



Washington Apple Pi Journal

Apple's New iPad Pro — Just a Bigger iPad?

See page 11



The logo features a blue square with rounded corners containing the text 'ent the pi' in white, stacked vertically. To the right of this square, the words 'Washington Apple Pi' are written in a bold, black, sans-serif font. Below 'Washington Apple Pi', the word 'Journal' is written in a large, bold, red, serif font.

Washington Apple Pi Journal

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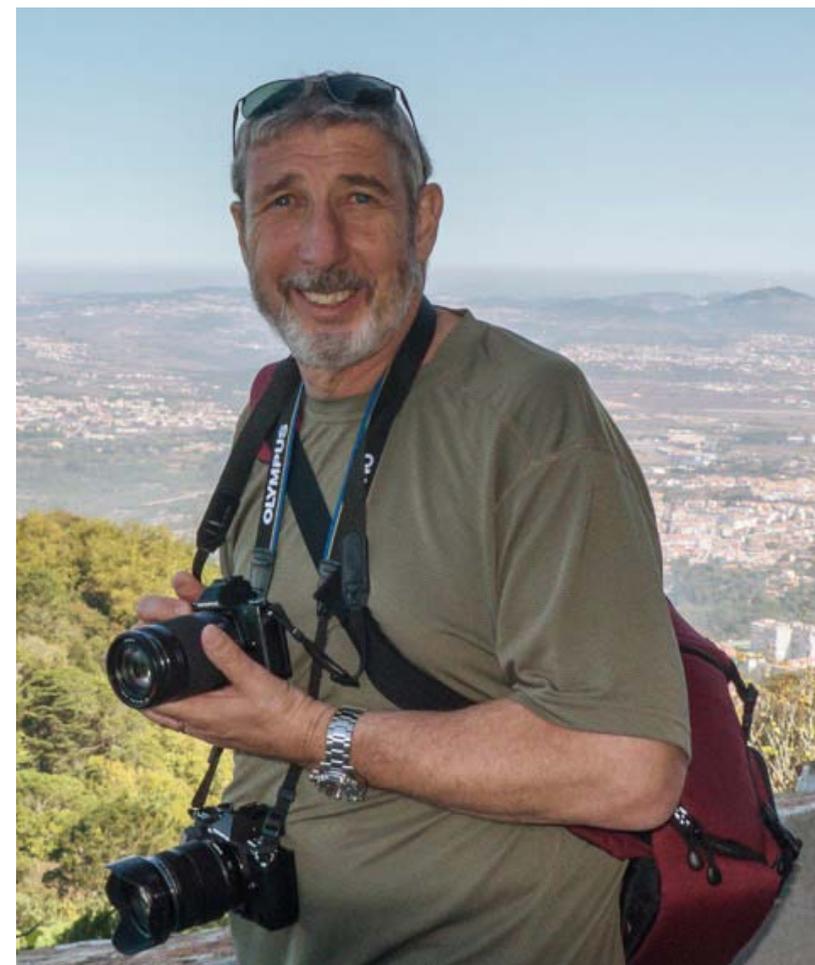
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President's Page

Hi, everyone, my name is Ken Goldman and I have the honor of being the new president of Washington Apple Pi.

Let me tell you a bit about myself. I originally come from the New York metro area (Queens and Long Island). I attended The Johns Hopkins University in the early 1970s and, upon graduation, I went to work as an engineer for what is now called the Naval Surface Warfare Center, Carderock Division, better known as the David Taylor Model Basin. Except for a five-year stint working for the US Coast Guard Office of Research and Development in the early 1980s, I worked for the Navy for just under 40 years. I retired just about two years ago and have spent my time traveling, taking photos and becoming more involved in both the Pi and my camera club.

As someone with a technical bent who grew up reading science fiction, I was always interested in computers. At college I remember late nights at the computer lab preparing punch cards for the batch run on the IBM mainframe. At that time I also was able to use a dial-in service to write BASIC programs and save them to paper punch tape! In my senior year, one of my professors acquired a PDP-11 that I had an opportunity to play with. In order to boot this computer, we had to enter instructions in oc-



tal by flipping switches on the front, then hitting the ENTER button, before flipping the switches to enter the next line of code.

After graduating, I was able to use a few large computers at work for data, but I didn't get into home computing until 1980 when I purchased a Commodore VIC 20. This was followed a couple of years later by a Commodore 64, and then an original IBM PC. Over the next several years I owned a string of DOS and Windows machines (local clone, home made, Gateway,

Dell...). In 2005, after my daughter moved to Africa, she ordered a MacBook Pro, which she had shipped to our house. When it arrived, she asked me to set it up and download and install software. Up to this point, I had used Macs at work for graphics and data plotting, but had never really spent any time getting to know the computer. Coincidentally, I was also thinking of buying a laptop. After working with her MacBook, I was impressed by the operating system, the software, and the build quality of the machine, so I went out and bought a MacBook Pro of my own.

One of the first things I did after purchasing the MacBook Pro was to join Washington Apple Pi. I had heard about the Pi, and being a newbie, joining seemed like a logical next step. In the years since then, my Pi membership has been both enjoyable



and educational. I have learned a lot, and I have met very many wonderful people. As I developed some expertise, I was always happy when I could help others, and that I could give back to the Pi by writing a few articles for the *Journal*, being a board member, and now serving as president. I am continually working with the board to find ways to make the Pi a better organization for you. Please send me your thoughts and ideas at

kenneth.goldman@wap.org

and check out my various web presences at

about.me/ken.photo.geek

Finally, I would like to thank Diana King for her years of very capable leadership. She is a hard act to follow, but I will do my best.

Editor's Page

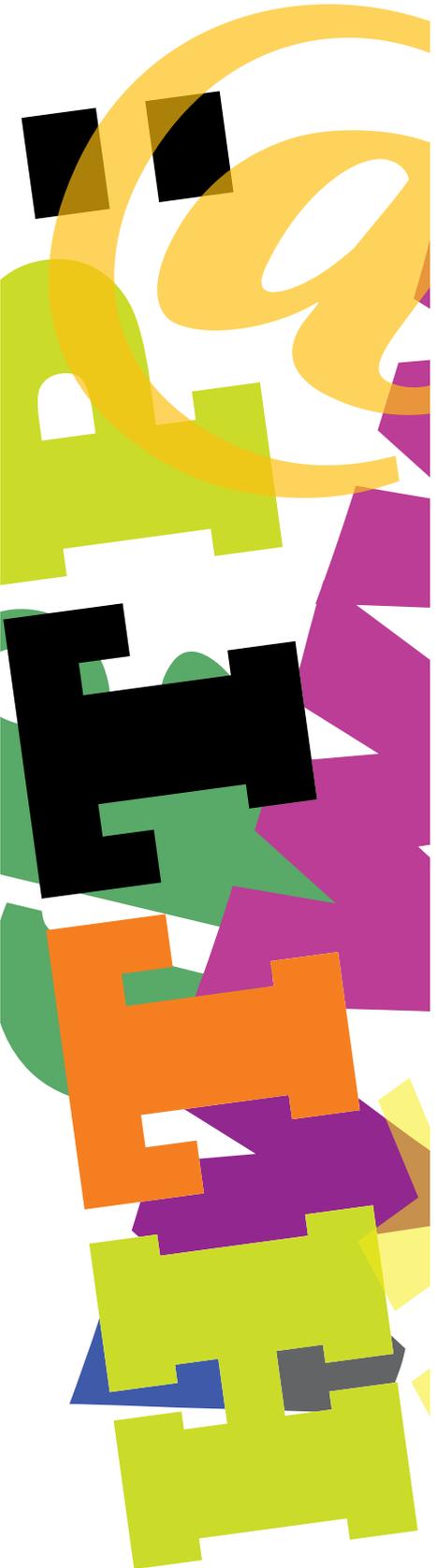
For many years the Washington Apple Pi has provided the *Pi Journal* to its members. We generally receive very favorable comments on the content, style, and professionalism of the *Journal*. Until the last few years, we have held to our goal of publishing six issues per year. Now we are unable to do that.

We have traditionally depended on articles submitted by our members to populate the *Journal*. We have limited our reprinting of articles published elsewhere to a couple per issue. We believe that the value of our members' original submissions is important to the Pi community. As our membership has declined in recent years, member submissions to the *Journal* have also declined significantly. The last few years, almost all of the articles have been written by a handful of Pi members. We are truly grateful to them, but they have only so much to share.

We have gone from bimonthly, to quarterly, to intermittent publication of the *Journal*. Our *Journal* editorial staff is all volunteer, and we can only beseech the membership to continue to contribute. We should have at least six articles to make a single *Journal* issue viable. So please help us to maintain the excellence and continuity of the *Pi Journal*.

There seems to be a lot going on in the Apple world for us to write about. What about something about the Apple Watch? Has anyone tried out any new "internet of things" devices? Is anyone trying the new Verizon "Custom TV" bundles? Is anybody buying the new iPod Touch? How about a review of the new iPhone 6s and 6s Plus? We welcome all submissions to editor@wap.org.





Hot Links

- Grandad, tell me how the Apple watch came to be:

<http://www.wired.com/2015/04/the-apple-watch/>

- A clean Apple product is a happy Apple product. Here is how to ensure a clean machine:

<https://support.apple.com/en-us/HT204172>

- Help me Siri! I have entered the wrong passcode into my iOS device six times in a row and I'm locked out, and it tells me it is disabled! What do I do?

<https://support.apple.com/en-us/HT204306>

- Do you want to synch, backup, or restore your iOS device from iCloud?

<http://www.imore.com/how-set-sync-backup-and-restore-icloud-ultimate-guide>

- O.K., I'm ready to try Apple Pay. Where can I use it?

