know you want an iPad.

You might want to upgrade to the 9.7-inch iPad Pro if you like the





size and shape but want to be able to use Apple's stylus, the Pencil. The 9.7-inch Pro also has a slightly better screen, speakers, and camera, but for my usage, it's not a huge upgrade, and since it's \$599 from the Apple Store, it's not worth the \$270 extra for me. The more expensive Pro also works with Apple's keyboard case, but there are plenty of third-party options for the less expensive model.

The bigger Pro is the most expensive and heaviest iPad model. I used a review unit provided by Apple for a few months before I bought my iPad. My advice is that if you use it for media consumption, as I do, it's not the best option. Not only is it more expensive, the ergonomics as a couch computer don't work that well — it's heavy and feels oversized. Only get this one if you're sure you want to use an iPad as a laptop replacement.

The iPad Mini starts at \$400, and its screen is the same resolution as the 9.7-inch iPads. It's more expensive than the latest iPad, and it has a slower chip. I wouldn't recommend it unless you're sure you like the smaller tablet size. It doesn't support the Apple Pencil.

If you don't fit into one of these categories, I'd recommend Apple's latest iPad. Apple's pricing the tablet aggressively, and it's a better value for most people than anything else in Apple's tablet lineup.

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*Jim Tanous posted the following article to [macobserver.com](http://macobserver.com) on September 13, 2016. [tinyurl.com/y78tdluj](http://tinyurl.com/y78tdluj). © The Mac Observer, Inc. Jim is a photographer and technology enthusiast based in ArlingtonVA. He has professional experience with both Windows- and Mac-based systems and networks.*

## iPhone 7 Financing for Fun and Profit

**By Jim Tanous**

When Apple [launched](#) the original [iPhone](#) back in 2007, the company's customers had [one option](#) for purchasing the revolutionary device: walk into an Apple Retail or Cingular/AT&T Wireless store, sign a 2-year service contract, and plop down at least \$500. Now, on the eve of the iPhone 7 launch nine years later, iPhone customers have a variety of options when it comes to obtaining and paying for Apple's latest flagship device.

While today's choice in iPhone purchase and financing options is certainly better than the early days of AT&T exclusivity, the number and complexity of choices can be a bit overwhelming. We've therefore set out to explain the various iPhone 7 financing options with the aim of helping you make your purchasing decision.

Although the iPhone is [more popular than ever](#) internationally, note that we're only looking at U.S. prices and carriers. See below for an overview of each iPhone 7 financing option, with a handy summary chart at the end.

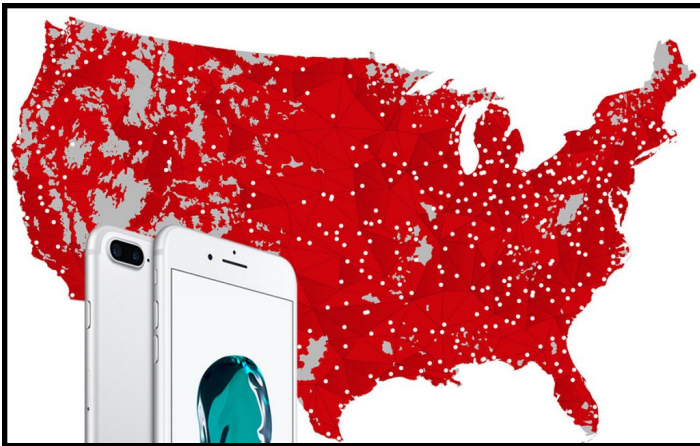
## Apple iPhone Upgrade Program

First introduced in 2015 alongside the launch of the [iPhone 6s](#), Apple's [iPhone Upgrade Program](#) is unique among the other options below in that it includes [AppleCare+](#) protection. This means that you end up paying more, both on a monthly basis and overall, but the total cost works out to that of a full-priced phone and AppleCare+ (\$129), spread out over the payment period with zero interest.

Customers in the iPhone Upgrade Program sign up for a 24-month agreement, financed through Apple by [Citizens One Bank](#). This

gets you an unlocked model of the latest iPhone of your choice and two years of AppleCare+ protection. If you make all 24 payments, you'll own the phone outright. After a minimum of 6 months and 12 payments, however, you can trade your iPhone in to Apple, re-enroll for another two years in the Upgrade Program, and receive that year's latest iPhone. This arrangement mirrors some of the carrier plans and is why Apple advertises its program with the "get a new iPhone every year" slogan.

Monthly prices for the Apple iPhone Upgrade Program start at \$32.41 for the 32GB iPhone 7 (total cost of \$777.84, plus sales tax) and reach \$45.75 for the 256GB iPhone 7 Plus (total cost:



\$1,098.00). One thing to note about Apple's program, which also applies to many of the carrier options, is that you'll need to pay the sales tax on the total cost up front in your initial payment, so keep that in mind when budgeting. Also remember that despite Apple's user-friendly facade, the Upgrade Program is a financial agreement subject to credit checks and interest penalties should you fail to make timely payments. Check out the Program's [terms and conditions](#) for the complete details.

### Apple iPhone Installment Plan

For those looking for a slightly cheaper and simpler option, the Apple iPhone Installment Plan may be the answer. You're still dealing directly with Apple in this option, but without the yearly

upgrade and AppleCare+ aspects.

Basically, Apple is offering customers zero-interest financing (again, through Citizens One) on the full retail price of the iPhone. You'll get the same unlocked iPhone 7 model of your choice and make 24 monthly payments that equal the full retail price, plus sales tax. As with the iPhone Upgrade Program, you'll pay the full sales tax up front.

iPhone Installments are a good option for those who just want the iPhone hardware and are ineligible for carrier subsidies. No wireless service contracts, no dealing with carrier salespeople, just the full price of the phone spread out over two years. Monthly prices range from \$27.04 for the 32GB iPhone 7 (total cost: \$648.96) to \$40.37 for the 256GB iPhone 7 Plus (total cost: \$968.88).

### Verizon Wireless

Big Red no longer offers traditional subsidies and has now moved to zero-interest payment plans and trade-in credits. For both new and existing customers, Verizon offers virtually the same zero-interest financing terms for the 7 as the Apple Installment Plan. For the 32GB 7, that's \$27.08 per month for 24 months (which works out to \$649.92), while on the other end of the spectrum the 256GB iPhone7 Plus will run you \$40.41 per month (total cost: \$969.84).

Keep in mind that these prices are just for the phone itself. You'll still need to tack on a Verizon service plan to actually use the thing. And, just like all of the other financing options, you'll need to pay the full sales tax up front. In Verizon's favor compared to the other carrier options is that the [iPhone is unlocked](#), so that's one less thing to worry about if you want to sell or jump ship down the road.

For customers who already own certain models, Verizon offers a trade-in option worth up to \$650. Those with an iPhone 6, iPhone 6 Plus, iPhone 6s, or iPhone 6s Plus can opt to trade their working and good-condition device in to Verizon when purchasing a new 7. The carrier will then credit your account \$27.08 per month for 24

months. For the 32GB iPhone 7, this covers the cost of your phone over the two year payment plan, minus taxes and interest (which makes the total package worth far less than \$650 from the customer's perspective). For higher end models, this acts as a subsidy on your monthly payments.

The key factor for the Verizon trade-in program, however, is that you must maintain service with the company for 24 months. If you switch to another carrier after, say, 12 months, Verizon won't pay out the remainder of what it owes you on the trade-in. Therefore, only go this route if you're sure that you'll stick with Verizon for the long haul. Otherwise, you're better off selling your existing iPhone on your own and using the cash to offset the cost of your upfront or monthly payments.

Finally, Verizon offers something similar to Apple's iPhone Upgrade Program with its [Annual Upgrade Program](#). Customers with select recent smartphones (iPhone 6s and newer, [Samsung](#) Galaxy Note 7\* and Galaxy S7), can trade their devices in after a minimum of 30 days and 50 percent payment and re-up with a new device and new agreement. This isn't an entirely clean transaction, however, as you'll need to pay upgrade and activation fees for the new device.

\*If it's not on fire.

## AT&T

AT&T was the first major carrier to [move away from traditional subsidies](#), and they continue along that path with ["Next" and "Next Every Year"](#) options for the iPhone 7.

AT&T Next is based on a 30-payment schedule, so the monthly costs will be lower, but users will need to make at least 24 of those payments to upgrade. Like the other financing options presented here, there's no interest if all payments are made in a timely manner. If you like the standard Next plan but don't want to wait two years, you also have the option to make a down payment to both lower your monthly payment and become eligible for an upgrade sooner.

Monthly prices for AT&T Next plans range from \$21.67\* for the 32GB iPhone 7 (total cost: \$649.99) to \$32.34\* for the 256GB iPhone 7 Plus (\$969.99), plus taxes which, again, are paid upfront.

AT&T Next Every Year is similar to the financing options from Apple and Verizon. Customers agree to 24 monthly payments, and can trade-in and re-up after only 12 months. Next Every Year prices range from \$27.09 per month for the 32GB iPhone 7 (\$649.99) to \$40.42 per month for the 256GB iPhone 7 Plus (\$969.99), plus taxes.

Like Verizon's plans, you'll need to maintain service with the company in order to keep your interest-free monthly payment schedule. Should you cancel or switch to another carrier, you'll be required to immediately pay the balance of the phone's price. Also like Verizon, AT&T is offering the same \$650 trade-in option for select iPhones (iPhone 6 or 6s), with the value paid back to the customer in the form of 24 monthly credits.

\*For AT&T and T-Mobile, the final monthly payment is slightly lower to bring the total cost to exactly the retail price of the phone.

## T-Mobile

The magenta "Uncarrier" has long offered unique service options compared to its competitors, and that continues with the financing options for the iPhone 7. T-Mobile's financing plan charges customers the same monthly amount for all models of iPhone 7 (\$27.09) and iPhone 7 Plus (\$32.09), with the difference between the capacities being a down payment ranging from \$99.99 (128GB iPhone 7) to \$249.99 (256GB iPhone 7 Plus). The entry-level 32GB iPhone 7 requires no down payment. This keeps your monthly bill simpler and easier to calculate, especially for those with multiple devices on a single account.

In addition to the down payment option, users with an existing iPhone can trade in their device for 24-months of bill credits, similar to AT&T and Verizon's offerings. The iPhone 6 and 6s are worth \$649.99 (\$27.09 per month), making the 32GB iPhone 7 "free," while those with an iPhone 5, 5c, 5s, or SE can get up to

\$399.99 (\$16.66 per month) to defray some of the iPhone 7's cost. Like the other carriers' plans, you must remain a T-Mobile customer throughout the 24-month financing period to receive the full value of your trade-in, and if you cancel early you'll be required to pay the balance on your iPhone 7.

iPhone 7 32GB								
	Apple Upgrade Program	Apple Installments	Verizon	AT&T Next	AT&T Next Every Year	T-Mobile	Sprint Subsidy	Sprint Installments
Unlocked Phone	Yes	Yes	Yes	No	No	No	No	No
Apple-Care+	Yes	No	No	No	No	No	No	No
Upgrade Terms	6 months and 12 payments	N/A	30 days and 12 payments	24 payments	12 payments	12 payments	N/A	N/A
Service Contract	No	No	No	No	No	No	2-years	No
No. of Payments	24	24	24	30	24	24	1	24
Monthly Cost	\$32.41	\$27.04	\$27.08	\$21.67*	\$27.09*	\$27.09*	N/A	\$27.09*
Total Cost	\$777.84	\$648.96	\$649.92	\$649.99	\$649.99	\$649.99	\$199.99	\$649.99

In terms of upgrade plans, T-Mobile's "Jump" and "Jump On Demand" plans offer the same basic package as those from AT&T and Verizon, but with some interesting differences. For the basic 24-month "Jump" plan, users can upgrade once 50 percent of their financed device has been paid off, while "Jump On Demand" lets customers upgrade at any time, up to three times per year, during the 18-month payment plan. Jump On Demand also waives any upgrade fees, which are normally \$20 a pop.

## Sprint

Rounding out the major carriers is Sprint, which offers the same basic zero-interest financing as its competitors, along with a trade-

in option which equates to monthly bill credits. However, the carrier still advertises a traditional contract subsidy option. With a 2-year service agreement, customers can get the 32GB iPhone 7 for \$199.99, while the highest end 256GB iPhone 7 Plus will run you \$519.99.

In terms of the no-contract financing options, Sprint offers its upgradeable "lease" plans ranging from 18-months at \$26.39 for the 32GB iPhone 7 (\$475.02) to 17-months at \$47.00 for the 256GB iPhone 7 Plus (\$799.00). The trade-off with Sprint's lease is that you get lower monthly and overall payments but you don't get to keep the device at the end of the term (you're expected to re-up and upgrade to the latest iPhone at that time). If you prefer keep-it-at-the-end installments, Sprint has those, too, at the same prices as T-Mobile and AT&T (ranging from \$27.09 to \$32.09 per month).

Finally, Sprint has [matched its competitors](#) with a limited-time trade-in offer that will credit you up to \$650 over the course of a 24-month financing plan. Sprint customers interested in this offer will need to visit a Sprint store, however, to trade in their existing iPhone 6 or newer.

