April 2018

Visit our website at www.pcs4me.com   Ken Johnson, Newsletter Editor

CALENDAR

SIG = Special Interest Group

This Week's Schedule
April 14 - Saturday - 1:00-2:30 PM
General Meeting - Leader: Ray Carlson
Location: Prescott Public Library; Founders Suite A & B

First & Second Hours: Library Palooza

All about online resources at the Library presented by Ruthie Hewitt. Take a tour of the online resources the library has to offer, all free with your library card. Learn how to access our online databases for auto repair, academic research, legal information and more! Each attendee will be entered into a drawing to win a gift card!

For more information, contact the Ask a Librarian Desk at 928-777-1526. Presented with funding from the Friends of the Prescott Public Library.

In addition to the presentations, the following are typical events which take place at our General meetings:

1) *We hold an informal Flea Market in which you are encouraged to bring in your excess computer equipment or software and make them available for others to enjoy at no charge. Please deposit give-away items on the table in the back marked "Free Stuff." Any items left here at the end of the meeting are subject to disposal.*
    2) If you have items that are just too good to give away, you may set up a separate table and hold your own sale.
    3) We conduct a raffle of gift cards at the end of the meeting, so make sure to get a pair of tickets from whoever is in charge and place one on the item you'd like to win.
    4) We will also accept your used ink and toner cartridges for recycling. They are turned in to Think4Inc for credits which PCS uses to purchase office supplies from them.

Future Meetings
April 17 - Tuesday - 10:00-11:00 AM
Technology Help Hour - Leader: PCS Staff
Location: Prescott Public Library Training Lab; Third Floor

Ask a technology question and get help from members of the Prescott Computer Society. Bring your own laptop or mobile device or use a library laptop. This is a weekly drop-in service and registration is not required.

Future Meetings-(cont'd.)

April 21 - Saturday

No PCS meeting is scheduled.

April 24 - Tuesday - 10:00-11:00 AM
Technology Help Hour - Leader: PCS Staff
Location: Prescott Public Library Training Lab; Third Floor

Ask a technology question and get help from members of the Prescott Computer Society. Bring your own laptop or mobile device or use a library laptop. This is a weekly drop-in service and registration is not required.

April 28 - Saturday - 1:10-2:50 PM
Special Topics SIG and/or Smartphone SIG - Leaders: JB Burke and/or Murray Smolens
Location: Prescott Public Library; Founders Suite A & B

JB Burke and/or Murray Smolens will discuss interesting topics related to general computing and/or smartphones.

Note that these dates are correct at time of publication but are subject to change.

Prescott Computer Society
Current Officers & Board of Directors

Officers:		**General Directors:**	
President	Ray Carlson	Joan Baum	Murray Smolens
Vice Pres	Phil Ball	John Carter	Dick Mason
Secretary	JB Burke	Ken Johnson	
Treasurer	Edi Taylor-Richards		

Need Help With Computers?

Did you know that the Prescott Public Library has a program of Computer mentoring on a one-on-one basis? They have several experienced volunteers who will work with you using one of the Library computers.

All you need to do is make an appointment with either the "Ask a Librarian" personnel or go to: http://www.prescottlibrary.info/.

Ask the Prez
By Greg Skalka, President Under the Computer Hood
UG, CA
January 2018 issue, Drive Light
www.uchug.org
president (at) uchug.org

Dear Readers,

This may or may not be the first of many question-based columns under this title. If there are to be any more is up to you (though I reserve the right to have a say in it as well). I received this email question from a reader of one of my Drive Light 'President's Corner' columns, as republished in another APCUG-group's newsletter. An important source of material for our own group's newsletter is material from other APCUG groups, as compiled for our editor as PUSH emails from APCUG. Our own Drive Light has been a major contributor to this interchange between groups, as many of my columns and many articles by other UCHUG members have been republished in numerous newsletters around the country (and I think around the world). This is a benefit provided by APCUG that is very valuable to our group, providing worthwhile content to our readers and helpful assistance to our hardworking editor.