<http://ios.wonderhowto.com/how-to/which-stores-accept-apple-pay-always-up-date-list-0158076/>

- What is this "code" of which you speak?

<http://www.bloomberg.com/graphics/2015-paul-ford-what-is-code/>

- I'm not buying a new car from you unless it has Apple CarPlay:

<http://www.apple.com/ios/carplay/>



Learn About the *Find My iPhone* App Before You Need It

Ann Melchior

At an Afternoon Learners Special Interest Group meeting earlier this year, I talked about how my husband and I found an iPhone lying in the street one day, while we were walking our dogs. The battery was dead, so we took it home to see what we could do to locate the owner. I planned to put a notice on my neighborhood's listserv, and if that failed, turn it over to the police. I did not have to do either, though. After charging the phone, I was surprised to see a message on the lock screen telling me that the phone was lost and giving me a number to call to return it to its owner.

Which of course, I did. And when the college-age youth who lost it came to retrieve it I asked him, "How did you get your iPhone to display a message with your phone number?" He said it was simple. He did it by going to <https://www.icloud.com/> on a computer and using the wizardry of the *Find My iPhone* app.

That intrigued me. I wanted to learn how he did it in case I ever lost one of my devices. So I did a bit of research. I discovered that *Find My iPhone* allows users to create a "you found my iPhone" message for their device's lock screen when the user reports to Apple that the phone is missing.

What is a Lock Screen? And How Do You Personalize Yours?

IPhones and iPads have lock screens that appear when you first press your device's home button, or when your lock time expires during use. The lock screen does exactly what its name suggests: it locks out unauthorized users. It is designed to keep your data secure. If someone finds your device he or she cannot get past the lock screen without having your passcode or (on newer devices) your fingerprint.

You can personalize lock screens. Apple provides several attractive wallpapers from which to choose, or you can use any pho-

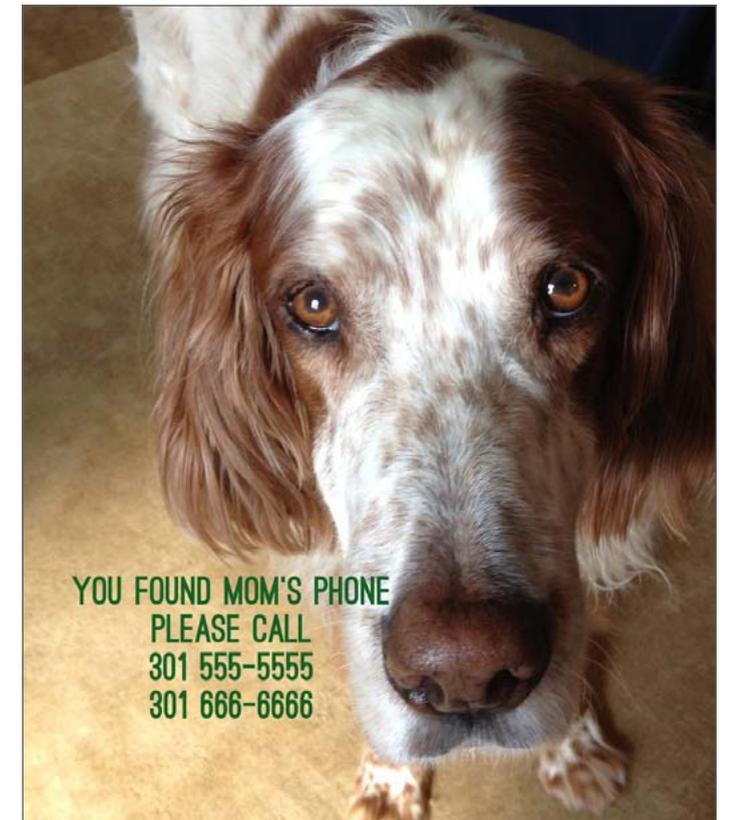


Figure 1. Personalized Lock Screen Photo

tograph stored in your device's *Photos* app. Here's how:

- Open "Settings" on your device.
- Select "Wallpaper."
- Select "Choose a New Wallpaper."
- On the next screen you may select an Apple wallpaper from their Dynamic or Stills collection. Or, if you prefer, scroll down to the Photos section of this same screen and

And when the college-age youth who lost it came to retrieve it I asked him, "How did you get your iPhone to display a message with your phone number?" He said it was simple.



select a photo from your own collection.

- If you select a photo from your collection, you will be able to Move and Scale the photo before you Set it in place. You can use the photo for your lock screen or your home screen, or both.

OK, now that you have personalized your lock screen's wallpaper, you'll want to familiarize yourself with *Find My iPhone*, so you'll be ready in case you ever actually lose your iPhone or iPad.

What is *Find My iPhone* and How Do You Use It?

Find My iPhone is a utility that enables the Apple user to pinpoint the location of their Apple computers or other devices on a map using GPS. *Find My iPhone* works on iCloud.com. In addition, Apple offers a free app that makes it easier to use the utility on iOS devices. So download the *Find My iPhone* app from the App Store. Remember though, that you must enable *Find My iPhone* in the iCloud settings on your device before you can locate your device with the utility.

Once you have installed the *Find My iPhone* app on your iPhone and iPad, you will be ready to act quickly if you misplace your device or if it is stolen. Here's how: First open the *Find My iPhone* app on another Apple device, or log into iCloud (<https://www.icloud.com/>) using any computer (Apple or PC) with internet access. Once connected, you will see a map with your iPhone icon displayed. Tap the icon, and you will see three options at the bottom of the screen. You can activate any of the three *Find My iPhone* services Apple offers:

Play a Sound: Direct Apple to play a sound ("ding!") on any of your devices or computers by following the screen prompts. This is useful if you misplace your iPhone or iPad but know it is nearby. (Of course, you could simply call your iPhone from another phone and listen for the ring; this does not require you to activate the *Find My iPhone* app.)

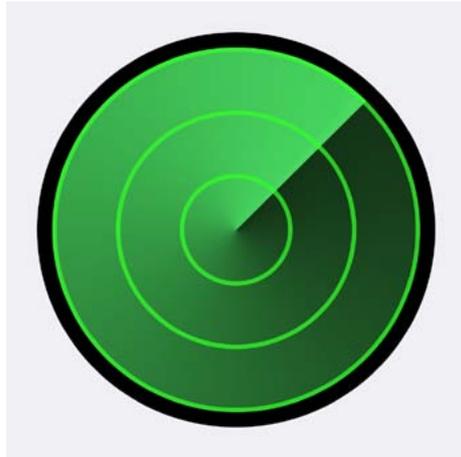
Send a Message: Direct Apple to place a message on the Lock Screen of any Apple device. The Apple-generated message will

say, "This iPhone has been lost. Please call me at (select a phone #)." A Call prompt in green text will appear on the same screen. When the finder taps it, your missing iPhone will call that phone number - from the lock screen - so the finder can tell you he or she has found your phone.

Remote Lock or Swipe: This feature directs Apple to remotely erase the contents of a computer or other device. You would use this feature when you fear the contents of your device are at risk of being accessed. This assumes you have backed up your information, of course.

Closing Thoughts

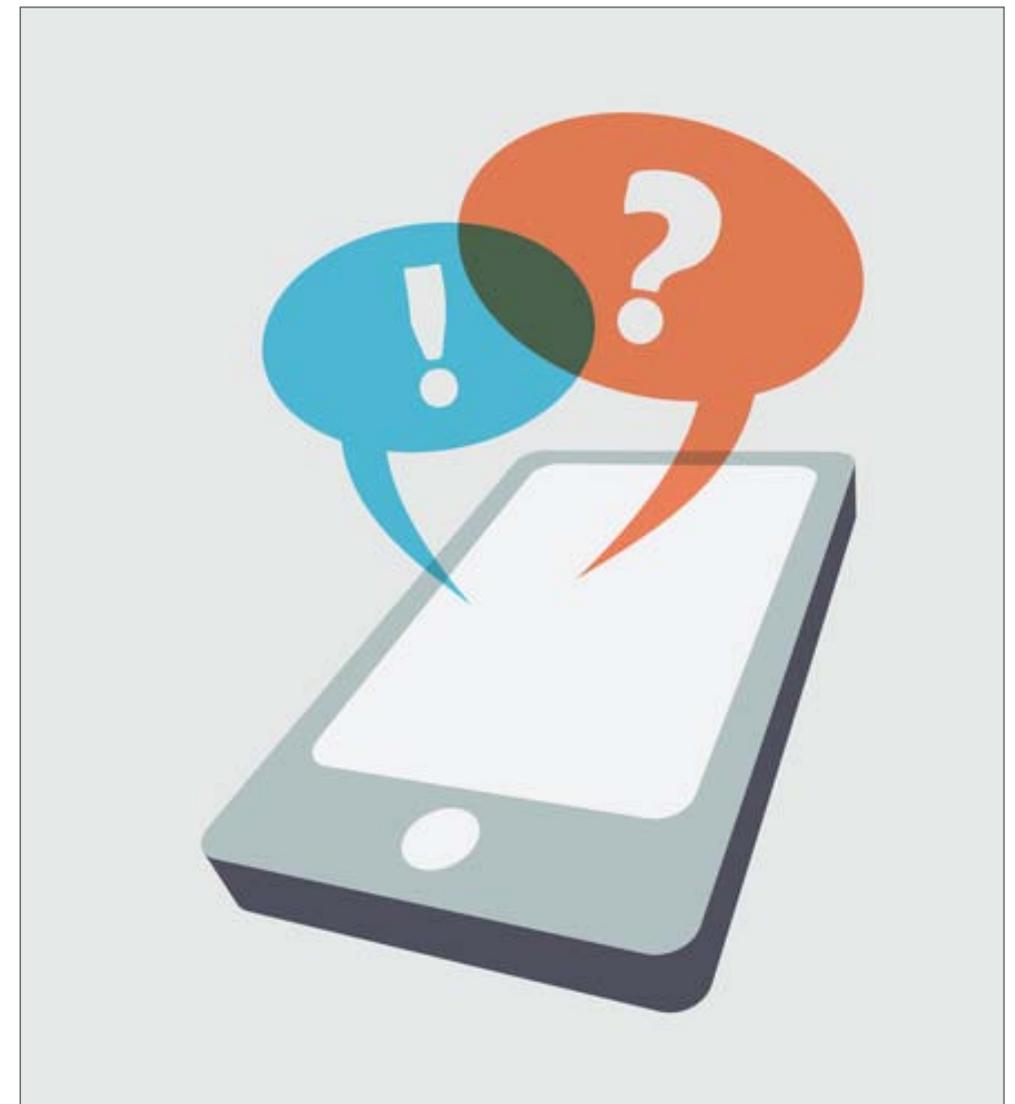
As I learned doing research for this article, *Find My iPhone* is a good tool to have. After playing with it a bit I feel much more comfortable that if I ever needed it, I would be ready. So, while I felt sorry for the young man whose iPhone spent a few cold nights on the street, his bad luck led me to educate myself about *Find My iPhone*.