## iPhone 7 Financing Summary

It's clear from the overviews above that all of the carriers, with a few exceptions, offer the same basic zero-interest deals when it comes to the iPhone 7. So let's put it all together in a handy chart to highlight the few differences, based on the 32GB iPhone 7:

With iPhone 7 financing options practically identical across the major carriers, the most important factor becomes terms and service. As long as you have decent credit and make your payments on time, you're going to end up paying the retail price for the iPhone 7 under most plans, so the only questions are how long you want to make your payments, when you want to upgrade, and who you want to deal with.

All of the carriers will generally charge activation or upgrade fees when you bring an iPhone onto their networks, even if you buy the phone directly from Apple. Some carriers, like Sprint, are offering



limited time activation fee waivers, and other carriers may waive the fees if you're coming from another carrier or are persuasive enough. At \$20 to \$30 each, the amount and timing of activation fees is definitely something to consider.

A final consideration is carrier lock status of your iPhone. Both of Apple's financing options and Verizon's option give you an unlocked phone right out of the box, while all other iPhones will ship locked to their respective carriers. This may make it easier for you if you're not sure which network you want to end up with when you order your iPhone 7, but customers can always unlock their iPhones down the road for resale or use on another network. Be sure to note, however, that the iPhone 7 isn't "universal." Unlocked iPhones ordered for AT&T and T-Mobile won't be able to work with CDMA networks. The Verizon and Sprint models, however, *are* compatible with GSM networks, so be sure to plan accordingly.

### Is Apple the Best Option?

With overall iPhone 7 prices pretty much the same across the board, it seems that going with one of the Apple plans is the best choice. After all, why not deal directly with a company known for good customer service instead of one from an industry [notorious](#) for terrible service? In reality, the answer may not be so simple.

Apple's iPhone Upgrade and Installment plans are still very new, and the company is still [facing growing pains](#) related to the programs. Specifically, it seems that Apple failed to reserve enough supply to ensure that upgrade-eligible customers who signed up last year could choose their desired model when the iPhone 7 launched last week. Despite [attempts](#) by the company to address customer concerns, Apple is already facing a [class action lawsuit](#) over the issue.

While it's easy to chalk this controversy up to high demand, a more cynical possibility is that Apple doesn't need to ensure adequate supply at launch for its iPhone Upgrade customers, because those customers are committed to a two-year financing agreement and

have no choice. Why "waste" available units on customers who are contractually obligated to keep making their monthly payments when those same iPhones could bring new customers into the fold? After all, those upgrade customers will get their iPhone 7's *eventually*.

That's not to say that this is some fiendish scheme by Apple, but the fact is that Apple has no real incentive to serve its iPhone upgrade customers while the carriers do. Therefore, you may have better luck securing your preferred iPhone model via your wireless carrier rather than Apple itself.

Another issue is the aforementioned upgrade and activation fees. Some carriers run promotions in which these fees are waived or reduced, and it's always worth a shot to try and negotiate a waiver with the carrier's salespeople. If you buy a phone from Apple, however, you're definitely going to be paying those fees when you go to activate it on one of the wireless networks.

All of that said, it's good to see a competitive iPhone 7 financing option from Apple, and hopefully the company's management of the program gets better over time. But don't overlook the carrier options entirely.

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*JH Rogers posted the following article to [ipadInsight.com](http://ipadInsight.com) on May 22, 2017. [tinyurl.com/kvej4gn](http://tinyurl.com/kvej4gn). © iPad Insight. He is a confessed gadget hound for year and writes for AppleAtTheCore, iPadInsight, and iPhoneInsight*

## First Impressions of Apple's AirPods

By J.H. Rogers

I was finally able to get my hands on a pair of Apple's latest hard to find hit. If you are still looking for a set of AirPods without the three to four week wait, keep an eye on AT&T, website. When they get them in stock, they process the orders quickly and have free shipping in the US. I got mine two business days after ordering, so I was happy with the experience, and was glad to not have to pay a premium or wait a month to get them.



Rather than doing a full review of the AirPods, I am just going to share some ongoing impressions of them over the next few weeks. I usually take my time when doing a product review anyway, as I like to really live with something for a bit before I do a full write-up on it. It takes time to really get the full measure of product, whether it be a device or an accessory. This way, I can share the little bits and pieces and impressions as they come.

### **The fit is perfect on me, but that experience isn't shared by all**

I have never had any issues with Apple's EarPods, so I figured the AirPods would fit much the same. However, when you put down \$150 instead of getting a headset free in the box with your phone, the stakes and expectations are definitely higher. My expectations

on this point were actually exceeded a bit. Today was the first workday that I had them, so I used one as my Bluetooth headset for the day. It was comfortable and light enough to pretty much forget it was there.

Unfortunately, if EarPods don't work for you, the AirPods likely won't, either. They fit poorly on my wife to the point that they would barely stay in her ears. Considering the exclusive positioning of the AirPods in Apple's lineup, it would be smart on their part to find some way to mitigate these issues with some interchangeable shapes or different sizes in future versions. I know there are parallel products from Beats, but none of them are fully wireless like the AirPods.

### **The battery life is acceptable, but the recharging case and the interchangeable nature of the AirPods overcomes any weakness**

I can't say the battery life of the AirPods is great. The single right-side bud just BARELY made it though the work day for me today, so they aren't as practical as a pure Bluetooth headset for phone calls. My Plantronics that I've used for the last two years lasts for several days on a charge, but it's just a mono headset for phone calls so it isn't an apples to apples comparison. All that said, I think the battery life is just fine for a first generation version of a fully wireless set of buds like these and it should only improve in future versions.

While the battery life of the earbuds is just good, the battery case really covers over any issues or potential dissatisfaction, at least on my part. Over the weekend I was using the AirPods more sporadically to listen to music, and I loved that every time I put the buds back in the case they quickly recharged to 100%. I know Apple wasn't the first to use this recharging case design, but as usual, they have perfected it.

### **The design of the case is perfect**

Plenty of hay has been made at the expense of the design of the AirPods, but I don't have any objections to it. However, the praise

of the design of the AirPods recharging case has been almost as universal, and for good reason. From the smooth rounded corners, to the balanced hinge and magnetic closure of the lid with an unmistakable “click” on closure, to the magnetic seating of the AirPods for charging, it is a quintessential Apple design.

### **The sound quality is good, and that's good enough**

I'm not going to say that the AirPods deliver audiophile-quality sound. However, when you balance the sound quality with the convenience of fully wireless earbuds, they come out looking and sounding pretty solid. In my opinion, they do sound better than Apple's more basic EarPods, and are much better than any inexpensive Bluetooth stereo headset that I have tried. The bass isn't as pronounced as many listeners might like today, but I personally found the balanced nature of the sound to be a positive.

### **The controls are simple. Maybe a little too simple**

I like the double-tap on the side of the AirPod mechanic to trigger Siri or to Play/Pause your music or podcast. It works very well. Unfortunately, there just isn't enough control available without getting out your phone or going to your Watch (if applicable). I can understand having to choose between using Siri or Play/Pause when using one AirPod. However, I would love to see Apple expand on this, and allow separate controls on each AirPod to make use a little easier.

### **Using Siri with the AirPods is great.....but**

Siri does work very well with the AirPods. I found recognition to be more accurate than with my iPhone in crowded or noisy areas. Like the Watch, its mic seems to be tuned to recognize voice queries. However, unlike the Watch, you don't have to put anything closer to your mouth to get this good recognition. I'm glad to see Apple putting in some effort on getting good voice recognition, and it gives me hope that the coming Siri speaker will be another step in the right direction.

Using Siri with the AirPods is smooth, but there is room for improvement in the future. At first, I was disappointed that “Hey Siri” didn't work on them, but I can understand that keeping the mic enabled at all times would put a huge strain on the already limited battery capacity. However, as battery capacity and life improves in future versions of the AirPods, this could be a killer feature. It would allow for hands-free voice queries, and also would open up the tap control possibilities since Siri wouldn't have to be triggered to be used.

### **I would fight people in line to get a set of AirPods in Black**

I like the classic Apple “iDevice White,” and all. However, the case and the buds are going to show dirt and wear a lot more with that bright white surface. I have already cleaned the inside of the case a couple of times. The white AirPods also are very conspicuous when you're wearing them. I would much prefer an official black set from Apple, as they will be less likely to show dirt and wear, and will be far less conspicuous when in use. I have no doubt we will see these in a year or two.

That's enough for round one. After a few days of use, I know I won't be sending the AirPods back, as I have been very pleased with them overall. As such, I will keep posting about my experience with them as time goes on. Also, if any of you have any specific questions about the AirPods, let me know and I will try to get you an answer. Feel free to post any thoughts in the Comments below, on Flipboard, [on our Facebook page](#), or on Twitter [@iPadInsightBlog](#).

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The following article was posted to [castleink.com](http://castleink.com) on February 17, 2014. [tinyurl.com/y8bov3c6](http://tinyurl.com/y8bov3c6).

## How to Save Ink? Try Grayscale Printing & More



When it comes to purchasing a printer, the price represents only a portion of the cost. You must consider the price you originally pay for the printer itself as well as the expense of buying ink cartridges every time the printer's ink runs out. If you own a business that requires a lot of printing or if you print a lot of photos, ink cartridges may frequently need to be replaced. These extra costs can add up in a hurry, but

luckily there are ways you can save money by making your ink cartridges last just a little longer.

## Top 10 Tips for Making an Ink Cartridge Last Longer

### 1. Print only what you absolutely need

Before you start printing any particular portion of text or graphics, decide its relevance and usefulness so that you do not unnecessarily spend time in printing things that may not be of much use. In short, you should print only those things that you may actually need to save consumption of considerable amounts of ink.

Additionally, these days you can find free programs online such as CutePDF that will allow you to turn almost anything into a PDF. Once a document is a PDF, then it can be uploaded to an online cloud storage service such as [Dropbox](https://www.dropbox.com), [Box.com](https://www.box.com) (yes, it's different), or [Google Drive](https://www.google.com/drive). All of these have mobile apps, so you will still have access to documents wherever you are.

### 2. Use Print Preview

Print Preview is a useful function that shows you how the document will look after it has been printed. It can help you adjust spaces and

decide which pages to print. Consider turning off the color ink cartridges, selecting only the text you require and only the pages you need - especially that last page with the footer that comes out with each print job. This can significantly reduce your printer ink usage as well as your paper usage.

### 3. Print text over graphics

If you are printing documents only for later reference, print only the essential text and any related images or graphics that are required. Avoid printing images or colorful graphics if having a hard copy is not essential to the purpose of the document.

### 4. Print in Draft mode as often as possible

Use draft print quality whenever you can. Go to File - Print to open the box that lists the settings for your printer. Click 'Properties' to bring up the various options available. You'll probably find different choices under the heading 'Paper/Quality' that allow you to select draft quality printing. Your document will print at a lower resolution but that may not matter for reference material that you will likely discard later. You can always switch to a higher resolution for a final version of a document.

### 5. Grayscale Printing: Print text in black ink only

Print documents that are in black and white with a black ink cartridge. Choose black and white printing over color whenever possible. Depending on your printer, you may have the option to select grayscale printing using the black ink cartridge only. **What is grayscale printing?** It's simply printing using your black ink cartridge to produce print that is a combination of gray tones between black and white only. If you print black with a color ink cartridge, various colors are mixed to create the black ink. Not using grayscale depletes your color ink cartridge a lot faster than it would deplete a black ink cartridge. If you're not doing presentation quality work, or if you're printing text only, chances are you won't need the other colors.

### 6. Use color ink only when needed



If you want your refilled ink to run longer, then make use of color printing only when it is required. Otherwise, for general and regular use, it is wiser to use black and white printing that helps in saving your money on buying additional refills.

Modern personal printers can produce high quality photographs, particularly if you use specialty photo paper. But printing high quality digital shots can use a lot of ink, so if you print a large number of photos you might want to outsource your photo printing to a local print center. Many services allow you to order your prints online. You can also have your photos printed on calendars, mouse pads or greeting cards if you wish.

#### **7. Keep your printer nozzles clean**

Perhaps the easiest change you can make to your printing habits is to keep an eye on your printer heads. The printer ink nozzles that dispense the actual ink use a spray function to get the ink onto the paper. As such, these nozzles can experience a build-up of dried ink and become clogged. Clean the nozzle heads every few weeks or more often if you're a heavy printer.

If a color cartridge isn't printing all the colors, remove the cartridge and wipe the bottom of it where the ink comes out firmly with a damp paper towel or lint-free cloth to unclog the nozzle. This will help the ink flow more freely from the cartridge.

#### **8. Use all the ink in the cartridge**

Continue to print even when your printer light comes on or you get a warning saying that your ink is low. Check the ink level in the cartridge and if it appears that there is some ink left, keep using it instead of changing the cartridge immediately. There is likely quite a bit of ink left in the cartridge; remember that the ink comes out in a spray so it doesn't take much per page. Use it all and then shake the ink cartridge to break up any ink clogs (especially in humid climates). You may get hundreds of extra pages out of a cartridge by doing this. Keep printing until the ink is almost completely gone

(but be careful that you don't run the printer with an empty cartridge).

#### **9. Select "Printer-Friendly" Pages when printing from the Web**

You would be surprised how much ink is wasted by printing pages directly as they appear from a website. One Web page can have multiple pictures or graphics...not to mention several pages worth of printing because Web pages are typically much longer than a regular document. Opt for the printer-friendly option if you need to print something from the Web. This eliminates all the unnecessary images, and will save your ink cartridges as well as your printing paper.