Any questions you submit to president (at) uchug.org may be reprinted and answered in future columns, if they are of general interest to our readers. Other questions may be answered by email or read to our membership for (hopefully) a solution, at our next UCHUG meeting Random Access session.

Here is a question from Ron Broadhurst, a member of the Space Coast PC Users Group (SCPCUG) in Florida, concerning the file recovery program Recuva, which I talked about in my column "High-Tech Remembering," in the Drive Light October 2017 edition.

Hi Greg,
I just finished reading your article in our Journal SCPSUG published by our own Ron Ingraham.
I was very interested in the article regarding Recuva. There have been a few times I have had to use it. Most always with good results.
I do have a question regarding using it.
Is there some way to remove some of the very old files which I have deleted a long time ago? If it's possible to do this, I suppose Recuva would run faster. Any ideas greatly appreciated.
Thanks
Ron Broadhurst

Ron,

I'm glad you found my article of interest. That was the first and so far, only time I've had a need for Recuva. It is kind of like auto insurance - you (hopefully) don't need it very often, but when you do, it is invaluable.

I don't recall finding any very old files recovered when I ran Recuva, but I suppose that is possible if you use a memory card or hard drive long enough. Since the operating system does not completely remove a file from a storage device when it deletes it, but merely deletes its entry in the file allocation table (kind of like getting rid of a chapter in a book by only blacking out its entry in the table of contents), the data from some very old files could remain under the right circumstances. If you long ago filled up the drive, then deleted most files and after that kept adding and deleting files while keeping the drive fairly empty on average, some of the data from that initial filling could remain and never be overwritten by new files.

Each time Recuva is run, especially in the most intensive mode, it analyzes the entire drive and should find any very old files whose data still remains there, even if it found those same files the last time Recuva was run on that drive. The only way I can see to prevent this is to wipe the drive of all data, using a program intended to prevent file recovery. Programs like iolo's Drive Scrubber can be used to remove all traces of data from drives, so that they may be donated or disposed of without the risk of having confidential data fall into the wrong hands. It writes data patterns over all of the drive's data locations one or more times to prevent data recovery. To stop Recuva, one complete data overwrite with a scrubbing program should be sufficient.

If you run a drive scrubbing program on your drive after running Recuva, you should not see the files you recovered that time on the drive in subsequent Recuva recoveries. I don't think this will speed up the future recovery time of Recuva any significant amount, however. In its most intensive recovery mode, it must scrutinize all of the drive's memory space, so the time required will be

based mostly on the drive size, and not so much on how much data is or is not on the drive.

Ron, this was a good question. I'd like your permission to reprint your question and my response to you in my group's newsletter, for the benefit of our members. Please let me know if you would allow this. Thanks.

Greg Skalka
President, UCHUG
president (at) uchug.org
www.uchug.org

Hi Greg,
Thank you for getting back, appreciate it.
Yes, you may use my question.
Also does that program iolo's Drive Scrubber remove ALL DATA ON THE HARD DRIVE?
Thanks
Ron

Ron,

Drive Scrubber is intended to securely erase all data on a specified drive. It can also just wipe the free space, erasing all remnants of deleted files (this would keep Recuva from recovering any files deleted prior to this). There are a lot of secure erase programs out there, with various features. They are definitely necessary if you intend to sell, donate or recycle a computer or hard drive.