One final note. Being one to plan for the worst, I decided to proactively place text on my iPhone and iPad lock screens, something like this:

“Please return this iPhone to Ann at (301) 555-5555.”

Putting text on your lock screen does not involve using the *Find My iPhone* app. All you need is a photo application that allows you to place text on a photograph. You may already have a computer application that will do this (for example, Apple’s *Preview*, *Skitch*, *Voila*, *Photoshop*, and *Photoshop Elements* to name a few). Or you can do it right on your iOS device using one of the many put-text-on-photo apps available in the App Store. I bought an app called *Over* (\$1.99) to create my lock screen photos. Once you create your text-on-photo picture, you simply save it, transfer it to your device’s *Photos* app, and select it for your home screen.



Apple's New iPad Pro - Just a Bigger iPad? ...A Different Perspective

Richard Orlin



When Apple announced the new iPad Pro this fall, I swore that I would not get another iPad, especially one that cost as much as a Macbook Air. Yet after I viewed the announcement and looked at the videos, I was intrigued by the iPad Pro/Apple Pencil combination.

As a cartoonist and artist, I saw the promise of mobile painting when the first iPad came out back in the Stone Age. I was

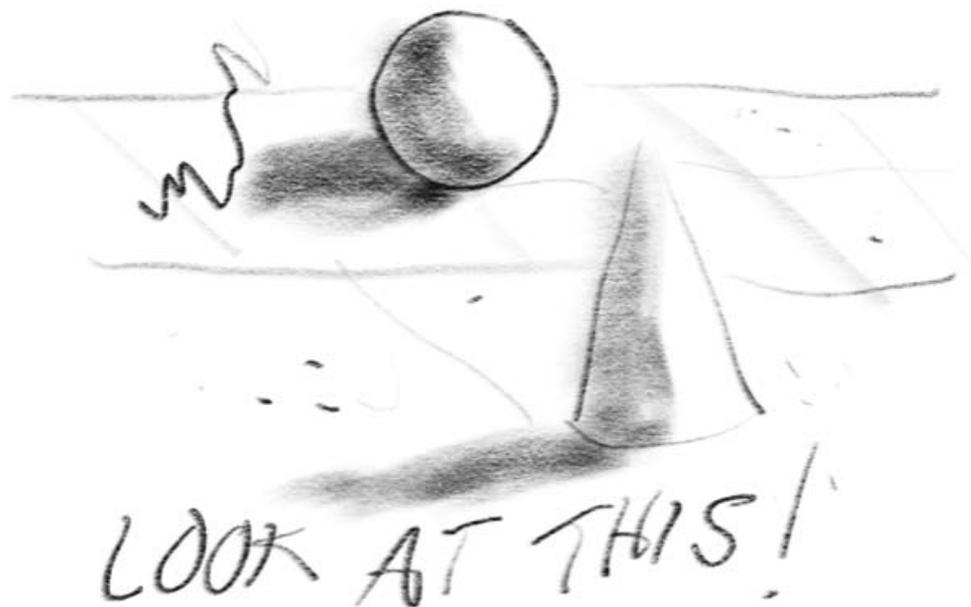


Figure 1: First Test of an Apple Pencil.

first in line to buy one and several successive revisions, ending up with an iPad Air that almost fulfilled my requirements. After being frustrated with its inability to be a useful creative tool, compared to my Wacom tablet with its 2048 levels of pressure sensitivity, I mainly used the Air for reading e-books, watching YouTube videos, and catching up on email. I have a small box filled with styli that I've tried to use with my iPad(s) that never quite worked as well as the Wacom tablet and pen. Several Bluetooth styli promised to give me the feel of working with natural media, but they always fell short, with either a terrible lag between drawing a line and seeing it on the iPad, or with a gap between the point and the line.

If Apple's September announcement was to be believed, the new iPad Pro and Pencil just might be a creative person's dream mobile tool. I held off buying one until I could read some real-world hands-on reviews, but they didn't start to appear until after the release date in November. Then I stopped at my local Apple Store to check out the new iPad and Pencil, and it was everything that Apple promised and more. See figure 1 to check out my first test of the Apple Pencil.



Drawing on the iPad Pro with the Apple Pencil was equal to working with paper and pencil. I still hesitated because of the price: \$950 for the 128GB model and another \$99 for the Pencil. Oh well, dream on. I always check out open-box Apple items whenever I'm in a Best Buy store, and there, to my surprise, was an open-box 128GB iPad Pro marked down to \$892. There was a savings of \$58, and I also happened to have \$205 in Reward Zone coupons. Out the door for \$779. Woot!



Now, in order to keep it from being “just a bigger iPad,” I had to find an Apple Pencil. However, no one within a 100-mile radius had one in stock. It seems that they were all sold out a day or two after the release date. I would have thought that Apple could plan better than that. They were blindsided and delivery estimates were five to six weeks from date of order. As luck would have it, shortly after getting my iPad Pro, I called the Apple Store at Tysons Corner when they opened at 10 AM. They had ten Pencils in stock! By the time I got there 20 minutes later, I got the last one! At last, I had an Apple Pencil.

A little about the iPad Pro itself. It's hefty by iPad standards. At a pound and a half and almost 13 inches diagonally, it's not suitable for casual stuff like one-handed reading or walking around. But it's fine for reading with two hands or with

the iPad Pro resting on my lap. Holding it in landscape and reading a book in *iBooks*, I can view two pages side-by-side, almost like a real book. The display is stunning. With a resolution of 2732 x 2048 and 264 pixels per inch it's the highest resolution display on any iOS device. Photos, videos, and even text look big and crisp and real. The only knock I could give it is that it doesn't have 3D Touch that Apple introduced with the iPhone 6S. This is something that would have been more useful on a large tablet with multitasking than on a small-screen phone.

Talk about speed! The iPad Pro has Apple's newest chip, the A9X, which supposedly has twice the CPU and graphics performance of the iPad Air 2. In addition, the four speakers (both top and bottom of the short sides) self-adjust to whatever orientation you choose. The sound is superb, with the bass coming from the bottom speakers and the high end from the top. This is the first iPad that I can actually hear easily without earbuds. Battery life meets the advertised ten hours and both cameras, 8-megapixel rear and 1.2-megapixel front, are adequate. However, this is not the iPad you want to be holding up to take pictures with, unless you want to look like a total dweeb.

Specs are nice, but what I can do with the iPad Pro is more important. For me, as a creative artist, I was more interested



in how it worked with the Apple Pencil and the art app I use constantly with my iPads: *Procreate*. It. Just. Works.

In Figure 2 you can see a quick sketch I did in *Procreate* to give you an idea of what the Apple Pencil can do.

To briefly sum up: It's a great iPad, it's expensive, and it's not for everyone. For me, without the Apple Pencil, I found it to be just a bigger iPad. But, with the combination of iPad Pro and Apple Pencil, Apple has a winner.



Figure 2: Quick sketch in *Procreate* using soft colored pencils.

Zagg Folio Review Revisited

Diana King

In the *Pi Journal* published early in 2014 I authored a review of the Zagg Folio Keyboard for iPad. The testimonial was positive because I was very pleased with the device. I have now used it for nearly two years and still believe it to be a good product.

However, in the past few weeks I found that the hinge between the two sections (the keyboard and the case that holds and protects the iPad) was creaking when I opened and shut the device. Finally I saw that the plastic hinge was cracked and split-



ting apart. Was I going to have to come up with another \$100+ for a new Folio or buy another brand of keyboard?

I went to the Zagg company website and the Contact Us page. I wrote a note explaining the problem and sent it off. A day later I had an email answer from the company saying that even though the product was beyond the one-year warranty, they would make an exception and send me a new one for free. I called the phone number in the email, and received confirmation that all I had to do was agree to return the broken Folio within a month after receiving the new one or I would be charged the full price. The only hitch was that I would have to wait until early November because that model was currently on back order.

The deal was too good to pass up, so I agreed and settled down to wait. But within a week, to my amazement, the new keyboard arrived! I just wanted to let other Pi members know that this company does seem to stand behind their products. If anyone else bought a Zagg Folio, take note.