#### **10. Use the printer regularly**

If you don't print very often, you can stretch the life of your inkjet cartridges by keeping the printer moving. Print a page or two at least once a week using both your color and black ink cartridges. You can print something small (even a printer diagnostic test) to prevent the ink from drying up.

Another ink-saving tip is to power down your printer the right way after each use. Don't merely switch it off or unplug it, but allow your printer to power down slowly and shut itself down. The print heads need to be in the right position while the printer is turned off to prevent the ink from drying up prematurely. The printer should also be covered when not in use.

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Melissa Holt posted the following article to [macobserver.com](http://macobserver.com) on December 28, 2016. [tinyurl.com/yayxyhhh](http://tinyurl.com/yayxyhhh). © The Mac Observer, Inc. She is an Apple Consultant who lives and works along the Front Range in Colorado.

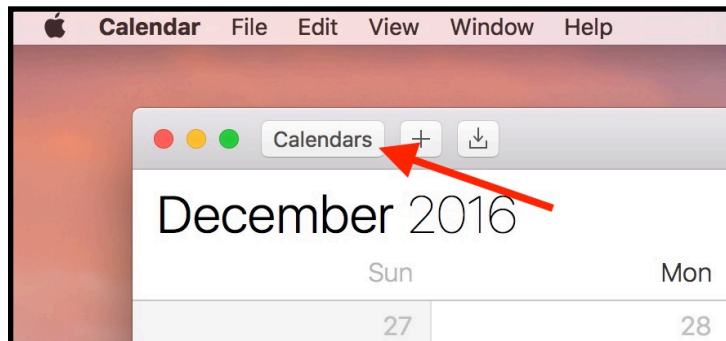
## Merging Calendars

### By Melissa Holt

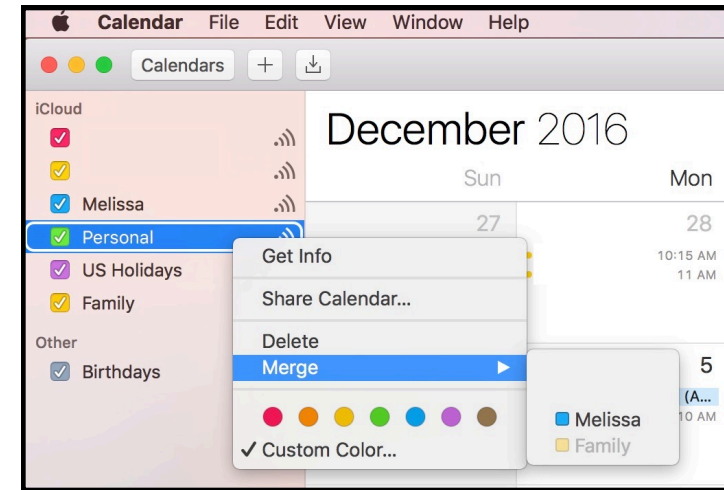
Back in the long long ago, I [wrote a tip about how to merge calendars on your Mac](#) if you want to clean stuff up. That was all fine and good, but now there's an easier way to do it! So if you've got a long list of duplicate or outdated calendars to sort through, this'll make it much simpler.

As always, please make sure you back up your calendars before you do any major clean-ups, all right? You can do this by [either backing up the individual calendars one at a time](#) or by choosing **File > Export > Calendar Archive**, which'll back up everything in one big lump. I actually suggest doing both things; I'm a fan of redundancy, as you probably know if you've read pretty much anything I've written.

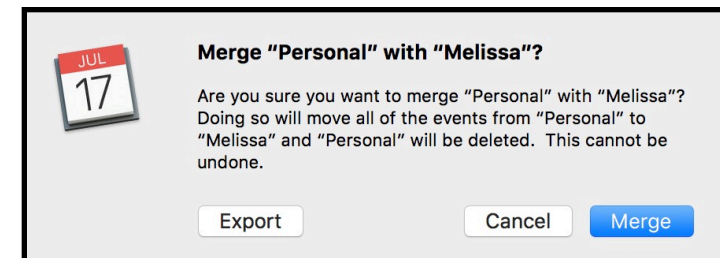
Once you're finished backing up, then, all you have to do is click on the "Calendars" button in the program's toolbar to reveal the sidebar list if it's not already showing...



...and then right- or Control-click on the calendar you'd like to merge into another.



As you can see, that'll bring up a "Merge" choice for you to pick which calendar you'd like to move the original's events into, so be sure to choose the right one! The Calendar app will then warn you of what's about to happen.



So, pay attention! The calendar you right-clicked on will have all of its events moved into the second one you chose, and then *the original calendar will be deleted*. As that dialog box notes, you can't undo this, so be sure that's what you want. (And if you ignored my backup warnings, you can pick "Export" here to make a copy of the soon-to-be-deleted calendar if necessary.)

When you're sure you're ready, click "Merge" from that dialog box, and all of the old calendar's events will be moved. This is just so much faster and easier than the previous steps we had to walk through! I'm a little more jazzed than the situation probably warrants. I, uh, think I need to sit down now.

Gary Rosenzweig posted the following article to [macmost.com](http://macmost.com) on May 19, 2017. [tinyurl.com/yd7ck3jl](http://tinyurl.com/yd7ck3jl). © CleverMedia, Inc. He is the producer and host of MacMost, published 30 books on the iPad, Macs, and programming, & created more than 250 games.

## Making Numbers Formulas Easier To Read

### By Gary Rosenzweig

You can use a trick to force a line return in Numbers formulas so they are easier to read and edit. The same trick can be used in some web forms and other apps to add line returns when a regular Return keystroke doesn't work.

To view the video, go to [tinyurl.com/yd7ck3jl](http://tinyurl.com/yd7ck3jl)

### Video Transcript

So here's a handy little tip if you use Numbers a lot. Especially if you use complex long formulas in Numbers. You'd get things that look like this. If I click here and look at the formula it gets to be pretty long and this is actually a pretty short one. It could go for several lines of really complex nested ands and ifs and all sorts of things in here.

Here I've got a simple formula, more or less, where I'm multiplying the quantity times a price here in this lookup table. So I'm taking the product name and using that in lookup to lookup based on the product , the price. So apple matches to apple here which gives me the price of 25 cents. So it's the quantity times 25 cents and then I multiply that by an IF statement, if there's a check in this checkbox, this discount column I've got .75 (in other words 75% of the price) or 1 if there's no checkmark there. In other words a 25% discount if I check on that. So I can test this out by checking it and you can see I get 25% discount here. I can change the price of apples to say 26 cents and you can see all the apple prices updated a little bit.

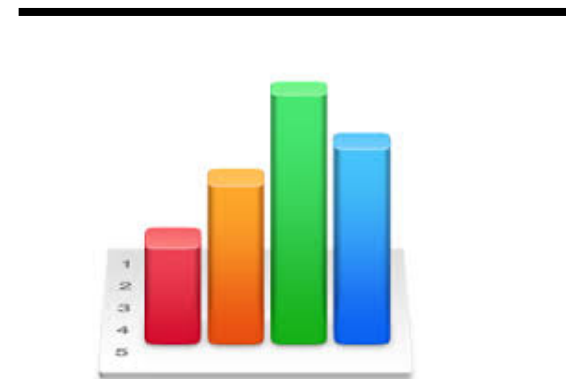
So that's all great and it works fine except that when I go to edit this formula it gets a little long. It would be nice to be able to break this up on lines. It turns out you can. If you put your cursor

somewhere where you want to break a line and you hit Return, of course, it's just going to enter the formula. But instead if you were to hit Option, Return it actually puts a line there. So I'm going to do that before and after the multiplier there. I'm going to do it before that after the multiplier here. Now you can see it's a lot easier for me to understand what's going on in this formula.

All I need to do now is copy, paste that over all of these, it's the same formula as the one line version but now it's in all of them. Anytime I go to look at that formula there I can see it's broken up on multiple lines. The short version of the formula is down at the bottom. That's not going to show those line breaks because there is only room for one line there. But when I'm actually working on the formula I get this break up here.

You know the Option Return is a very useful thing. You can use it on a lot of different occasions. For instance, a lot of sites with forms for filling something in like little chat windows and things like that. They automatically submit what your typing if you hit Return. But if you hit Option Return it actually puts a line return there and you can break up what you're saying on multiple lines.

So it's kind of a handy thing to try out. It works here in Numbers and it works in a variety of other places. It certainly makes for a lot nicer looking formula.



The following article was posted to [cableorganizem.com](http://cableorganizem.com).  
[tinyurl.com/ya3aor5g](http://tinyurl.com/ya3aor5g). © CableOrganizer.com, LLC.

## What Is The Difference Between Cat 5, Cat 5e, and Cat 6 Cable?

### Untangling the Mystery!

So, let's say you want to play one of those new-fangled gaming console devices I've heard so much about, or you just want to connect to that Interweb.net that all the hip youngsters can't stop gabbing about. Well, you'll need some type of cable, right? (Spoiler alert: Right.)

In your magical Quest to Find the Right Cable (soon to be a trilogy directed by Peter Jackson), you'll likely come across Cat 5, Cat 5e, and Cat 6 cables with no clue as to what these designations mean. Perhaps these cables are the tails of felines, and the number denotes how many of their nine lives remain? Nonsense, why would you even think that? The truth is that any of these cables will hook you up with a connection, but there are important distinctions to keep in mind when choosing which one may be right for you. So here's the lowdown...

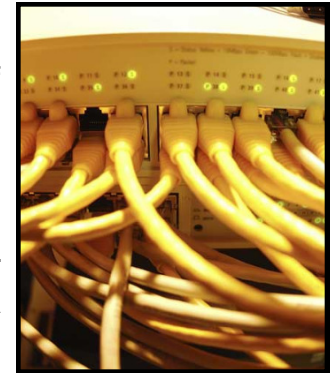
### CAT5

Cat 5 is the slowpoke of the bunch. It can handle 10/100 Mbps speeds (Fast Ethernet) at up to 100 MHz bandwidth. That's a lot of numbers, but what it means is "slow and obsolete". New installations don't even use it, and it's on its way out, sadly...that's sadly for the cable, not for you. For the savvy cable connoisseur there are newer, better, faster, stronger options out there. That's why we at CableOrganizer.com do not sell Cat 5 cable and we don't advise you to buy them. That is, if you can even find any...like at a garage sale or something, maybe.



### CAT5e

[Cat 5e \(Cat 5 enhanced\)](#) is currently the most commonly used in new installations. It's designed to greatly reduce crosstalk. If you just read that and then nodded while slowly saying "Yeah...crosstalk..." don't worry, that's why you're here: to learn! It basically means the Cat 5e is better at keeping signals on different circuits or channels from interfering with each other. A step above Cat 5, it can handle 1000 Mbps speeds (gigabit Ethernet) at 100 MHz.



### CAT6

Category 6 is a major improvement over Cat 5e. It's really just the bee's knees. It's suitable for up to 10 gigabit Ethernet at 250 MHz. To even better tackle the issue of that pesky crosstalkin', [Cat 6 cable](#) has an internal separator that isolates pairs from one another. For those who want to "future-proof" their residential or commercial network as much as possible without a significant cost increase, Cat 6 is a great choice. That doesn't mean it'll protect your network from cyborgs from the future or anything, it just means it will keep it up to date for longer when the "next big thing" comes along



Hopefully, this brief guide helped you get to know your Cat cables. If you'd like to thank us, just go ahead and check out our selection of products. After all, we're one of the largest cabling, cable management, and networking resellers in the world! If you require further assistance, please feel free to give us a call at 1-866-222-0030. We have a friendly and highly knowledgeable staff standing by! Want to know more about Cat 6 and Cat6a? [Check out our explainer.](#)



*Daniel Nations posted the following article to lifewire.com on May 4, 2017. [tinyurl.com/yb8fjfp2](http://tinyurl.com/yb8fjfp2) © About.Inc. He has been writing, programming and following technology since back in the Commodore Vic 20 days.*

## What Is AirDrop?

### By Daniel Nations

AirDrop is a feature that lets Macs and iOS devices share files wirelessly with a minimum of fuss.

AirDrop is extremely cool and useful, but unfortunately, it is one of those features most people don't know about not because it is hard to use -- it isn't -- but because most people don't think to look for it. AirDrop makes sharing files, especially photos, much easier. But most of the time when we want to share a photo with someone, we just send it to them in a text message. Which is easy enough, but when that someone is standing right beside you, it is even easier to simply use AirDrop.

AirDrop isn't just for photos, of course. You can use it to transfer almost anything that you can share. For example, you can AirDrop an website from your iPad to your friend's phone, which is great if they want to bookmark to read later. Or what about a grocery list?

You can Airdrop text from Notes to someone else's iPad or iPhone. You can AirDrop anything from a playlist to a location you've pinned in Apple Maps. Want to share your contact information? AirDrop it.

## How Does AirDrop Work?

AirDrop uses [Bluetooth](#) to create a peer-to-peer Wi-Fi network between the devices. Each device creates a [firewall](#) around the connection and files are sent encrypted, which actually makes it safer than transferring via email. AirDrop will automatically detect nearby supported devices, and the devices only need to be close enough to establish a good Wi-Fi connection, making it possible to share files across several rooms.