Here is a link to a PC World article on securely erasing hard drives:

https://www.pcworld.com/article/261702/how_to_securely_erase_your_hard_drive.html

Greg Ω

Exploring Android
By Dick Maybach, Member, Brookdale Computer Users' Group, NJ
November 2017 issue, BUG Bytes
www.bcug.com
n2nd (at) att.net

The most popular cell-phone operating system, Android, is more like a tool kit than an OS. Cell phone vendors readily change not only its included applications, but also its structure, to differentiate their products. As a result, there is more variation among devices than Windows users are accustomed to. (Windows on a Dell is almost identical to Windows on a Lenovo, but Android on a Samsung may differ substantially from Android on a Nexus.) This doesn't concern most cell-phone users, who have little interest about what goes on inside their devices, but computer enthusiasts are more curious. In this article, I'll use my own phone, a Motorola G^4 using Android 7, as an example, but yours is most likely different. You should not study my results, but use the tools I describe to explore your own device.

Smart phones are far more powerful and complex than early PCs, and one area you will want to explore is its hardware; the app My Device by 3k Developers is useful for this. Figure 1 shows the areas you can learn about. (This is the screen on my phone; yours probably differs.)
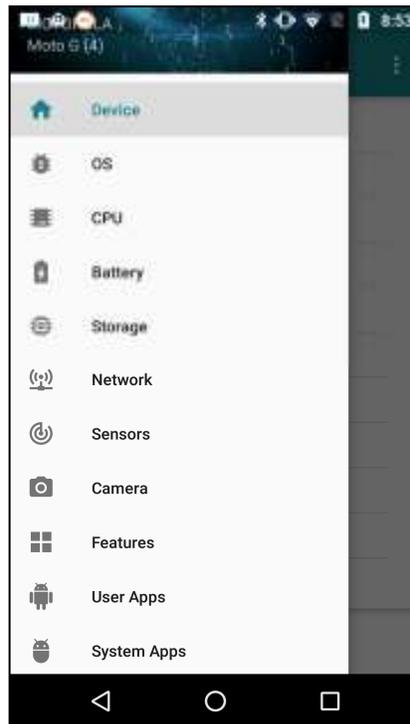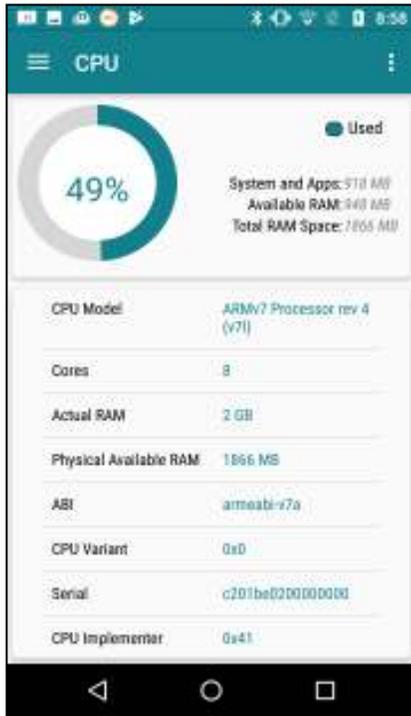
Figure 1. My Device Home Screen.

Figure 2 lists the CPU characteristics; it's eight cores and 2 Gbytes of RAM far exceed the resources available to desktop PCs of just a few years ago. This hints at the potential hidden in the small device you carry in your pocket.

Figure 2. CPU Characteristics.

The camera is another interesting device, as phone cameras probably take far more pictures than dedicated ones. Figure 3 shows what Motorola included. Here too, the front camera's 13-Megapixel resolution is higher than most digital cameras of just a few years ago.

Figure 3. Camera Characteristics.

As you can see, the My-Device app provides much information about the capabilities of your phone's hardware and, although I haven't shown it, its software.

It's important to properly configure your phone, especially the resources that each app can access. Motorola included the Settings app for this, and although your vendor may have given it a different name, you have something similar. While My Device gives you detailed information on your phone, Settings lets you configure it. Figure shows a portion of its home screen. Taking the time to explore the entries will not only tell you about your phone's features, but will let you configure it to your liking, rather than to what its manufacturer might prefer.