Take A Spin, and Discover Great Local Food with *Spotluck*

©2015 Jonathan Bernstein

Do you like to discover local restaurants that offer varied and interesting menus, and save money too? If so, try *Spotluck*, a cool new iOS App.

What is *Spotluck*?

Spotluck is a local app, that so far operates only in the DC metro area. It offers discounts to local restaurants through what the young creators of the app call a “gamified” approach to preferred pricing. Spin a wheel to find restaurants with discounts ranging from 10-25%, depending on the particular time you’re headed out to dine. (See Figure 1.)



Figure 1. Spin for points and bonuses with *Spotluck*.

This app works best when you want to go out to eat but don’t have a particular place in mind. And it incentivizes dining on weeknights and at other low-traffic times, when it’s especially difficult for the smaller local restaurants to sustain themselves. I’ve even seen a “Weather Bonus” offering more discounts when less intrepid diners shy away from going out. A recent @spotluck tweet, <https://twitter.com/spotluck/status/617328129304956928>, shows the app’s Google-like approach to the recent July 4th holiday!

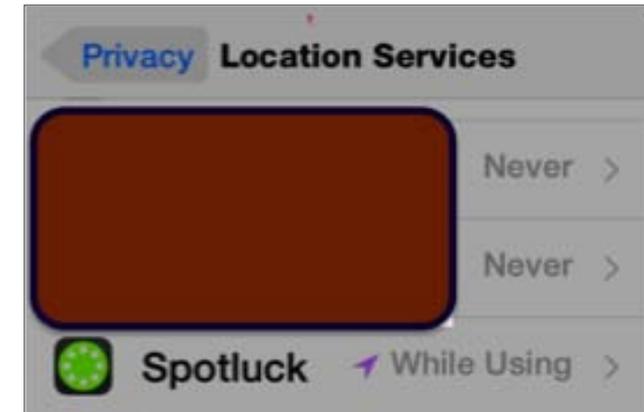


Figure 2. When you set up your *Spotluck* account, the app will ask you to Enable Location services.

Spotluck is much easier and more fun to use than social discount apps like Groupon and Living Social. For me, one of the compelling features is that once you lock in a discount and eat at a restaurant, you can send a nonpublic review directly to the restaurant. *Spotluck* has received some local press from northwest DC, <http://tenleytowndc.org/2015/05/08/dining-app-puts-tenleytown-on-the-map/>. And not surprisingly, @spotluck is very active on social media.

How Do You Use *Spotluck*?

Download *Spotluck* from the App Store and register a free account. You’ll then receive a request for location services (see Figure 2). To use this hyper local app, you’ll want to allow Location Services.

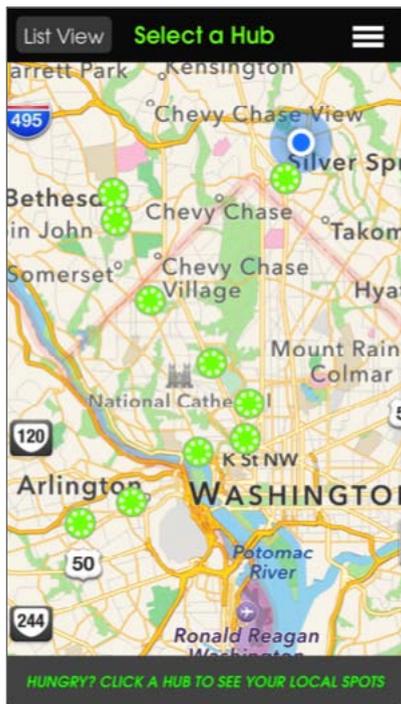


Figure 3. This map shows you the Hubs where *Spotluck* operates..



Figure 4. You can also view the Hubs in a list.

Once you register, you'll see a map with the areas where *Spotluck* operates, called Hubs (see Figure 3). You can change from a map view to a list view too (see Figure 4). As you can see, the Hubs are mostly in northwest DC, and the close-in Maryland and VA suburbs.

Choose the Hub closest to you by touching it. Once you select the Hub, you'll see the Wheel (Figure 1). In the center is "Spin For HotSpot" and the wheel shows a series of local restaurants clustered around it. Below the wheel find additional restaurants in that Hub. Check the list below, and if there's a place there you'd like to include, drag it into the wheel.

When you touch Spin, the fun begins! The wheel spins around like "Wheel of Fortune." Restaurants with discounts ranging from 10% to 25% will circle until finally one restaurant appears in the center of the wheel.

If you choose that restaurant, the new center message is "Lock-In Discount," with an icon and description of the restaurant, plus other buttons that show location map, menu, and even pictures from the restaurant. When you arrive at the restaurant, press the center button, and show the open app to your waiter. They'll confirm the discount, and that's it! As always for this type of discount, you'll see a tip engine with a reminder to tip on the undiscounted cost of your meal. Remember to take advantage

of the chance to rate and comment on the restaurant directly to the establishment.

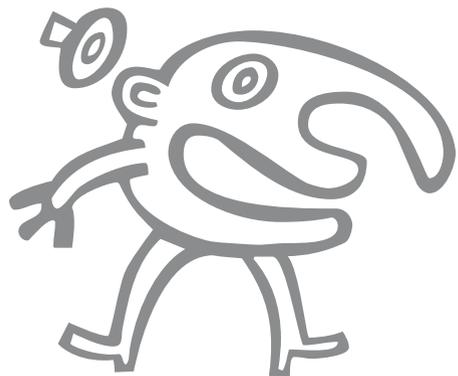
Conclusion

Spotluck is the trending but still unusual combination of foodie and local community. Back in May of this year, *Spotluck* helped sponsor a local Silver Spring restaurant crawl in a neighborhood of varied independent shops and restaurants. Their energy and enthusiasm contributed greatly to the event. (See Figure 5.)



Figure 5. The *Spotluck* mascot livened things up at the local Silver Spring restaurant crawl in May of 2015.





Zombies at Clubhouse Saturday!

Ann Zabaldo

Ha! Made you look! Truly — would you have glanced down at this copy if the headline read: What I Learned At Clubhouse Saturday? With apologies to the Zombies and a bow to the prosaic Clubhouse Saturday headline, see below what I learned in just one session today at Clubhouse Saturday.

About Taking Photos

Are your iPhone photos as truly marginal as mine? This morning I learned —and just in time for the Pi iPhone photo contest:

1. How to put a grid on the iPhone viewer that divides the screen into thirds. This is very important for composition.
2. How to correct the exposure.
3. How to use the volume buttons on the side of the iPhone to snap the photo instead of trying to use a thumb to press the “click” icon on the touch screen. When using the icon the phone always shakes or slips. No more blurry photos!
4. How to use the three-second delay to automatically snap the photo — don’t even need to use the volume buttons! The iPhone stays STEADY!

5. Fundamentals of composition. In less than 15 minutes my photos went from trashcan to museum quality! OK, I exaggerate (a lot), but now my photos deserve a second look.

6. How to crop a photo, using *Preview* on the Mac or on the iPhone itself.

About Building Web Sites

Do you miss *iWeb*? That wonderfully, truly simple web builder that even my Schnauzer could use? Don’t talk to me about *WordPress* — both my business and a non-profit board I serve on had to hire webmasters just to keep up with the add-ons and changes and updates.

Today, I learned about a variety of web site builders that even I can use. I even started building a web site at the Clubhouse! For those of you yearning for the simplicity of *iWeb*, try <http://www.wix.com> or <http://www.weebly.com> or the *EverWeb* app for Mac.

About Files

Messy files? Can’t find something when you need it? Tired of searching for files in folder after folder housed in other folders? The folder “tree” or hierarchy on my computer is extensive. I

Today, I learned about a variety of web site builders that even I can use. I even started building a web site at the Clubhouse!

spend more time navigating to a file than I do retrieving it. Not anymore! Today at Clubhouse Saturday I learned how to add tags to my files — no more file folders! Tags on the Apple computer work similarly to the tag system in *Evernote*. Now if only I could do the same for email, eliminating those pesky file folders.

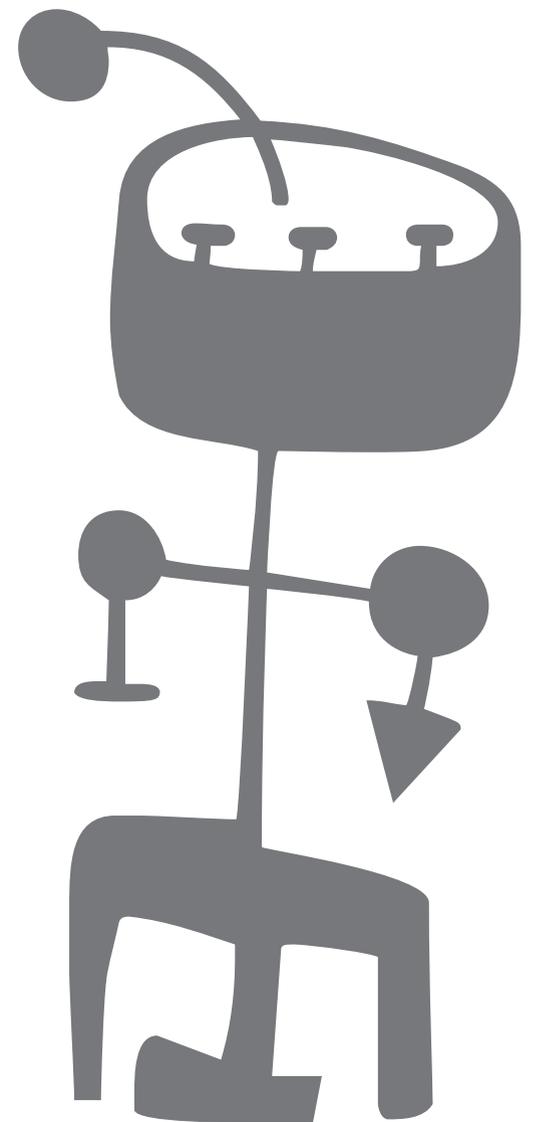
I also learned how to use *Spotlight* more effectively. Using this search tool, I actually found some files that I had heretofore considered lost.