One advantage to AirDrop is the use of Wi-Fi to make the

connection.

Some apps provide a similar file sharing capability using Bluetooth. And some [Android](#) devices use a combination of Near Field Communications (NFC) and Bluetooth to share files. But both Bluetooth and NFC are relatively slow compared Wi-Fi, which makes sharing larger files using AirDrop much faster and more convenient.

## AirDrop Supported Devices:

AirDrop is supported on the iPad 4, iPad Mini, iPhone 5 and iPod Touch 5 and newer devices including the iPad Air and iPad Pro models. It is also supported on Macs with OS X Lion, although Macs released earlier than 2010 may not be supported.

## How to Turn On AirDrop

Having trouble finding out where to turn on AirDrop? If you have found yourself hunting through your [iPad's settings](#), you are looking in the wrong place. Apple wanted to make it easy to turn AirDrop on or off, so they put the setting in the new control panel. Unfortunately, this isn't the first place all of us look for turning on settings.

You can access the new control panel by sliding up from the bottom of your iPad's screen. Remember, you need to start at the very edge. You can even start completely off the iPad's display if that helps.

## Find Out More About the Control Panel

Once the control panel is revealed, you will have access to the AirDrop settings. You can turn it on, off or "contacts only", which is the default setting. 'Contacts Only' means only people in your contacts list will be allowed to send you an AirDrop request.

## How to Use AirDrop on the iPad

You will need to be near the person you are sharing with and they must have their device turned on for it to register, however, you need not be right next to them. AirDrop can even reach into the

next room. Both devices will also need the correct permissions to AirDrop with each other.

In the Control Panel you can tap the AirDrop button to turn permissions from "Off" to "Contacts Only" to "Everyone." It's usually best to leave it at "Contacts Only."

You will also need to navigate to whatever you want to share. So if you want to share a web page, you'll need to be on that web page. If you want to share a photo, you'll need to be viewing that photo in the Photos app. AirDrop is not a file manager like what you might see on a PC. It's designed to share what you are doing at that time.

- **First, tap the share button.** This is the box with the arrow sticking straight up. This share button accesses the Share menu, which allows you to share via AirDrop, Facebook, iMessage, etc. [View a picture](#) of the share button.
- 

- **Next, locate the device you want to receive your AirDrop.** This is the top portion of the Share menu. Devices will show up as a circle with an identifying label under it. This will be the contact's photo with their name under it, but if you don't have a photo attached to this contact, it will show up as a gray circle with their initials in it.
- **Last, tap the circle.** Tapping will initiate sending the document to the recipient, who will then be prompted whether or not to accept the AirDrop.

That's it. You can drop anything from photos to web pages. You can even share a contact by tapping the Share Contact button at the end of the contact's information in the contacts app.



*The following article was posted by Jeff Butts to MacObserver.com on April 27, 2017. [tinyurl.com/y754rdof](http://tinyurl.com/y754rdof). © 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.*

## Use Google Without Tracking in StartPage

**By Jeff Butts**

I might have found my new favorite search engine. I like [DuckDuckGo](http://DuckDuckGo) for its privacy, but folks have raised concerns about its US-based location. I'm also not happy that it doesn't actually deliver Google search results. Instead, it serves up its own.

[StartPage](http://StartPage), on the other hand, delivers actual Google search results in absolute privacy. It's Google without tracking. They do this by submitting your query to Google stripped of identifying information. You even get a free proxy with every result. So, you can visit a third-party website without your internet service provider knowing about it. Even better, StartPage doesn't [track your searches](#) or log your IP address. It's such a privacy-minded search engine that it consistently meets or exceeds the requirements of EuroPriSe. Even Edward Snowden [recommended it](#). Plus, StartPage offers many of the same tools as a normal Google search. This includes refining your results to only show images or videos. If a search engine can be sexy, this one sure is.

**MEMBER  
GETS  
PASTED**





Sandro Cuccia posted the following article to [macobserver.com](http://macobserver.com) on May 4, 2013. [tinyurl.com/jwb2hb3](http://tinyurl.com/jwb2hb3). © The Mac Observer Inc. He has been using and supporting Macintosh since 1984 and is now an independent Mac consultant, speaker, writer, and educator, after an extensive IT career at a major chemical company.

## How to Effectively Use the Notes App in iOS & OS X

By Sandro Cuccia

The Notes app. It's been around since day-one in the life of iOS. The Mac version is now available for Mountain Lion, and it's fully iCloud-compliant. This isn't the word processor you're looking for. It's a skeuomorphic yellow legal pad for taking notes.

To me, prior to Mountain Lion, iOS 6 and iCloud integration, the Notes app was useless. Yes, I could keep "local" notations on my [iPhone](#) or iPad if I wanted to. Yes, there was primitive syncing available. However, since there was no Notes app available on the Mac, synced notes ended up in the Mail app.

No, thanks.

The Notes app has now done a one-eighty with the introduction of Mountain Lion, iOS 6 and iCloud. All of a sudden I find the Notes ecosystem to be simple, yet immensely useful. Let's take a look.

First, in order for the syncing via iCloud to work, the syncing service for Notes needs to be enabled on the Mac and iDevices. When you first configure your iCloud account on all your devices, you are given the opportunity to turn on iCloud syncing for Notes as well as other apps. Ultimately, you can enable or disable Notes syncing at any time.

### Mac OS X Configuration for Notes Integration with iCloud

On the Mac, starting with Mountain Lion, Notes syncing is enabled by going to **System Preferences > iCloud** and enabling Notes via the checkbox provided.



Enable Notes iCloud Syncing on the Mac via the iCloud Preferences Pane.

### iOS Configuration for Notes Integration with iCloud

In iOS, go to **Settings > Mail, Contacts, Calendars > [tap on your email account]**. In the configuration panel of the selected email account, you will find all the switches for activating iCloud syncing for a number of apps, including Notes.





## Notes Integration via iCloud: a Wonderful Thing.

If you have configured Notes on all your devices to sync with the same iCloud account, your notes are seamlessly synchronized. For all practical purposes, this happens instantaneously – assuming there exists a wireless or cellular data connection. If you are out of range, things will sync up nicely once a connection is re-established.



*Notes on the Mac has some basic data organization features.*

Using Notes, you can create a note and add an image or a file to it by drag-and-dropping, you can delete notes, and you can share notes via email or messaging.

You select notes to view via the sidebar. You can open a note in a separate window by double-clicking the note in the sidebar. Occasionally, I like to "float" a note on the desktop by going to **Window > Float on Top**. The floater can be dragged around the screen. Sorting can be done via **View > Sort By**.

Your notes are stored in containers the app calls "folders", corresponding to one or more email accounts you have configured your device with. To enable viewing notes from other accounts, go to **Notes > Accounts**.

You can also create folders to visually organize your notes. If you don't see the folders list to the left of the sidebar, click on the **Show Folders List** icon at the bottom of the sidebar.

To display notes from a specific folder, select a folder. To display all notes in an account, select the "All" folder for that account, such as **All iCloud**. To display all notes in all accounts, select **All Notes** at the top of the list.

To create a folder, choose **File > New Folder**. If All Notes is selected in the folders list, the folder is created in the default account. Otherwise, it's created in the account of the current folder.

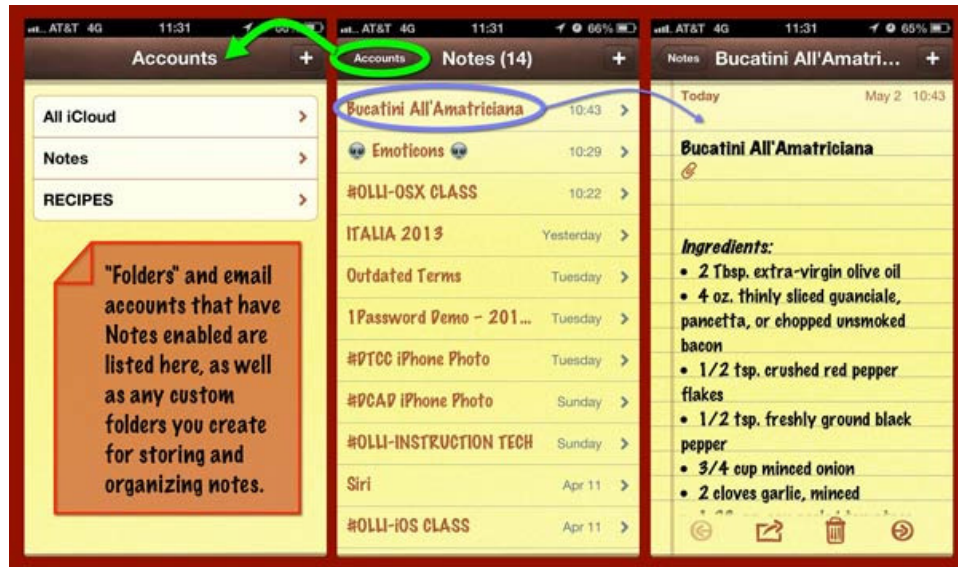
Renaming and deleting folders can be done by right-clicking the folder and making a selection from the popup menu. Pay attention to any alerts that may come up.

Moving notes and folders is intuitive. Move a folder you created by dragging it to another account. To create a subfolder, drag the folder onto another folder that you created. Move a note to a different folder by dragging it from the sidebar onto a folder. To copy a note, hold the **Option key** while you drag the note.

Some text formatting is supported in Notes. Simply select the text you want to format, and then make a choice from the **Format** menu. Bulleted, dashed and numbered lists are also supported via **Format > Lists**.

## Using Notes in iOS

Pretty much everything works the same way when running Notes in iOS.



*On the [iPhone](#), Notes functionality is spread across several screens.*

A couple of considerations to brief you on:

In the iOS version of Notes, you can set a default font via **Settings > Notes**. I happen to be one of three people in North America who like Marker Felt. (Hey, I happen to like Comic Sans on the Mac; gimme a break!) You also have Noteworthy and Helvetica to choose from. On the Mac side, you can set other fonts via **Format > Fonts > Show Fonts**, but anything other than the three default fonts will be substituted when syncing to iOS.

Notes can default to one of three fonts. For apps that support large text, system-wide size settings can be set in the Accessibility Settings Panel

If you want to set a larger-than-default text size (I like 20 points), go to **Settings > General > Accessibility > Large Text**, and make your selection.

To search in Notes on iOS, keep in mind the search field may be hidden from view. While viewing the list of notes, scroll to the top of the list, by swiping downward, to reveal the search field. Tap in

the field and type the text you're looking for. By the way, you can also search for notes from the Home screen.

Finally, for any Mac-based notes which contain attached images or files, the attachments do not currently synchronize over to iOS; just the note and a little paperclip icon to represent the non-existent attachment.

In conclusion, Notes really works quite well and is all you need if you want is a simple, built-in solution for synchronizing notes among all your devices as well as some rudimentary storage and organization features.

Although Notes is highly practical to me, I would like to see at least two enhancements: export options (other than cut-and-paste) and multiple note printing. I don't mind the yellow legal pad with the realistic tiny-paper-tearing-thingies-at-the-top-of-the-pad, but it would be nice to be able to choose from a variety of paper designs.

Why not give Notes a good two or three day workout on all your devices. Once everything is configured to sync properly, you may just be surprised at how simple and useful the Notes/iCloud ecosystem can be.

### Did you know?...

There is an Easter Egg in Notes. If you can get a magnified view of the the icon for the Notes app, you will see that the scribbling shown on the notepad is a tribute to the ancient but famous "The Crazy Ones" Apple TV ad from the late nineties – part of the "Think Different" ad campaign. The text reads:

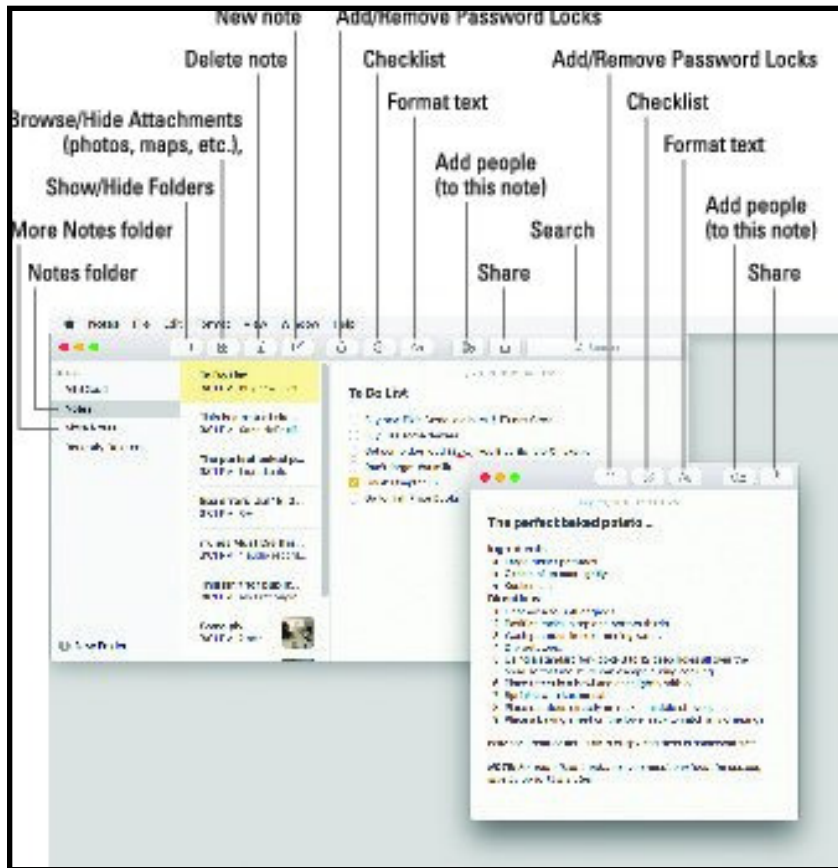
"Here's to the crazy ones.  
The misfits. The rebels.  
The troublemakers.  
The round pegs in the square holes.  
The ones who see things different.  
They're not fond of rules,  
and they have no respect for the status quo."