Figure 4. Settings Hone Screen.
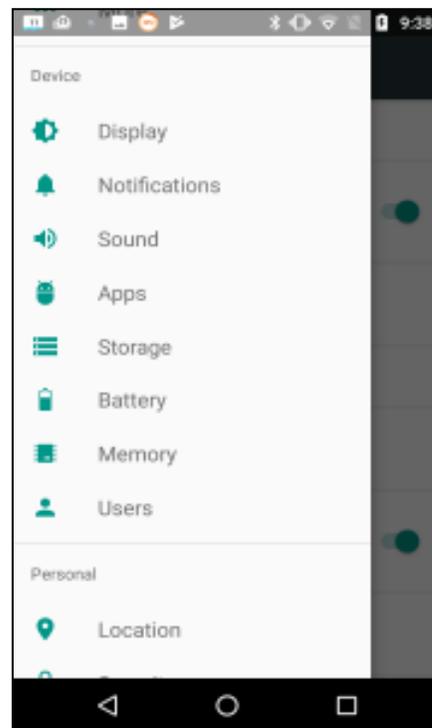
Exploring the Apps item is especially useful. For example, Figure 5 shows a portion of the email app Blue-Mail. As you can see, it can access my calendar, contacts, phone, and storage, but I've silenced its notifications. (I prefer that my personal devices speak only when spoken to; I don't want them breaking into my life at their convenience. As a result, I've silenced almost all notifications.)

Some apps by default can access far more than what they need, and it's important when you install a new one to review what information they ask for and to disable what is not appropriate. As in the case of My Device, there is far more to explore in Settings than I have space to discuss here.

Figure 5. BlueMail App Information.

Unlike in the case of a personal computer, much of the Android file system is not available to users; instead you are limited to exploring your home directory, where your data are stored. (To access the system area, you must do what's called "rooting," but unless you are an experienced Android developer, little but mischief will result.) Of course, you'll use a file manager for this exploration. If your vendor didn't include one, try the ES File Explorer File Manager from ES Global. The directory screenshots below are from this app. Figure 6 shows my home directory.

Figure 6. Android Home Directory

On a typical PC, most of the directories in the home directory are created by its user, but this isn't the case for Android, where typically the directories are created either by apps or Android itself. A worthwhile directory to explore is Android, which has two subdirectories, data and media. Figure 7 shows a portion of data's contents.

Figure 7. Contents of Android/data.

As you can see, it's full of subdirectories, most associated with a particular app, which is where the app will keep its data. If you can't find something in your home directory, this is a good place to look.

However, there is a better way to find where a particular app keeps its files. Use it to create a test file, then use the File Analyzer tool in ES File Manager (accessible when you touch the vertical line of three dots in its menu bar). Scroll down on the result to the Recently Created Files area and select Details to see a list of new files (Figure 8).
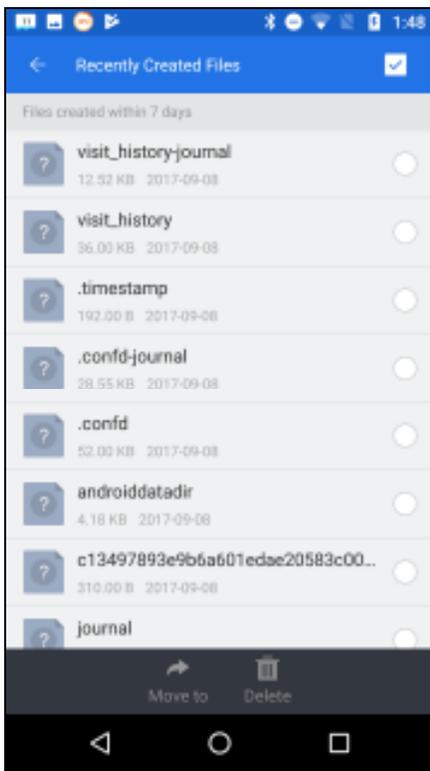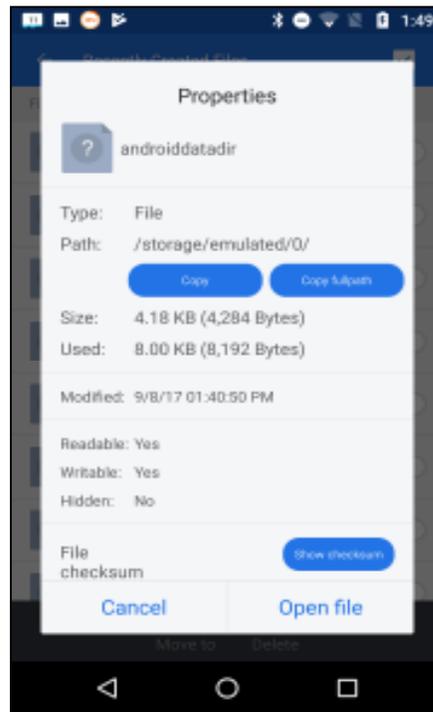