About Scanning

I learned about the SnapScan scanner, that the Pi is using to digitize old paper *Journals*. It is a very fast scanner for copying files, and does double-sided copies on the same pass.

All in all, I learned a lot of really useful stuff. I also had a really good time meeting new folks and catching up with old friends. Join me and the other Zombies among the Pi folks at the next Clubhouse Saturday!

Editor's note: *The author won first place in the Novice Traditional category in this year's Pi photo contest. Could it be because of what she learned at a Clubhouse Saturday?*



Comparing U.S. iPhone Plan Costs in a Contract-Free World

Josh Centers and Adam C. Engst

With Apple's launch of the iPhone 6s (see "[iPhone 6s and iPhone 6s Plus Get Touchy Feely](#) [1]," 9 September 2015), many people are considering an upgrade. But if you're on one of the four major U.S. cellular carriers, things are likely to be quite different this time around. Depending on your situation, this may also be an excellent opportunity to switch to a different carrier. Most Americans have become accustomed to the contract model of cellular service. Instead of paying the full \$649 for a low-end iPhone, for instance, you paid \$199, with a two-year service agreement. The carriers essentially subsidized the \$450 difference, making up for it (and usually generating more profit) by increasing your monthly service charge and ensuring that you'd stay a customer for the duration of the contract.

That contract model is going the way of the DVD, with T-Mobile leading the way and Verizon dropping the contract entirely. Going forward, most people will shell out full price for an iPhone, either all at once or spread out through monthly payment plans.

All the carriers offer some type of payment plan, and Apple, AT&T, Sprint, and T-Mobile also have plans that make upgrading easy. In exchange, you'll pay less for service and won't be stuck in a contract. This is how most of the rest of the world has long purchased mobile phones and service. Here's a run-down on how getting your next iPhone will work, but note that prices (and even the availability of an installment plan) may vary depending on your credit score.

Buying the iPhone

First, let's look at what's familiar: contract pricing. The two-year contract price for an iPhone 6s will start the same as previous iPhones: \$199. But where can you still get a contract?

From AT&T, for one, but only directly from AT&T. If you buy an iPhone through the Apple Store, you have to sign up for the AT&T Next installment plan or the iPhone Upgrade Program, which we'll explain shortly. On the flip side, Verizon no longer offers contracts directly, but if you purchase an iPhone

from the Apple Store, you can still get it with a two-year contract. Finally, Sprint still offers old-fashioned two-year contracts by itself and through the Apple Store, but it has new options as well. In general, though, contracts aren't good deals, since the monthly embedded subsidy cost is often more than subsidized price of the iPhone.

So, let's look next at what is arguably the simplest option: all four carriers will let you pay the full price for the iPhone 6s or iPhone 6s Plus. Here's what each model costs from Apple:

- iPhone 6s 16 GB: \$649
- iPhone 6s 64 GB: \$749
- iPhone 6s 128 GB: \$849
- iPhone 6s Plus 16 GB: \$749
- iPhone 6s Plus 64 GB: \$849
- iPhone 6s Plus 128 GB: \$949

Depending on your carrier and plan, paying full price may save you money in the long run. Because no-contract plans don't include the cost of the device in your monthly bill, you're incentivized to keep

the phone as long as possible. If you don't mind dropping big money up front and you can keep your phone working for more than two years, you'll enjoy lower monthly payments and thus less money over time. Not everyone will be able to swing \$649–\$949 up front for a phone. That's OK, Apple and the carriers have you covered there, too, letting you split up the cost of the phone into 24 payments — making your bill similar to what it was under the contract system. Happily, we saw no finance charges for spreading out the cost in this fashion. Verizon and T-Mobile make this payment plan simple. For either, the monthly payment for a 16 GB iPhone 6s is \$27.08, for a total price of \$649.92. Sprint offers an Easy Pay option that costs \$27.09 per month. All three are fair deals.

The AT&T Next plan offers more choices, but is wildly confusing (note that the upgrade requires trading in your old phone in working order):

- **AT&T Next 24:** Divided into 30 installments; upgrade after 24 installments
- **AT&T Next 18:** Divided into 24 installments; upgrade after 18 installments
- **AT&T Next 12:** Divided into 20 installments; upgrade after 12 installments

- **AT&T Next with down payment:** Pay 30 percent of the iPhone cost as a down payment, divided into 28 installments; upgrade after 12 installments

If you purchase an iPhone 6s via AT&T Next 18 (confusingly split into 24 payments), you would pay \$27.09 per month for your iPhone 6s, the same as Sprint.

To add further chaos to the mix, T-Mobile and Sprint offer different payment plans that let the tech-savvy upgrade more often. Let's look at each in turn.

T-Mobile offers [JUMP! On Demand](#) [2], which lets you trade in your phone for another one up to three times per year. Of course, you still have to make the monthly payment, but as a launch promotion, T-Mobile offered the 16 GB iPhone 6 for only \$15 per month. Folks who got in on that promotion will be able to [upgrade to a newer iPhone](#) [3] for no additional cost, and they'll get priority on available stock.

Pretty good deal, if you got it. T-Mobile is also offering a [new JUMP deal for the iPhone 6s](#) [4]. You can get an iPhone 6s for \$20 per month or an iPhone 6s Plus for \$24 per month. Presumably these are 16 GB models, and there's no word on how much larger storage

sizes will cost.

Sprint is offering an [iPhone Forever](#) [5] deal, where if you trade in a working smartphone, you can get an iPhone 6s for \$15 per month, with a 22-month plan, but you can trade it in at any time. The \$15-per-month price is a limited-time promotion — the usual price is \$22 per month, which is what you'll pay once you upgrade the \$15-per-month iPhone 6s to the next model. Be aware that with the early upgrade plans from AT&T, T-Mobile, and Sprint, you will have to trade in your old phone to upgrade, though you may be able to pay a fee to keep it. These plans are largely for those for whom the latest tech is important. Be sure to read the fine print carefully; the details can be tricky.

And now Apple has entered the iPhone installment game as well, making the carriers almost irrelevant.

iPhone Upgrade Program — With the iPhone 6s, Apple is launching the iPhone Upgrade Program, which lets you upgrade every year and includes AppleCare+ protection. Here are the monthly prices for the iPhone Upgrade Program:

- iPhone 6s 16 GB: \$32.41

- iPhone 6s 64 GB: \$36.58
- iPhone 6s 128 GB: \$40.75
- iPhone 6s Plus 16 GB: \$36.58
- iPhone 6s Plus 64 GB: \$40.75
- iPhone 6s Plus 128 GB: \$44.91

Note that the iPhone Upgrade Program is more expensive than the carriers' installment plans, thanks to the addition of the \$129 AppleCare+ (it was \$99 for iPhones prior to the iPhone 6s).

There are other catches as well. To sign up, you must go to a physical Apple Store, though you can schedule an appointment online. Also, the AppleCare+ accidental damage fee is rising from \$79 to \$99 for the iPhone 6s and iPhone 6s Plus. Like the other early upgrade plans, you'll have to trade in your iPhone 6s if you upgrade to the iPhone 7. Lastly, the program requires iPhone activation with a national carrier — AT&T, Sprint, T-Mobile, or Verizon, so you can't take advantage of it and then go to an off-brand cellular reseller.

The cool thing about the iPhone Upgrade Program is that the iPhone comes unlocked, so in theory, you could switch between national carriers at any

time. Let's see what those plans look like now. Note that I'm not including taxes, fees, and miscellaneous discounts, so if you want to compare to a current contract plan, look carefully at a recent bill and take those numbers into account.

T-Mobile — To call T-Mobile CEO John Legere a "character" would be an understatement. With his pink shirts, leather jackets, long hair, and profane tirades, you'd be forgiven for mistaking him for a rock star. Well, he is a rock star of sorts, and he is single-handedly changing the American cellular market. Since 2013, T-Mobile has branded itself the "Un-carrier," dropping contracts and subsidies in an attempt to become more profitable. The moves weren't always popular, such as when T-Mobile abandoned [employer discounts](#) [6], but [T-Mobile's business has been booming](#) [7] since it became the Un-carrier. If you've been with T-Mobile for a while, none of this comes as a surprise. As for plans, the [Simple Choice](#) [8] plans are well named: they include unlimited voice minutes and SMS text messaging, and a given amount of data for a fixed monthly price.

1 GB of data for \$50 per month

3 GB of data for \$60 per month

5 GB of data for \$70 per month

Unlimited data for \$80 per month

Plan prices get more complex but cheaper with a [family plan](#) [9]. Two lines cost \$80 per month: \$50 for the first line, \$30 for the second. Both lines feature unlimited talk and text and 1 GB of data. Three lines will run you a total of \$90 per month, including the third line at \$10 per month, again with unlimited talk and text, plus 1 GB of data for each line. Each additional line, up to six total, costs another \$10 per month.

If you need more than 1 GB of data per month, things get tricky, but stick to the same pattern. For the first line, each higher tier of data is an extra \$10 per month: \$60 for 3 GB, \$70 for 5 GB, and \$80 for unlimited. The same is true for the second line, but prices are \$20 lower: \$40 for 3 GB, \$50 for 5 GB, and unlimited for \$60. Additional lines follow the same pattern, but are \$20 cheaper than the second line, so unlimited would be \$40.