Bob LeVitus posted the following article to [macobserver.com](http://macobserver.com) in 2017. [tinyurl.com/ydb4kh3r](http://tinyurl.com/ydb4kh3r). © The Mac Observer. Bob is the author of more than 80 books, a computer columnist, and Mac expert. He writes a weekly column for The Mac Observer and is one of my favorite authors and speakers.

## Taking Notes in macOS Sierra

By Bob LeVitus

Notes is an electronic notepad for your Mac. A note is a convenient place to jot quick notes, recipes, phone numbers, or whatever. Some notes are shown here.



Notes is for making notes on your Mac.

To create a new note, choose File→New Note; press ⌘+N; or click the button with the little square and pencil in the toolbar.

Notes is supremely flexible; here are just a few things you can do:

- **Double-click a note to open it in its own window** so you can drag it around onscreen by its title bar.

*After opening a note in its own window, if you want the note to float in front of other windows so it's always visible, choose Window→Float on Top.*

- **Change text** to any font, color, size, and style by selecting it and using the myriad of tools in the Format menu.
- **Search for a word or phrase** in any note by typing your query in the Search box.
- **Create bulleted, numbered, or dashed lists** by selecting the text and choosing Format→Font→Lists.
- **Create folders** to organize your notes by choosing File→New Folder, pressing ⌘+Shift+N, or clicking the New Folder button at the bottom of the Folder list.

*The Notes window must be selected to create a new folder. If a note in a window is active, the New Folder command will be unavailable. So click the main Notes window if the New Folder command is grayed out. Or click the New Note button in the toolbar, which is enabled even when working with a note in a separate window.*

*Folders in the Notes application are exclusive to Notes. In other words, the folders described in the following bullets aren't folders in the Finder. You won't find them on your hard disk; they live only in the Notes app (and iCloud or other Internet accounts if you've enabled them). And also remember that folders are strictly optional. If you don't have a ton of notes, keeping them all in a single folder and using the Search box to filter them may work for you.*



- **Show or hide the Folders list** by choosing View → Show/Hide Folders or clicking the Show/Hide Folders button in the toolbar.
- **Show only Notes in a folder** by clicking the folder name in the Folders list, or click All iCloud to see all your notes.
- **Automatically sync notes with your iDevice by using iCloud or other Internet Accounts** by choosing Notes → Accounts, which will open the Internet Accounts System Preferences pane; then click the appropriate Internet account — such as Office 365 or Gmail — and enable its check box to sync Notes.
- Send the contents of a Note via the Mail or Messages apps by choosing File → Share or clicking the Share icon.
- **Print a note** by choosing File → Print or pressing ⌘+P.

*Whatever you type in a note is saved automatically as you type it, so Notes has no Save, Save As, or Duplicate commands.*

Other Notes goodies include a spell checker, spoken notes, text substitutions (such as Smart Quotes and Smart Dashes), and transformations (such as Make Upper or Lowercase). You can find all these options on the Edit menu.

Moving right along, El Capitan introduced four new features in Notes:

- You can drag and drop photos, PDFs, videos, and other files into a note, something that wasn't possible in Notes prior to El Capitan (10.11).
- The Attachments browser displays every external file you've dragged into every note in a single place, making it easier to find things. Click the Attachments button in the toolbar to see this feature in action; click the Attachments button again to go back to your notes.
- Use the Share menu in apps such as Safari and Maps to

add content to Notes.

- You can add checklists (in addition to bulleted, numbered, and dashed lists), as shown in the to-do list in the middle, by clicking the Checklist button in the toolbar, by choosing Format → Checklist, or by using the shortcut ⌘+Shift+L.

New in Sierra is the ability to share notes with others and allow them to edit them. Here's how it works: Click the Add People button in the toolbar and choose how you'd like to send your invitation: Mail, Messages, Twitter, Facebook, AirDrop, or Linked In.

If the person you invite is also running Sierra, she'll see the note in her copy of Notes; if they're running any other operating system, the note will open in the iCloud website for editing. When she's done, you'll see her edits in Notes on your Mac within a few minutes.

You now know everything you need to know to use and enjoy Sierra's new, beefed-up Notes app!

### 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



Tom Nelson posted the following article to [lifewire.com](http://lifewire.com) on March 6, 2017. [tinyurl.com/yc59ctj9](http://tinyurl.com/yc59ctj9). © About, Inc. He is a consultant and writer providing Macintosh training, advice, and support. He has written hundreds of articles, tutorials, and product reviews.

## Using the Mac Security Preference Pane

By Tom Nelson

### 1. Mac Security - Using the Mac Security Preference Pane



The Security preference pane allows you to control the security level of the user accounts on your Mac. Computer: iStock

The Security preference pane allows you to control the security level of the user accounts on your Mac. In addition, the Security preference pane is where you configure your Mac's firewall, as well as turn data encryption on or off for your user account.

The Security preference pane is divided into three sections.

**General:** Controls password usage, specifically, whether passwords are required for certain activities. Controls automatic log-out of a user account. Lets you specify whether location-based services have access to your Mac's location data.

**FileVault:** Controls data encryption for your home folder, and all of

your user data.

**Firewall:** Allows you to enable or disable your Mac's built-in firewall, as well as configure the various firewall settings.

Let's get started with configuring the security settings for your Mac.

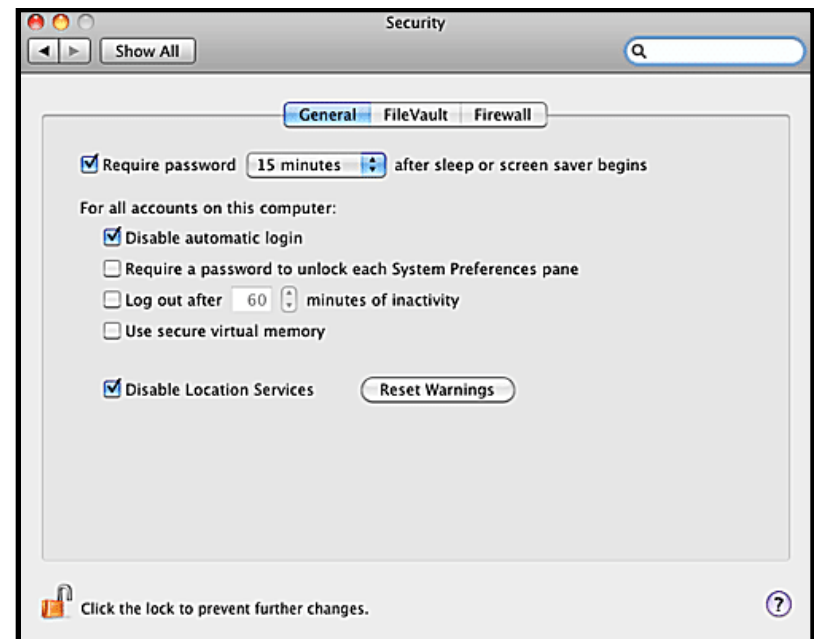
### Launch the Security Preference Pane

Click the System Preferences icon in the Dock or select 'System Preferences' from the Apple menu.

Click the Security icon in the Personal section of the System Preferences window.

Proceed to the next page to learn about the General configuration options.

### 2. Using the Mac Security Preference Pane - General Mac Security Settings



The General section of the Security preference pane controls a number of basic but important security settings for your Mac.

The Mac Security preference pane has three tabs along the top of the window. Select the General tab to get started with configuring your Mac's general security settings.

The General section of the Security preference pane controls a number of basic but important security settings for your Mac. In this guide, we will show you what each setting does, and how to make changes to the settings. You can then decide if you need the security enhancements available from the Security preference pane.

If you share your Mac with others, or your Mac is located in a place where others can easily gain access to it, you may wish to make some changes to these settings.

## General Mac Security Settings

Before you can begin making changes, you must first authenticate your identity with your Mac.

Click the lock icon in the bottom left-hand corner of the Security preference pane.

You will be prompted for an administrator username and password. Provide the requested information, and then click OK.

The lock icon will change to an unlocked state. You're now ready to make any changes you wish.

**Require password:** If you place a check mark here, then you (or anyone who attempts to use your Mac) will be required to provide the password for the currently account in order to exit sleep or an active screen saver. This is a good basic security measure that can keep prying eyes from seeing what you're currently working on, or accessing your user account data.

If you select this option, you can then use the drop-down menu to select a time interval before the password is required. I suggest selecting an interval long enough that you can exit a sleep or

screen saver session that starts unexpectedly, without needing to provide a password. Five seconds or 1 minute are good choices.

**Disable automatic login:** This option requires users to authenticate their identity with their password anytime they log on.

**Require a password to unlock each System Preferences pane:** With this option selected, users must provide their account ID and password anytime they attempt to make a change to any secure system preference. Normally, the first authentication unlocks all secure system preferences.

**Log out after xx minutes of inactivity:** This option lets you select a set amount of idle time after which the currently logged-in account will be automatically logged out.

**Use secure virtual memory:** Selecting this option will force any RAM data written to your hard drive to be first encrypted. This applies to both virtual memory usage and Sleep mode when the contents of RAM are written to your hard drive.

**Disable Location Services:** Selecting this option will prevent your Mac from providing location data to any application that requests the information.

Click the Reset Warnings button to remove location data already in use by applications.

**Disable remote control infrared receiver:** If your Mac is equipped with an IR receiver, this option will turn the receiver off, preventing any IR device from sending commands to your Mac.

## 3. Using the Mac Security Preference Pane - FileVault Settings

*FileVault can be very handy for those with portable Macs who are concerned about loss or theft.*

FileVault uses a 128-bit (AES-128) encryption scheme to protect your user data from prying eyes. Encrypting your home folder makes it nearly impossible for anyone to access any user data on your Mac without your account name and password.

FileVault can be very handy for those with portable Macs who are concerned about loss or theft. When FileVault is enabled, your home folder becomes an encrypted disk image that is mounted for access after you log in. When you log off, shut down, or sleep, the home folder image is unmounted and is no longer available.

When you first enable FileVault, you may find the encryption process can take a very long time. Your Mac is converting all of your home folder data into the encrypted disk image. Once the encryption process is complete, your Mac will encrypt and decrypt individual files as needed, on the fly. This results in only a very slight performance penalty, one that you will rarely notice except when accessing very large files.

To change FileVault's settings, select the FileVault tab in the Security Preferences pane.

### Configuring FileVault

Before you can begin making changes, you must first authenticate your identity with your Mac.

Click the lock icon in the bottom left-hand corner of the Security preference pane.

You will be prompted for an administrator username and password. Provide the requested information, and then click OK.

The lock icon will change to an unlocked state. You're now ready to make any changes you wish.

**Set Master Password:** The master password is a fail-safe. It allows you to reset your user password in the event you forget your login information. However, if you forget both your user account password and the master password, you will not be able to access your user data.

**Turn On FileVault:** This will enable the FileVault encryption system for your user account. You will be asked for your account password and then given the following options:

**Use secure erase:** This option overwrites the data when you empty



the trash. This ensures that the trashed data is not easily recoverable.

**Use secure virtual memory:** Selecting this option will force any RAM data written to your hard drive to be first encrypted.

When you turn FileVault on, you will be logged out while your Mac encrypts your home folder's data. This can take quite a while, depending on the size of your home folder.

Once the encryption process is complete, your Mac will display the login screen, where you can provide your account password to log in.

## 4 Using the Mac Security Preference Pane - Configuring Your Mac's Firewall

*The application firewall makes it easier to configure the firewall settings. Instead of needing to know which ports and protocols are necessary, you can just specify which applications have the right to make incoming or outgoing connection.*

Your Mac includes a personal firewall you can use to prevent network or Internet connections. The Mac's firewall is based on a

standard UNIX firewall called ipfw. This is a good, though basic, packet-filtering firewall. To this basic firewall Apple adds a socket-filtering system, also known as an application firewall. The application firewall makes it easier to configure the firewall settings. Instead of needing to know which ports and protocols are necessary, you can just specify which applications have the right to make incoming or outgoing connections.

To begin, select the Firewall tab in the Security preference pane.

## Configuring the Mac's Firewall

Before you can begin making changes, you must first authenticate your identity with your Mac.

Click the lock icon in the bottom left-hand corner of the Security preference pane.

You will be prompted for an administrator username and password. Provide the requested information, and then click OK.

The lock icon will change to an unlocked state. You're now ready to make any changes you wish.

**Start:** This button will start the Mac's firewall. Once the firewall has been started, the Start button will change to a Stop button.