Fig ure 8. Recently Created Files.

When I selected androiddatadir, I obtained Figure 9.

Figure 9. Details on a New File.

The storage/emulated/0/ may be confusing, but it's just the location of the home directory. In this case, since the file we were searching for was in the root directory, finding it by brute force would have been easy. The directory structure on your device will be different of course. (You may have noticed that this file doesn't appear in the listing of Figure 6; I had deleted it before I made that screen-shot.)

For our last expeditions we'll either (depending on your attitude) return to computing's roots or its dark age; yes, we'll be using the command line. You'll first need to install a terminal app, and I use T-UI from Everyone. (Starting T-UI and using the command "tutorial", will take you to a website with a lot more help than you probably want. The command "help" will show commands that have help pages; for example, "help time" will show you what the time command does.)

Figure 10 shows a screen-shot with the command pwd (print working directory), which is the complete path to the home directory. It also shows the result of "echo $Path", which displays the directories where Android looks for commands, in this case /sbin, /vendor/bin, /system/bin, and /system/xbin. None of these directories listed by $PATH are accessible with a file manager, unless the device has been rooted.

Figure 10. T-UI Screen.
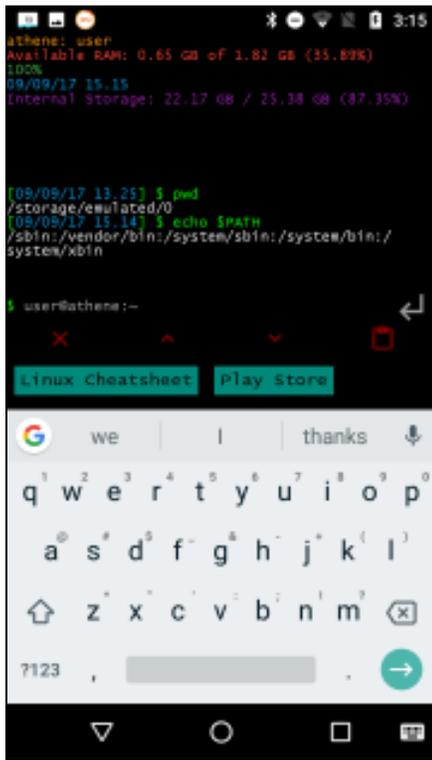
The command "cat proc/partitions" shows all the partitions that exist. (I'm going to skip the explanation of exactly what this command means; the object here is to learn about Android, not become proficient in using the command line.) I won't show the output, as yours will be different. Each line of result (after the header) is a different partition; the first number (major) is the device, the second (minor) the partition on that device, the third the number of blocks in it, and the last its name. Mine had three different major numbers, showing three separate storage devices, one with a single partition, one with 17, and one with 35. You are probably surprised at these numbers; just because Android devices are small doesn't mean they are simple. However, many of these partitions are not used in normal operation, but only during start-up and recovery.Ω

Prescott Computer Society
Where you share what you know, and learn what you don't.

FORUM TROLLS