For an individual, T-Mobile is cheap and easy: \$50 per month for 1 GB. But let's say that you and your spouse each want 1 GB of data every month. That family plan would cost \$80 per month total. Add a

child with 1 GB of data to the plan and the total increases only by \$10, to \$90.

There is good news about T-Mobile's data usage caps. For one thing, you will not be charged overages. The plan covers only 4G data; once you run out, you're merely dropped back to 3G speed, but you can buy more 4G data if you choose. Second, T-Mobile includes a [Music Freedom feature](#) [10] that excludes many popular music services, including Apple Music, from the data limits.

T-Mobile also has a [compelling international story](#) [11] for those who frequently travel to other countries. The Simple Choice plan includes unlimited calling and texting in Canada and Mexico, and unlimited 4G LTE data. For another 120 countries, the Simple Choice plan includes unlimited data and texting; calling will be billed different rates depending on the country.

The main problem with T-Mobile is that [the company's coverage](#) [12] isn't as good as Verizon Wireless's or AT&T's, though it's steadily improving.

Verizon Wireless — Following in T-Mobile's lead, Verizon also recently dropped contracts. If you're

currently in one, you can keep it until it expires, switch to one of the new, simpler, contract-free plans (but with a higher device fee until your contract is paid off). [The Verizon Plan](#) [13] now comes in four main tiers:

- 1 GB of data for \$30 per month
- 3 GB of data for \$45 per month
- 6 GB of data for \$60 per month
- 12 GB of data for \$80 per month

Additional plans go up to \$750 per month for 100 GB of data

Like T-Mobile, all of Verizon's options come with unlimited talk and text. Unlike T-Mobile, Verizon charges overages of \$15 for each additional gigabyte of data, though you can upgrade your plan at any time. Verizon no longer has family plans as such, but data is shared among all devices on the plan. These plans may sound cheaper than T-Mobile's, but you also have to pay a monthly access fee per device: \$20 for a smartphone, \$10 for a tablet, or \$5 for a connected device, like a Wi-Fi hotspot or an LTE-enabled smartwatch (not the Apple Watch). If you're still on a contract and switch to one of the new Verizon plans, the access fee will be doubled

for the device on contract, so it would be \$40 for a smartphone instead of \$20.

For an individual with 1 GB of data and an iPhone, the total cost would come to \$50 per month — identical to T-Mobile. For a couple sharing 3 GB of data, each with an iPhone, the total would come to \$85 per month, \$5 more per month than T-Mobile but for an additional 1 GB of data. For a three-person family, it would be \$105 — \$15 more than T-Mobile. When Josh does the math to compare this to his family's current contract plan, it's not a terrible deal. He and his wife share 3 GB of data, and pay a total of \$133.76 per month for service (not counting taxes, fees, and discounts). With the new Verizon Plan, they would be paying only \$85 (after their existing contracts end), but of course the cost of their iPhones wouldn't be included in that. On the international side of things, Verizon has [a variety of plans](#) [14] that aren't bad for Canada and Mexico, but which seem ludicrously expensive (particularly for data) for other countries.

AT&T — The new AT&T Next program may be complicated, but what hasn't changed are the [AT&T Mobile Share Value](#) [15] plans. Like plans from other

carriers, they feature unlimited talk and text and let you share data with other lines. As with Verizon, there are numerous tiers of data, but the most comparable to the other carriers are:

300 MB of data for \$20 per month

2 GB of data for \$30 per month

5 GB of data for \$50 per month

15 GB of data for \$100 per month

The largest plan offers 50 GB of data for \$375 per month.

As with Verizon, there's a monthly access charge that varies by device: smartphones on AT&T Next or No Annual Contract cost either \$25 (for 5 GB or lower data plans) or \$15 (for 15 GB or higher data plans), tablets and LTE wearables are \$10, and Wi-Fi hotspots are \$20. So an individual with 2 GB of data would pay a total of \$55 per month, or a bit more than T-Mobile or Verizon, but with 1 GB more data. A couple sharing 2 GB of data would pay \$80 per month, the same as T-Mobile. A family of three sharing 2 GB of data would pay \$105, or \$125 if 5 GB of data were necessary. Each additional gigabyte of data costs \$15 extra (\$20 on the 300 MB plan), though unused data from one month rolls over into the next month (but only month-to-month, not cumulatively).

Adam, Tonya, and Tristan share a 2 GB family plan now, and pay about \$130 per month for it. Only one of their iPhones is ever under contract, but it looks as though switching to a contract-free plan would save about \$25, or roughly the per-month cost of a new iPhone. So it's essentially a wash, though occasional overage and international charges increase their bill (see "[More Problems with iCloud Photo Library Uploads](#) [16]," 19 June 2015, and "[How to Avoid Data Overage Charges When Traveling to Canada](#) [17]," 31 July 2015).

As noted in our previous coverage, [AT&T's international story](#) [18] isn't great, with the 30-day AT&T Passport packages offering unlimited texting, but expensive data and voice minutes:

- Passport: \$30 for 120 MB and \$1.00/minute calling
- Passport Silver: \$60 for 300 MB and \$0.50/minute calling
- Passport Gold: \$120 for 800 MB and \$0.35/minute calling

Sprint — Sprint has an easy [\\$60 unlimited plan](#) [19] (\$85 if you stick with a contract). That's unlimited talk, text, and data. However, the [Sprint Family Share Pack](#) [20] gets more complex, since there's no unlim-

ited option. Sprint offers a number of data plans, including:

- 1 GB of data for \$20 per month
- 2 GB of data for \$25 per month
- 4 GB of data for \$40 per month
- 8 GB of data for \$70 per month

Additional plans topping out at 60 GB for \$225 per month.

The confusion comes with the access fees, which cost \$40 per device for smartphones under contract, but which are discounted by \$15–\$25 for non-contract customers, based on the selected data plan. (AT&T works like this too, though it's not as obvious since the company is depreciating contracts.) So, for 2 GB shared between a couple not on a contract, the monthly fee is \$25 for the data, plus \$25 per device, for a total of \$75. That's cheaper than all the others. For three people sharing 2 GB, the bill would be \$25 for the data plus \$75 for the access fees, for a total of \$100; bump up to 4 GB and that increases to \$115. If you go over your data limit, each additional megabyte costs 1.5 cents, which equals out to \$15.36 per gigabyte, which is comparable to the competition.

For international travellers, the free [Sprint Global Roaming](#) [21] includes unlimited texting, free 2G data, and \$0.20/minute calling. 100 MB of 3G data for 1 day can be added for \$15, 200 MB of 3G data for 7 days costs \$25, and 500 MB of 3G data for 14 days is \$50. The “included countries” are quite restrictive, including Canada, Mexico, Australia, New Zealand, and the UK, for instance, but only a handful of other countries in Europe and Asia. Confusingly, the Sprint Open World program, which is also free, provides unlimited calling and texting, plus 1 GB of high-speed data in Canada, Mexico, and most other countries in Latin America. If you’re sticking to the Americas, you’re probably fine; otherwise, read Sprint’s fine print carefully.

As with T-Mobile, Sprint’s challenge is [coverage](#) [22], which isn’t as complete as Verizon’s or AT&T’s.

The Bottom Line — Many of you are stuck with whatever cellular carrier has the best service where you live. But for those with a choice, here’s a quick breakdown for an individual looking for a non-contract plan with 1–2 GB of monthly data:

- T-Mobile: \$50 (1 GB)
- Verizon: \$50 (1 GB)

- AT&T: \$55 (2 GB)
- Sprint: \$60 (unlimited)

Here’s a breakdown based on a two-person family plan with 2–3 GB of monthly data:

- Sprint: \$75 (2 GB)
- AT&T: \$80 (2 GB)
- T-Mobile: \$80 (2 GB)
- Verizon: \$85 (3 GB)

For the couple with a child, again trying to aim for 1–2 GB per person, here’s how it works out:

- T-Mobile: \$90 (3 GB)
- Verizon: \$105 (3 GB)
- Sprint: \$100 (2 GB) or \$115 (4 GB)
- AT&T: \$105 (2 GB) or \$125 (5 GB)

It took us hours to sift through the carrier sites to put together these lists, and frustratingly, it’s difficult to make exact comparisons, due to the carriers offering differently sized data plans. Nonetheless, here are our conclusions.

We were surprised to find that Verizon, which generally has the best coverage in the United States, was competitive in pricing and reasonable for travel

within Canada and Mexico. But avoid Verizon if you do a lot of other international travel.

T-Mobile does generally well, and has the most compelling set of bonuses, including free international roaming, free music streaming, data rollover for 3 GB and larger plans, and reduced speeds instead of overage fees if you exceed your data cap. Its weak network coverage is bolstered by Wi-Fi calling.

AT&T was a solid middle performer, and when it was notably more expensive, that was generally due to having a larger data plan than the others. Rollover data is welcome, but AT&T’s international plans are weak.

Sprint is just weird. It had the most expensive individual plan, but with unlimited data. Then it was the cheapest for a two-person family plan, but expensive again for the three-person family. The company’s international story is complicated and restrictive, but largely free in supported countries. Even data overages are unusual, being billed per megabyte, rather than per gigabyte, even though the raw cost is the same. Like T-Mobile, Sprint’s coverage is weak, but is bolstered by Wi-Fi calling.