**Advanced:** Clicking this button will allow you to set the options for the Mac's firewall. The Advanced button is only enabled when the firewall is turned on.

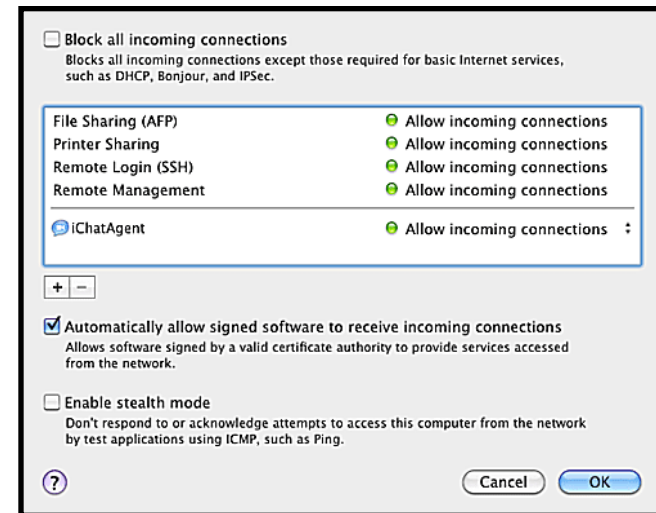
## Advanced Options

**Block all incoming connections:** Selecting this option will cause the firewall to prevent any incoming connections to non-essential services. Essential services as defined by Apple are:

**Configd:** Allows DHCP and other network configuration services to occur.

**mDNSResponder:** Allows the Bonjour protocol to function.

**raccoon:** Allows IPsec (Internet Protocol Security) to function.



If you choose to block all incoming connections, then most file, screen, and print sharing services will no longer function.

**Automatically allow signed software to receive incoming connections:** When selected, this option will automatically add securely signed software applications to the list of applications that are allowed to accept connections from an external network, including the Internet.

You can manually add applications to the firewall's application filter list using the plus (+) button. Likewise, you can remove applications from the list using the minus (-) button.

**Enable stealth mode:** When enabled, this setting will prevent your Mac from responding to traffic queries from the network. This will make your Mac appear to be non-existent on a network.



The following article was posted by Zack Whittaker to [zdnet.com](http://zdnet.com) on September 13, 2016. [tinyurl.com/yd98fott](http://tinyurl.com/yd98fott). © CBS Interactive. A criminologist, he is a journalist, writer and broadcaster who has been cited by a wide range of publications, including CNN, the Huffington Post and AllThingsDigital.

## Five Security Settings In iOS 10 You Should Immediately Change

These tweaks will lock down your iPhone or iPad to protect your privacy.

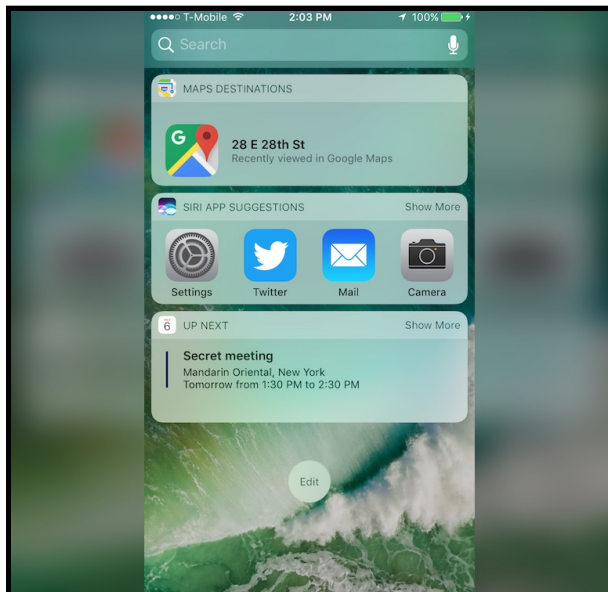
### By Zack Whittaker

The latest version of Apple's mobile operating system comes with some privacy improvements. Before you do anything like customizing your phone, loading new apps, or syncing your data for the first time, you should take a few steps to lock down your device and protect your privacy.

Here are the important tweaks to get you started.

### 1. Check for data-leaking widgets

The first thing you might notice are widgets, which give you an at-

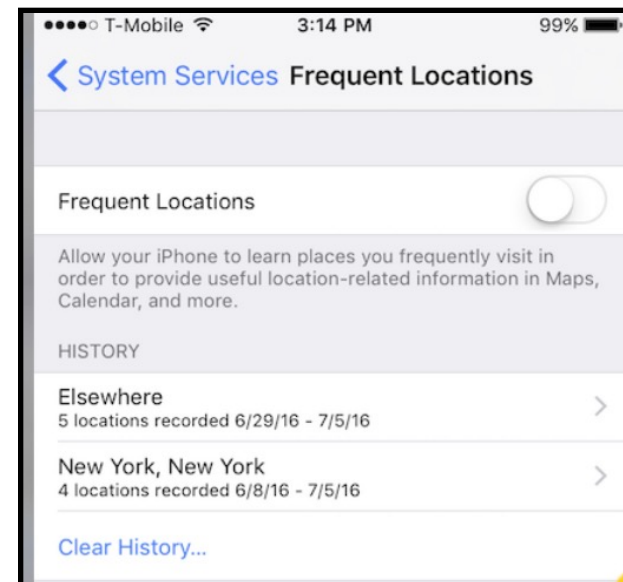


a-glance view of your day (where you're going, the news, your calendar, what's coming up next, and more). This swipe-right feature is available from your lock screen.

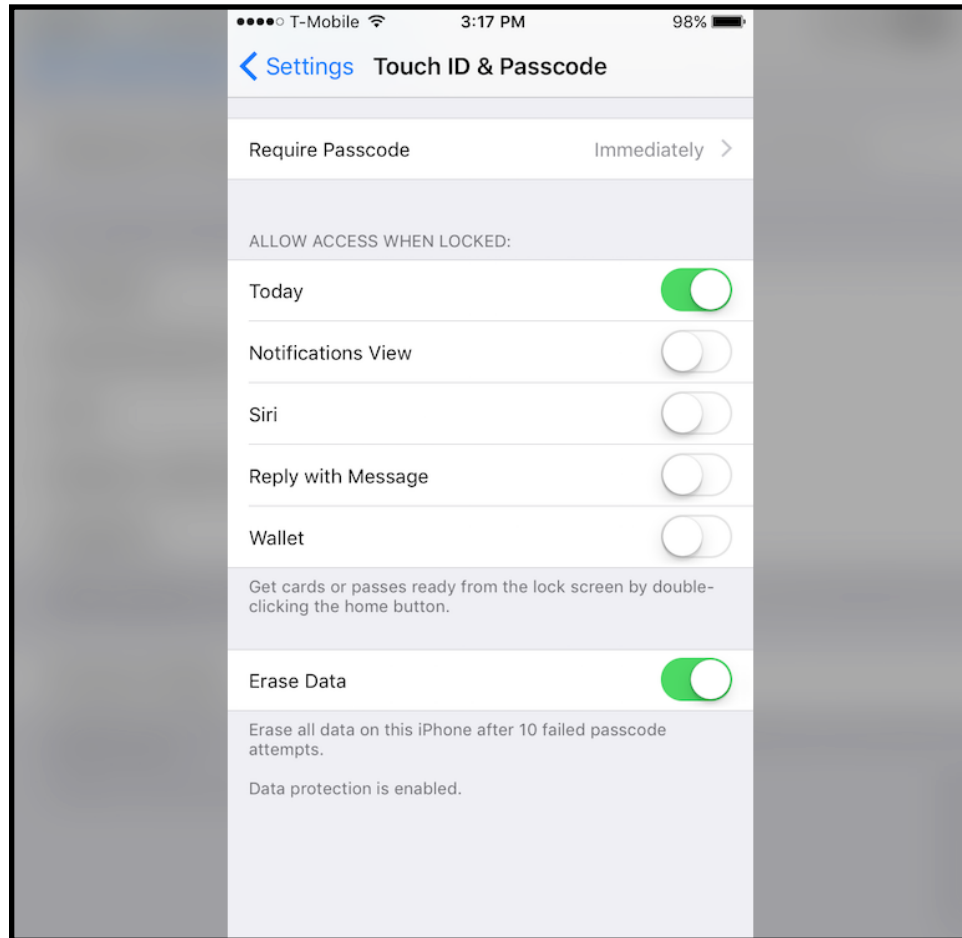
Notice anything that shouldn't be there? Check those data-leaking widgets by **unlocking your iPhone**, then swiping right to the widgets panel, and **scrolling down**. From there, select **edit**, and that's where you can modify what's displayed on the lock screen.

### 2. Lock down your location

Like previous versions, iOS 10 tracks where you go -- so long as you connect to wi-fi while you're there, such as a workplace, bar, coffee shop, or home. You can stop your phone or tablet from recording your "frequent locations" by going to **Settings > Privacy > Location Services > System Services** and then **Frequent Locations**. Once you're there, turn the option **off**. For extra privacy, hit the **Clear History** button.



### 3. Limit what your locked device can do

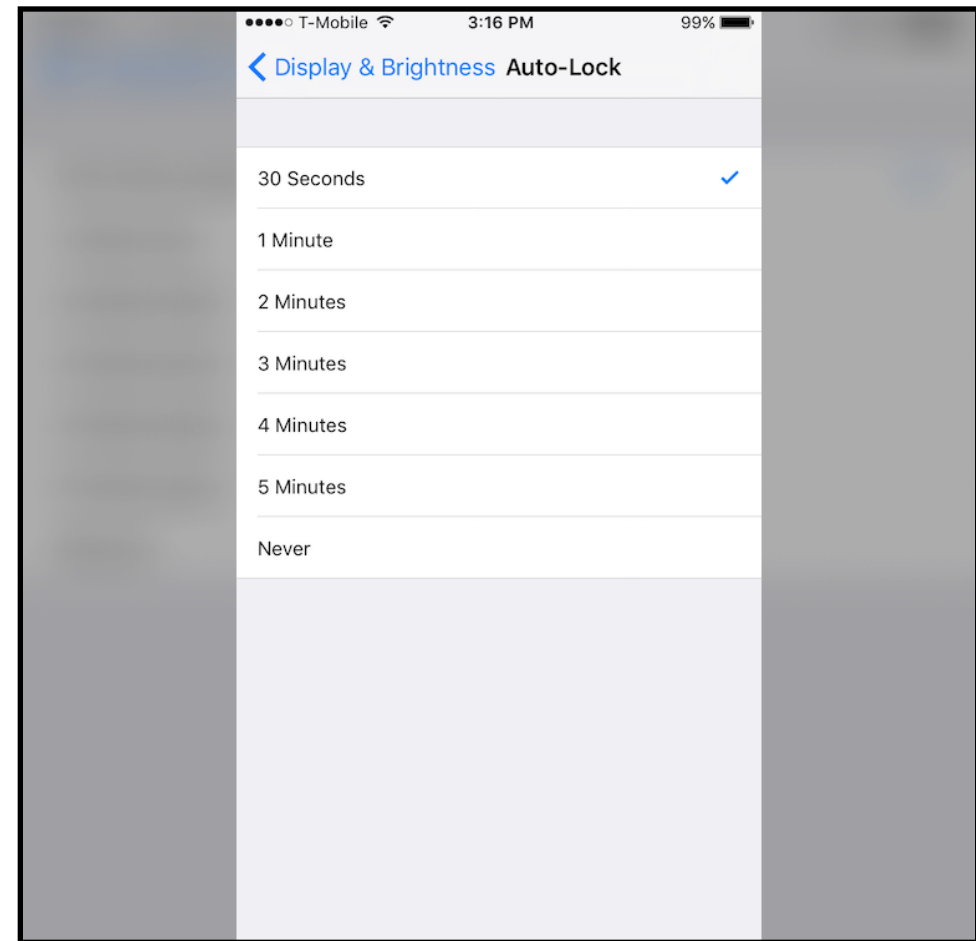


We've seen numerous cases before of the lock screen opening up opportunities for attackers to take control of your device or swipe data. You should prevent others from using Siri or being able to reply to your text messages.

By going once again to **Settings > Touch ID & Passcode**, you can limit what is available on your lock screen. For maximum privacy, all items should be disabled. But you can customize this depending on your preferences. You can also enable the **Erase Data** function so that your device erases its storage after 10 failed

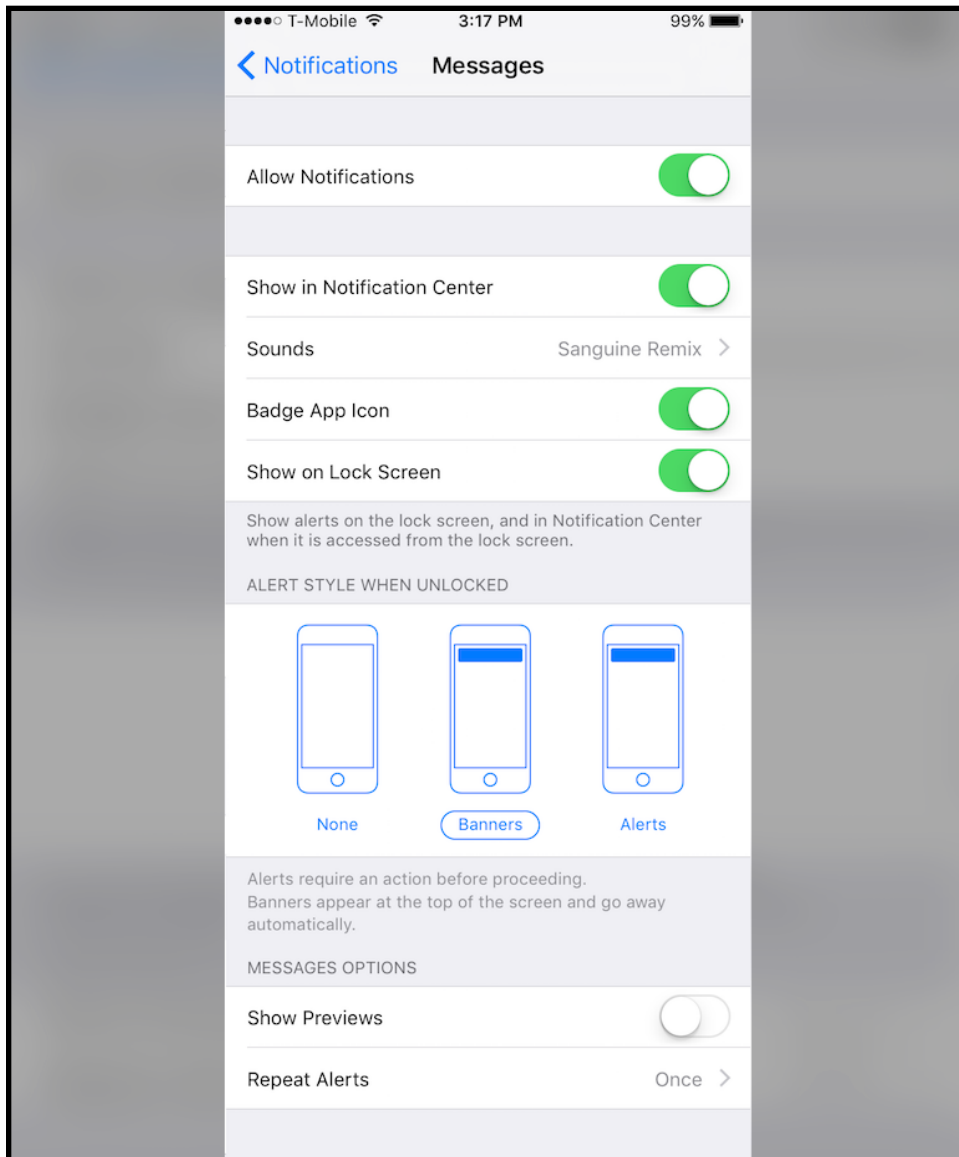
unlock attempts.

### 4. Lower your auto-lock timeout

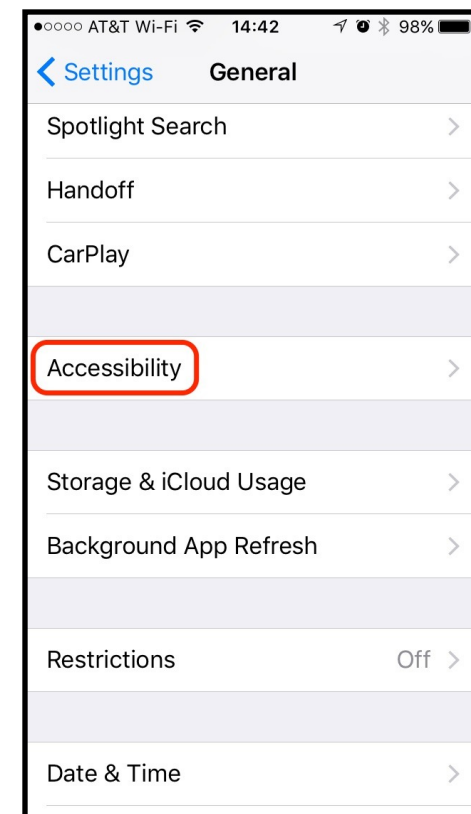


The shorter the lock screen setting, the faster your iPhone or iPad display will shut off before anybody can get access to it. You can lower the auto-lock period by going to **Settings > Display & Brightness > Auto-Lock**. Remember: lower is better.

## 5. Rein in your notifications



showing the sender of the message, go to **Settings** > **Notifications**, and then select **Messages** and **Mail** for text messages and email, respectively. From each screen, you can change the preview style. For maximum privacy, disable **Show Previews** so that message content won't be displayed on the lock screen.

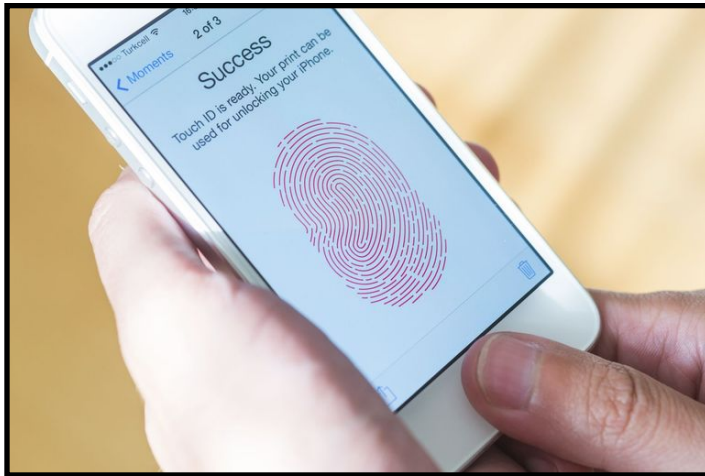


Just like previous versions of iOS, you can set your alerts and notifications to preview their content -- like text messages and emails -- on your lock screen, allowing anyone with access to your iPhone or iPad a glimpse. To limit this feature, for example, to just

Sam Costello posted the following article to [lifewire.com](http://lifewire.com) on April 10, 2017. [tinyurl.com/ydbw3mrj](http://tinyurl.com/ydbw3mrj). © 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.

## 7 Tips to Improve iPhone Security

By Sam Costello



When we talk about iPhone security, we're not talking about quite the same thing as security on a desktop or laptop computer. Sure, everyone wants to keep their data safe from people who they don't want to have access to it, but traditional computer security concerns like anti-virus software aren't really issues for iPhone and iPod touch owners.

Perhaps the most pressing concern when it comes to [iPhone security](#) isn't electronic, but physical: theft.

Apple's devices are attractive targets for thieves and are often stolen; so much so that as much as [18% of grand larcenies in New York City involve iPhone theft](#).

But just because theft is a major concern doesn't mean it's the only aspect of iPhone security you should care about. What follows are some tips that every iPhone and iPod touch user

should follow:

### 1. Prevent Theft

With theft being the biggest security threat to iPhone users, you need to take steps to keep your iPhone safe and make sure it stays yours. [Check out these anti-theft tips](#) for ideas on how to stay safe.

### 2. Set a Passcode

If your iPhone is stolen, you better make sure that the thief can't access your data. One of the best, and easiest, ways to that is my turning on your iPhone's built-in Passcode feature. [Learn more about the Passcode](#), including how to set one and what it controls. You can set a passcode after its stolen using Find My iPhone (more on that in a minute), but it's better to get in the good security habit ahead of time.

### 3. Use Touch ID

If your device sports Apple's Touch ID fingerprint scanner (as of this writing, that means the iPhone 7 series, iPhone 6 and 6S series, SE, and 5S, as well as both iPad Pro models, iPad Air 2 and [iPad mini](#) 3 and 4), [you should use it](#). Having to scan your fingerprint to unlock your device is much stronger security than a four-digit passcode that you can forget or that can be guessed by a computer with enough time.

### 4. Enable Find My iPhone

If your [iPhone does get stolen](#), Find My iPhone may be the way you get it back. This free feature of iCloud uses the phone's built-in GPS to pinpoint its location on a map so you (or, much safer and better, the police) can track it to its current location. It's a great tool for finding lost devices, too. Here's what you need to know when it comes to Find My iPhone:

### 5. Antivirus Software

Antivirus software is a core part of how we secure desktop and laptop PCs, but you don't hear too much about iPhones getting viruses. But does that mean that it's safe to skip using antivirus on



an iPhone? [The answer, right now, is yes.](#)

## 6. Don't Jailbreak Your Phone

A lot of people advocate jailbreaking your phone because it allows you to [customize your smartphone](#) in ways not approved by Apple and install apps that have been rejected for inclusion in the official App Store. But if you want your iPhone to be as secure as possible, stay far away from jailbreaking.

Apple has designed the iOS—the operating system that runs on the iPhone—with security in mind, so iPhones aren't subject to viruses, malware, or other software-based security threats common to PCs and [Android phones](#).

Except for jailbroken phones. The only viruses that have struck iPhones have targeted jailbroken devices, for instance. So, [the lure of jailbreaking](#) may be strong, but if security is import, don't do it.

## 7. Encrypt Backups

If you sync your iPhone with your computer, the data from your phone is also stored on your desktop or laptop. That means that the data is potentially accessible by people who can get at your computer. Secure that data by encrypting those backups. This prevents someone who doesn't know your password from getting access to your data by using your computer.

Do this in iTunes when you sync your iPhone or iPod touch. [On the main sync page](#), in the Options section below the picture of your device, you'll see a checkbox called **Encrypt iPhone backup** or **Encrypt iPod backup**.

Check that box and set a password for the backup. Now, if you want to restore from that backup, you'll need to know the password. Otherwise, no getting at that data.

## Optional: Security Apps

There aren't a lot of apps that will improve your [iPod touch](#) or iPhone security right now—though that may change in the future.

As iPhone security becomes a bigger issue, expect to see things

like VPN clients and antivirus suites for the iPhone or iPod touch. When you do see them, though, be skeptical. Apple's design for the iOS is very different than, say, Microsoft's for Windows and it's much more secure. Security is unlikely to become as big a problem on iOS as it is on other OSes.

It's also important to note that some tools available at the App Store that appear to perform heavy-duty security functions—like fingerprint or eye scans—don't actually perform those tests. Instead, they use another security protocol that they disguise by appearing to perform those scans. Before you buy security apps at the [App Store](#), make sure you're clear on what the app does and doesn't do.



**Software Review: ChronoSync 4.7.3****Test System:** Mac Mini running Sierra 10.12.5**Price:** \$49.99/\$24.99**Company:** Econ Technologies, Inc.**URL:** [www.econtechologies.com](http://www.econtechologies.com)**System requirement:** macOS 10.8 & later**Reviewer:** Stan Horwitz

ChronoSync provides functionality that is difficult to find in the Mac world; an application that synchronize a pair of folders. ChronoSync does that and much more.

Why would you want to synchronize a pair of folders? Suppose you have a Mac laptop and a Mac desktop. Like many people, you primarily work on your documents on your laptop, but you also want your documents be saved to your desktop so you work them on your desktop and ensure they're backed up.

If you keep all your documents in a folder called "in progress," for example, you can have ChronoSync synchronize its contents between your two Macs. This is different than a conventional backup. With synchronization, if you work on a document on your laptop, it will be copied to your desktop for you or vice versa.

I installed ChronoSync on my Mac mini, in my home office. I set it up to synchronize a folder called "important stuff" on my DropBox cloud disk. In this folder, I keep bank statements and my budget spreadsheet. I have my DropBox disk mounted on my Mac mini and my MacBook Pro. I can use ChronoSync to copy any new files from my "important stuff" folder on my DropBox disk to a corresponding "important stuff" folder on my Mac mini's external disk drive.

Suppose I update my budget spreadsheet on my laptop. The updated spreadsheet file will be synchronized by DropBox so it is visible to my Mac mini, then ChronoSync will see your synchronize my "important stuff" folder on my Mac mini's external disk drive.

ChronoSync is available for download at [www.econtechologies.com](http://www.econtechologies.com). The full version costs \$49.99. An

express version costs \$24.99. See the website for information on the two versions and the optional features. Free technical support and updates are available to users who purchase ChronoSync.

Installing ChronoSync is a breeze! The installer is a 44MB DMG file, which contains an installer, an uninstaller, a quick reference guide, and a link to detailed online documentation.

Starting ChronoSync for the first time shows a window that offers the opportunity to register it or use it on a free 15-day trial.

The synchronization feature is easy to set up. ChronoSync can only synchronize one pair of folders at a time, but ChronoSync can keep a predefined collection of folders in sync. It can also synchronize files on your iOS devices.

ChronoSync can also clone hard drives and do backups. ChronoSync is configured with the ChronoSync dashboard. The dashboard and the configuration controls are intuitive.

Configuring ChronoSync is easy. You can have it either do traditional synchronizing, or you can have it keep multiple copies of your documents. There are numerous options on how to configure ChronoSync. I chose the most basic options. You can also set up ChronoSync to sync on a daily schedule.

Synchronizing is fast! I barely had time to blink before it finished synchronizing roughly 45 files in my "important stuff" folder the first time.

I like ChronoSync for its well designed dashboard, easily configured options, and its speed. I give it 5 out of 5 apples.