What Does It All Mean? — We've been pondering the move to contract-free plans coupled with installment-based iPhone purchases all week, and Apple's introduction of the iPhone Upgrade Program threw in yet another variable. It seems safe to make the following conclusions:

Overall cost of ownership won't be much different for most people under contract-free plans, unless you can keep using your iPhone for more than two years. You do get more flexibility to switch carriers, which you may be able to parlay into lower bills. (In the future, we'll look into whether it's possible to save a lot more via pre-paid plans or MVNOs.) If money isn't an issue, these plans make it easier to upgrade more frequently.

Companies prefer small regular monthly payments to larger one-time payments in order to even out revenues, and customers are less likely to switch to a competitor. Consumers also often prefer this approach as a way of regularizing a limited budget. Regardless, it's nice to have the choice.

The iPhone Upgrade Program will undoubtedly make Apple money due to the forced inclusion of

AppleCare+. It's also possible, even likely, that carriers buy iPhones from Apple at a discount, so by selling direct to consumers at full retail, Apple would make more.

Regardless of the revenue deal, the iPhone Upgrade Program will reduce the likelihood of people switching to Android smartphones and create a tighter relationship between Apple and iPhone users. That's good for Apple, and comes at the expense of the carriers. Could it be a long play on Apple's part to have a customer base for its own cellular carrier? The company has emphatically denied such rumors, but it wouldn't acknowledge such a project if it were true (see "[Apple Denies Plans to Become a Cellular Carrier](#) [23]," 4 August 2015).

In the end, not much is really that different, and the move away from contract plans seems to be generally positive for both consumers and Apple, but dangerous for carriers, who may end up becoming generic utility providers before long.



See page 26 for the links to the resources for this article.

Resources:

- [1]: <http://tidbits.com/article/15921>
- [2]: <http://explore.t-mobile.com/jump-on-demand-phone-upgrade>
- [3]: <http://newsroom.t-mobile.com/media-kits/iphone-offer-music-freedom-amped.htm>
- [4]: <http://newsroom.t-mobile.com/news/lifetime-coverage-guarantee-news.htm>
- [5]: http://www.sprint.com/landings/iphone-forever/index_p.html#!/
- [6]: <http://bgr.com/2014/04/01/t-mobile-employer-discount-plan-discontinued/>
- [7]: <http://www.cnet.com/news/t-mobile-blows-away-profit-expectations-as-customer-growth-surges/>
- [8]: <http://www.t-mobile.com/cell-phone-plans/individual.html>
- [9]: <http://www.t-mobile.com/cell-phone-plans/family.html>
- [10]: <http://newsroom.t-mobile.com/media-kits/iphone-offer-music-freedom-amped.htm>
- [11]: <http://www.t-mobile.com/optional-services/international.html>
- [12]: <http://www.t-mobile.com/coverage.html>
- [13]: <http://www.verizonwireless.com/landingpages/verizon-plan/>
- [14]: <http://www.verizonwireless.com/landingpages/international-travel/>
- [15]: <http://www.att.com/shop/wireless/plans/mobileshare.html>
- [16]: <http://tidbits.com/article/15745>
- [17]: <http://tidbits.com/article/15829>
- [18]: <http://www.att.com/shop/wireless/international/roaming.html?tab=1>
- [19]: <http://www.sprint.com/shop/plan-wall#!/>
- [20]: <http://www.sprint.com/landings/datashare/>
- [21]: <http://www.sprint.com/landings/international-value-roaming/>
- [22]: <https://coverage.sprint.com/IMPACT.jsp?#!/>
- [23]: <http://tidbits.com/article/15842>

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11 Stupid Backup Strategies

Joe Kissell

The fact that your backup strategy is stupid does not imply that you are stupid. It only means you may not have given careful thought to what disasters could harm your data (theft, fire, hurricane, malware, software bugs, user error, and so on) or exactly what steps you would take if something did go wrong.

Last month when Adam, Tonya, and I attended the ASMC (Apple Specialists Marketing Corporation) [Spring Conference](#) [1] in San Francisco, one of the special activities was a field trip to the [DriveSavers](#) [2] headquarters in Novato. DriveSavers is a data recovery company — they’re the ones you call when you lose critical data from a hard drive or SSD and don’t have a backup. They can disassemble your drive in a clean room, perform the electronic equivalent of brain surgery on it, and in most cases, recover your crucial missing data. (For more on DriveSavers, read Jeff Carlson’s article [“DriveSavers to the Rescue,”](#) 30 August 1999.) Needless to say, these recovery services come at a cost, but in truly critical situations, you can’t put a price on this sort of magic.

The DriveSavers facility was a geek paradise. The only time I’ve seen anything close to that amount of high-tech gear in one place was when I visited CERN’s [Large Hadron Collider](#) [3] in Geneva. I loved learning about every part of the data recovery process. From a technical point of view, it was utterly fascinating. It was also eye-opening to hear about some of the high-profile customers DriveSavers had helped. The walls were covered with autographed photos of celebrities for whom the company had recovered data (including, somewhat

ironically, Brent Spiner, who played [Data](#) [4] on “Star Trek: The Next Generation”).

All throughout the tour, I had two conflicting feelings. One was: “Wow, it would be so cool to work here!” The other was: “My mission is to put them out of business!”

I say this, of course, not out of any malice toward the fine folks at DriveSavers, but because I’ve been beating the backups drum for years, and if everyone had adequate backups, one of the main reasons for DriveSavers’ existence would disappear. (The company would be fine, in fact, because they also do lots of work for law enforcement and government agencies, and deal with plenty of situations in which backups wouldn’t have been a factor.)

In my new book, [“Backing Up Your Mac: A Joe On Tech Guide](#) [5],” I lay out a backup strategy that aims to be, shall we say, highly bullet-resistant. There are no guarantees when it comes to computers, and as Robert Heinlein once said, “It is impossible to make anything foolproof, because fools are so ingenious.” That qualification aside, the system I use personally and explain in my book offers Mac users a simple way to achieve peace of

mind. As I often say, even if a meteorite destroyed my house and all my equipment (while I wasn't at home, obviously), I have 100 percent confidence that I would lose absolutely no important data. (Nuclear war, a zombie apocalypse, or an asteroid strike might be too much, but then I'd have bigger things to worry about anyway.)

As I talk to people about my book, I frequently hear responses along the lines of, "Well, here's what I do to back up my Mac. What do you think of my system?" More often than not, I don't say what I think, which is "Wow, that is one of the stupidest strategies I've ever heard of."

The fact that your backup strategy is stupid does not imply that you are stupid. It only means you may not have given careful thought to what disasters could harm your data (theft, fire, hurricane, malware, software bugs, user error, and so on) or exactly what steps you would take if something did go wrong. I don't want you to have stupid backups; I want you to have such excellent backups that you're justifiably confident of being able to recover from any sort of data loss. In that spirit, here are 10 — wait, make that 11! — stupid backup strategies I urge you to avoid.

1. Having no backups at all. — According to a recent [post on the Backblaze blog](#) [6], an annual survey found that only 8 percent of respondents back up their computers every day (a figure that, worryingly, has dropped over the past couple of years), whereas 16 percent back up less frequently than once a year, and 25 percent never back up at all. Doing nothing is of course the worst way to approach backups. You're trusting that everything will work perfectly no matter what you do (or what someone else does), and that's too much to ask of a computer. You will lose data at some point. Something is *always* better than nothing when it comes to backups.

2. Depending on data recovery apps or services. — If you accidentally delete a file on your Mac, you might be able to undelete it using any of numerous data recovery apps. If that fails (as it would if the drive is electronically or mechanically damaged), a company like DriveSavers may be able to rescue your data. But assuming you'll be able to use one of these approaches if disaster occurs is unwise. Sometimes they fail, and if the cause of data loss is theft (or, you know, a meteorite that pulverized your Mac), there's no disk to work with anyway.

This might be an appropriate time to mention that if you work for a company that makes data recovery software, you can stop pitching me about reviewing it. I'm all about prevention, and I think my readers' money is far better spent on backups than on recovery tools.

3. Wishful thinking. — A couple of weeks ago, a novelist acquaintance of mine complained on Facebook about having lost three scenes from a novel revision because she accidentally deleted the document. A friend helpfully suggested that, since she's a Mac user, she could retrieve the document using *Time Machine*. But no, she replied, *she never actually saved or even named the document*, so there was nothing for *Time Machine* to back up. Head. Desk.

It's true that some apps autosave your work, giving you a way to pick up where you left off even if you never name a new document. (*BBEdit*, which I'm using to write this article, is one such app.) But not all apps function this way, and even when they do, there are ways in which users might accidentally delete the autosaved files. Pretty much all backup systems assume users will take at least the basic, obvious step of naming their files and saving them once

(after which regular autosaves often kick in, storing additional versions automatically).

4. Doing manual backups. — I know people who back up their Macs (or at least, a subset of their files) occasionally — whenever it occurs to them — either by making a clone or by manually copying files to another drive. Well, as I said, something is better than nothing, but in my experience, the day you forget to back up something manually (or run out of time) is the day you lose data. Having backups run automatically is a far superior idea.

5. Using only *Time Machine*. — I think it's fantastic that *Time Machine* exists, and is built into OS X. Apple was absolutely right to make backups as simple and convenient as possible (not to mention free). And, to be sure, using *Time Machine* is way better than nothing at all.

But I've had too many troubling experiences with *Time Machine* (and have heard about countless more) to rely on it as my sole backup software. For example, as I wrote in my Joe On Tech article [Why I Don't Rely on *Time Machine*](#) [7], in the last month my wife and I both encountered unrecoverable

Time Machine errors that required us to erase our backup drives and start over from scratch. The disks themselves were fine, but the backup data wasn't, and not even fancy disk-repair software could fix the problem. *Time Machine* might function perfectly for years, only to choke randomly like this. So although *Time Machine* is convenient (and totally fine as an additional backup), I wouldn't feel comfortable using or recommending it exclusively.