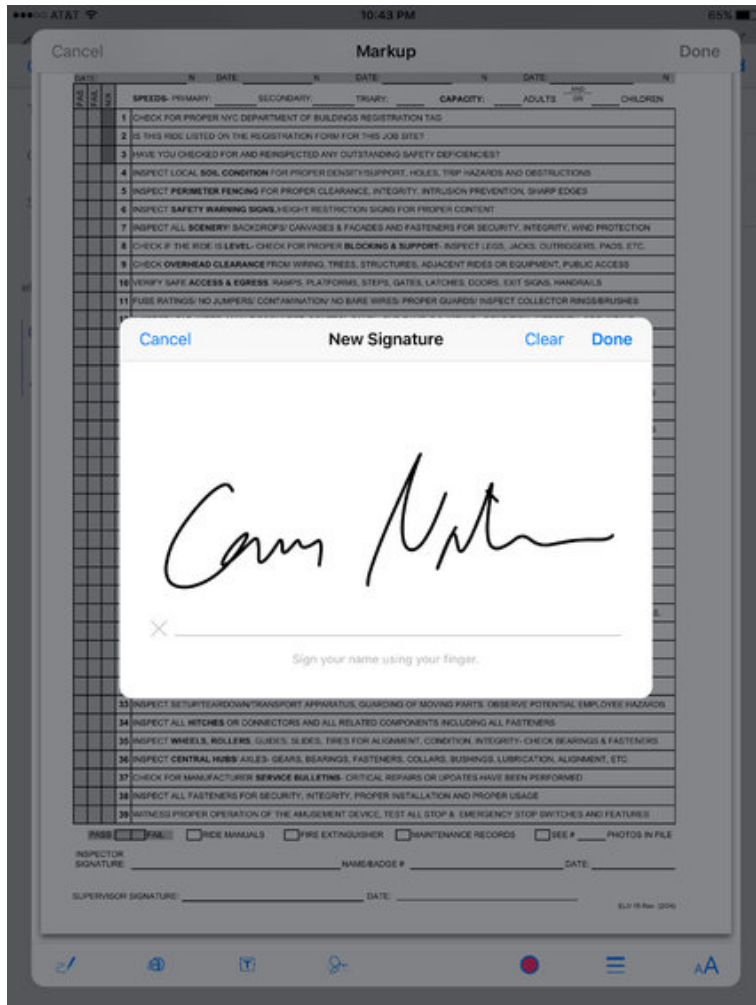


Stan works in the Computer Services office at Temple University and is primarily responsible for data protection and disaster recovery. Stan lives in Philadelphia's Art Museum area with his cat Darwin. He has been a Mac user and enthusiast since 1986.

J. D. Biersdorfer posted the following article to the *nytimes.com* on September 12, 2016. [tinyurl.com/ybp362lr](http://tinyurl.com/ybp362lr). © The New York Times Company. She is a member of the newsroom technology staff at the Times.

## Put Your Signature on the Digital Dotted Line

By J.D. Biersdorfer



Sign your name in the box, tap the Done button and drag your signature into place.

**Q.** Is it possible to sign a PDF using an iPad?

**A.** With an update to the Mail app in last year's iOS 9 software, Apple added a [Markup tool for annotating PDF files](#) sent as attachments. If you are not sending the documents by email, third-party apps like [Adobe Acrobat Reader](#), [Evernote](#) and many others also let you sign and annotate PDF files on iOS devices and other platforms (like Android).

If you need to sign a PDF file attached to a Mail message, first press and hold the attachment icon until the box of sharing options appears on the screen. If you are sending the attachment yourself, tap the Markup icon. If you have been sent the PDF and merely want to digitally sign it and return it to the sender, tap the Markup and Reply icon. A copy of the file will appear on the screen.

Once you enter Markup mode, a new toolbar appears along the bottom of the PDF file. By tapping the various tools, you can write or draw on the document, zoom in on sections, type in text — or add a digital version of your signature to drag into place on the appropriate line of a form.

To add your John (or Jane) Hancock to the file, tap the Signature icon near the middle of the toolbar. In the box that appears, sign your name with your fingertip, Apple Pencil or other compatible iPad stylus. When you have finished, your signature will appear in a floating box on the screen that you can drag into place on the document. Tap the Done button in the corner of the window when you have finished annotating the file and want to send it along in its updated state.

Jason Snell posted the following article to [macworld.com](http://macworld.com) on May 25, 2017. [tinyurl.com/keotg7h](http://tinyurl.com/keotg7h). © Mac Publishing, LLC. Jason has been a technology writer for more than 20 years and has a Master's degree in journalism. He was Macworld Editorial Director.

## How iCloud Photo Library Matches Up To Google Photos

By Jason Snell

Google announced major additions to Google Photos at I/O 2017. Where do Photos and iCloud Photo Library have to catch up, and should we be looking for from Apple at WWDC?

Last week at the Google I/O developer conference, Google announced a raft of forthcoming additions to its Google Photos service. Since Google Photos runs on iOS and in any web browser, it's a serious photo-storage option for Mac, iPhone, and iPad users—and in many ways, it's way ahead of Apple's Photos apps and iCloud Photo Library service.

Then again, WWDC—Apple's own developer conference—is in just two weeks. It's an opportunity for Apple to declare where it's taking Photos and iCloud Photo Library next. In the meantime, though, it's worth pointing out where Google Photos is beating Apple's offerings, and where Apple's ahead—and how WWDC could be poised to change both sides of the equation.

### Apple's advantages

I've spent an awful lot of time with Photos and iCloud Photo Library. You could say that I wrote the book on it, because I have. Spending that much time up close with any product makes you appreciate its features and deeply understand its flaws.

Photos and iCloud Photo Library seem to be knocked reflexively by Internet commentators and critics alike, which is unfortunate—it's actually a pretty impressive collection of features that work quite well. Keep in mind that iCloud Photo



Library and the overhauled Photos app for Mac are only a couple of years old, and that the machine-learning features that allow Photos to let you search for all your photos of cats or zebras was only introduced last fall. These are, in some ways, Apple's baby steps with a new product.

Apple's Photo offering has a few big advantages over Google Photos. If you're a Mac user who prefers native apps to web apps, for example, Apple has a huge advantage—Photos is a real Mac application, while Google Photos runs entirely inside your web browser.

There's also the matter of security. With Google Photos, your entire photo library is available on Google's servers, to be processed and analyzed in whatever way Google sees fit. In contrast, images in iCloud Photo Library are encrypted and Apple can't see them when they're off your device. There are a lot of advantages to Google's approach, which I'll get to shortly, but if you're someone who feels uneasy about giving Google access to your personal data, Google's approach will be a huge turn-off.

Finally, iCloud Photo Library has an advantage on iOS that's tied in to Apple's status as the owner of the operating system. The Photos app can sync to iCloud Photo Library automatically, but third-party apps like Google Photos don't have unlimited power to remain running in the background. Google Photos does its best to work around these limitations, but in my experience I can always count on my iCloud Photo Library to be properly synced with the latest changes in my library; with Google Photos, it's a bit of a crapshoot.

### Google's advantages

Though Google's reliance on analyzing your photos in the cloud is a drawback if you're concerned about privacy, it's got a lot of advantages. First among them, your photos need only to be analyzed once—and using Google's powerful server hardware. Apple's approach with Photos requires that every image be scanned for potential keyword matches on





your device—which takes time and uses processor power, as many people discovered when they upgraded to iOS 10 or macOS Sierra last fall. What’s worse, the machine-learned keywords don’t sync via iCloud, so every device you use has to re-scan your entire library—a huge waste of time.

With any luck, the next versions of macOS and iOS will allow photo data to sync across devices, saving this step. But the larger issue remains: Google’s ability to scan (and re-scan) your photos in the cloud lets it work faster and improve scanning quality as it adjusts its algorithms.

Google also seems to have a head start on Apple when it comes to using machine learning; at the very least, the company has been quite vocal about how much it’s investing in its learning systems, while Apple’s been quieter on that front. However, I’m reluctant to claim that Google is destroying Apple in this area.

I just did some random spot checks on my photo library in both Google Photos and Apple’s Photos app: Both of them produce some impressive finds as well as some laughable misfires. Yes, if I search for dogs in Photos, I’ll get photos of cows and cats. But when I do the same search on Google Photos, guess what? Cats and pairie dogs. That’s the state of machine learning today—on both sides of the fence.

However, Google’s announcements last week show that it’s planning on leveraging what it learns about your photos in some clever new ways. The new suggested sharing feature will notice if people in your contacts list are present in photos you take, and ask if you want to share those photos with them. That’s a smart feature that Apple could implement, too—and is consistent with the Memories feature added to Photos last fall, which intelligently groups subjects and locations into collections.

Google Photos will soon be able to print photo books, which will not come as news to Photos and iPhoto users who have been able to do this for more than a decade. But the fact that Google will use metadata gleaned from scanning photos via machine learning in order to assemble the books is intriguing. Apple’s book- and

calendar-creation tools have languished since the iPhoto days; maybe people would be more inclined to print books or photos if the same technology that powers Memories could be used to lay them out?

Google’s announcements at I/O included one that’s been on my mind in the two years since Apple introduced iCloud Photo Library: Sharing your library with a trusted partner. Though Apple has offered the ability to link iTunes accounts used by a family together for a while now, that feature is basically unconnected to iCloud Photo Library. (The one exception is a family shared album, which lets you manually choose to share photos—scaled down to three megapixels in size—with other family members.)

My wife and I have wanted to pool our photo libraries for ages now—the alternative is for me to occasionally plug her iPhone into my Mac and import her photos, and for her to ask me to AirDrop photos I’ve taken to her when she wants to post them to Facebook. Google Photos will allow that now—and Apple needs to follow suit.

But, you’re saying to yourself, what if you want to share some but not all photos with a partner? Google’s announcement takes this extra step, letting you specify that certain sorts of photos—for example, photos of specific people—be shared, while others aren’t. While offering an all-or-nothing library sharing feature would be nice, it’s even better if sharing can have some granularity. Google’s headed there now. Will Apple follow?

Google’s added even more intelligence to something that was already a strength of Google Photos—intelligently analyzing your photos and suggesting ways to make them better. At I/O, the company demonstrated an editing tool that detected a chain-link fence between a camera and the subject and removed it automatically. Google Photos already will assemble animated GIFs out of a series of still photos, ready for sharing.

This sort of stuff is smart, because it offers new ways to enjoy and share our photos without requiring us to do extra work. That’s one of the next frontiers of photo technology—how do we take the tens

of thousands of photos in our libraries and the dozens more we shoot on a daily basis and do something with them? It's too much for a person to wade through manually. We need intelligent assistants to help us do the job. Google and Apple are both heading there. I hope Apple's still working hard on this front and we'll find out more in June at WWDC.

Finally, one last note about where Apple's behind: The cost of storage. Google offers unlimited free photo storage, though if you've got very large photos or videos, those items will be stored at a reduced resolution. If you pay extra to keep those large items

at full resolution, Google's cloud storage costs what Apple's does, but it's awfully hard to argue with free. Apple allowing families to share storage would be a positive step, as would offering a free tier that would allow a generous amount of iPhone backup and photo storage.

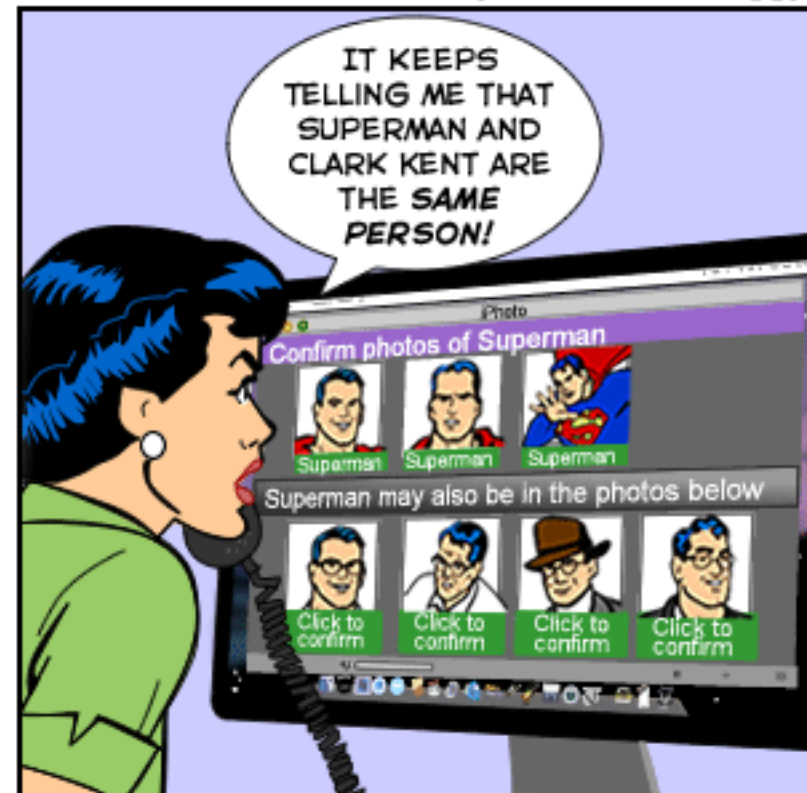
Apple's photo offerings aren't out of the game. It's got some tough competition, but it's been making strides of its own. Let's hope that with iOS 11 and the next version of macOS, Apple's approach to storing and sharing photos keeps getting better.

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