There's another downside about *Time Machine*, too, which is that if your entire disk dies, your only option is to reformat or replace the disk and then restore the whole thing from your backup — a process that can take many, many hours. During that time, you won't be able to use your Mac for anything else, which is why I strongly recommend a bootable duplicate (or "clone") as part of your backup plan. But that brings me to the next problem...

6. Using only clones for backup. — Clones are great. They let you get back to work almost instantly if anything goes wrong (just reboot while holding down Option and select the clone). They also give you a way to downgrade to your previous version of OS X, should anything go wrong when upgrading

to a new version. (By the way, if you're not giving [your clones](#) [8] names like Sarah, Alison, Cosima, and Helena, you're Doing It Wrong.) One problem with using only clones for backup is that they don't necessarily give you a way to retrieve accidentally deleted files, or earlier versions of files, if you discover you need them only after updating your clone. (Some cloning software does let you archive such items, but you have to know what you're doing.) Another problem is that if your clone is stored with your Mac, then anything that happens to the Mac (tornado, burglar, etc.) can also take out your only backup. This, in turn, leads us to...

7. Having no offsite backups. — You know that metaphorical meteorite I keep going on about? It might take out my house in California, but it almost certainly won't also take out CrashPlan's data center in Minnesota, or any of several other places I store my data. Same goes for data loss due to thieves, burst pipes, or a fire, all of which are far more likely than meteorites. If your only backups are stored locally, your data is protected against only a limited subset of dangers. You can address this by making extra backups that you store at a friend's house, in a safe deposit box, or another safe location; or you

can use a cloud service such as [CrashPlan](#), [Backblaze](#) [9], or [DollyDrive](#) [10]. But however you do it, make sure you have an offsite copy of your data.

However, the reverse is also true...

8. Having only online backups. — Online backups are great for many things, but if you should ever have to restore more than a few gigabytes from online storage (let alone an entire disk), you'll be in for a long wait, because you'll be constrained by your Internet provider's bandwidth. You may also run into data caps that prevent you from downloading all your backed-up data in a single month. Faced with such a problem, you might be able to pay the backup provider to send your data on a hard drive. But while you're waiting for your data to download (or for the FedEx truck to arrive), you won't have access to your data. Personally, I'd have a real problem with all that downtime, which is why local backups are part of the mix for me. (Of course, if you want to boot from a clone, it must be on a local hard drive.)

The next two stupid strategies are also related to online backups.

9. Relying solely on Dropbox (or similar services).

— Dropbox is wonderful; I use it every day to store files in the cloud and sync them across my devices. Many other cloud storage services (such as iCloud Drive, Box, Amazon Cloud Drive, Google Drive, and Microsoft OneDrive) offer roughly comparable features. And most of these even offer a limited, primitive, backup-like feature: the capability to restore older versions of files or deleted files — at least if they're less than a month old.

That's all good, and in fact, using a service like Dropbox can make data restoration quicker and easier in some situations. But because you can't count on these services to store all the data on your Mac, to keep it indefinitely, or to make it easy to recover a lot of data at once, they're no substitute for proper backups.

10. Assuming Web apps don't need backups.

— Do you use *Google Docs*, *Office 365*, *iWork for iCloud*, or any of a zillion other such Web apps to create and collaborate on documents? Most of us do, at least occasionally. Fine, but do you *also* have a local copy of those documents? I'll bet you don't, and that's a bad idea.

It's not hard to find stories about people who opened *Google Docs* (or whatever) one day to find that a crucial document had vanished, for no apparent reason, and with no apparent recourse. These sorts of things don't happen often, but they do happen. You can't assume a cloud service will back up your data adequately — or that you'll be able to recover it yourself, even if it was backed up. (And, even if the data is there, an Internet outage or server problem could prevent you from accessing it at a crucial moment.) Word to the wise: make your own backups of documents created in the cloud or use a specialized utility like [CloudPull](#) [11] (see "[Back Up Your Google Data with CloudPull](#)," 6 March 2012).

11. Thinking of RAID as a backup. — A reader suggested this addition after I posted my original list, and I couldn't agree more. In fact, I discuss this explicitly in my book. A RAID uses multiple hard drives to function as a single logical volume. Among the many ways a RAID can be configured, mirrored RAIDs (RAID 1) are most often confused with backups, because they write every block to two different physical disks, providing 100 percent redundancy. (RAID 5 and 6 also provide redundancy, but in a different way.) Well, isn't that basically the same as a

clone, only better, since it's always up to date? No. Indeed, the fact that it's always up to date is part of the problem. If you accidentally delete a file, for example, it's deleted instantly on both drives in your mirrored RAID. If you have directory damage, file corruption, malware, or any of numerous other problems, it affects both drives equally. And, of course, if the RAID is stolen or damaged, it doesn't help at all. The only thing a mirrored RAID protects you against is the hardware failure of a single drive. Fair enough; that happens. But it's not the same thing as a backup.

Don't have stupid backups! I hope you've spent this entire article rolling your eyes at these ridiculous excuses for a backup strategy, all the while reminding yourself that your own backup strategy is smart and doesn't suffer from any of these defects. If so, then I'm glad you've enjoyed this entertaining look at how the other 92 percent live.

However, if by any chance you found yourself wincing now and then because you recognized something in this list that you yourself do, don't feel ashamed. It's OK; we've all been there. Just don't stay there. Pick up a copy of

“[Backing Up Your Mac: A Joe On Tech Guide](#) [12]” and learn how to educate your backups. Then you and I can both have that meteorites-won't-destroy-my-data confidence, and we can turn our attention to more pressing tasks, like protecting ourselves from zombies.



- [1]: <http://events.applespecialist.com/>
- [2]: <http://www.drivesaversdatarecovery.com/>
- [3]: https://en.wikipedia.org/wiki/Large_Hadron_Collider
- [4]: [https://en.wikipedia.org/wiki/Data_\(Star_Trek\)](https://en.wikipedia.org/wiki/Data_(Star_Trek))
- [5]: <http://www.takecontrolbooks.com/jot-backing-up>
- [6]: <https://www.backblaze.com/blog/backup-awareness-month-2015/>
- [7]: <http://joeontech.net/why-i-dont-rely-on-time-machine.html>
- [8]: https://en.wikipedia.org/wiki/Orphan_Black
- [9]: <https://www.backblaze.com/>
- [10]: <http://www.dollydrive.com/>
- [11]: <http://www.goldenhillsoftware.com/cloudpull/>
- [12]: <http://www.takecontrolbooks.com/jot-backing-up>

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Members Helping Members

Dedicated volunteers are the lifeblood of the Pi. Whether it is installing a hard drive at a Clubhouse Saturday event, answering questions at a General Meeting, or placing advice on the TCS Forums, there are many ways to pitch in and help, depending on a member's interests and talents. Please consider making a commitment to ensure that the Pi remains a strong and energetic club dedicated to helping its members. All volunteer efforts are appreciated. Check out these areas where assistance is needed.



Featured Position – General Meeting Webcast Director

The Pi currently captures its General Meetings on videotape for future viewing by members who cannot attend the meetings. Using the same camera, we are able to concurrently produce live webcasts so members can view the meeting in real time via the Internet. We need a dedicated volunteer to oversee the technical and production aspects of this webcast.

There are various technical components to putting up the video on the Pi's Ustream web page. The Webcast Director needs to ensure that the equipment is properly set up and functioning, and needs to monitor the audio and video streaming production from start to finish (or designate someone to do this) to ensure satisfactory audio and video quality. The Webcast Director will not be responsible for any other part of the General Meeting program, but will focus exclusively on the webcast production.

Any previous experience in TV or video production would be advantageous, but is not required. A basic understanding of video and audio equipment and how to connect them would be helpful, but the contracted cameraman has primary responsibility for equipment hookup. The Webcast Director needs to make sure that the meeting presenters do not stray from their predetermined stage positions, so they remain adequately illuminated for the entire presentation. Also, this person should be available in case of a technical or other problem that would require the speaker to temporarily suspend their presentation. Case in point: the Webcast Director will stop the action when the cameraman indicates that a new tape needs to be swapped out in the video camera.

If you are interested in helping out with an eye on taking over this important position, contact office@wap.org.

Journal Managing Editor

The *Journal* is an established, time-honored publication of the Washington Apple Pi and it is in need of someone to take over as Managing Editor, leading a team of dedicated and highly skilled volunteers. The *Journal* schedule calls for bi-monthly publications, and most of the activity occurs in the three weeks leading up to the publication date. In addition, this person will be a member of the Pi's Publications Committee, which has oversight of all printed material published by the Pi. The job is challenging, but very rewarding.

If you enjoy writing and want to help the Pi progress, this is the job for you. If you enjoy working with enthusiastic colleagues on meaningful projects, apply today.

Contact the interim *Journal* editor, Jay Castillo, at: editor@wap.org with any questions or to express your interest.



General Meeting Manager

Our General Meeting programs need someone dedicated to the planning and managing of these important club events. The job includes coordinating meeting activities, making any necessary arrangements, and managing the behind-the-scenes tasks. While it sounds like a job for Superman, that really is not the case. If you have juggled household duties or been an office administrator, you have the skills. While another Pi manager emcees the meeting, you will be making him or her look good!

Because this activity needs to be approved by the Pi's Management Committee, the volunteer will serve as an adjunct member of that committee. This volunteer opportunity is guaranteed to keep you busy, and when the meeting is over and everything is packed up, lunch is on the Pi.

Send your inquiries to office@wap.org to express interest and we'll go from there.

Washington Apple Pi

