



Midland Michigan

# BITS AND BYTES

OCTOBER 2017

<http://mcc.apcug.org/>

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Virtual Technology Committee

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## GENERAL CLUB MEETING

Midland Public Schools Administration Building  
600 E Carpenter Street - Room D

**Wednesday, October 25, 2017**

**6:00 P.M.**

**This is the last meeting for 2017**

## Educational, Fun, and Interesting Web Sites (submitted by Howard Lewis)

<http://bit.ly/2xar9X4>

Here are some hilarious bumper stickers — WARNING – some may be offensive!

<http://www.differencebetween.net/>

The difference between similar terms and objects

<http://bit.ly/2t0XdxU>

Microsoft is giving away tons of free ebooks

<https://www.ghacks.net/2017/06/11/list-of-windows-tools/>

A list of the various tools built into Windows and the commands to access them through the Command Prompt

<http://www.insure.com/car-insurance/rudest-drivers-by-state.html>

The states with the rudest drivers!

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## FREE 2017 FALL VIRTUAL TECHNOLOGY CONFERENCE (VTC) Saturday, November 4 1:00 pm – 4:00 pm ET

Attend the FREE conference from the convenience of your own home! All you need is your computer, tablet, etc. and Internet access. The sessions are 50 minutes in length and offer attendees the opportunity to ask questions via Q&A; the questions are answered by the presenter at the end of the presentation or via e-mail if there isn't enough time after the presentation.

APCUG uses ZOOM for the VTC webinar presentations ([www.zoom.us](http://www.zoom.us)). If you have not participated in a VTC, go to <https://zoom.us/download> to download the app for the device you will be using to 'attend' the conference. You should also make sure you have the latest version of Zoom on your device.

Videos from earlier conferences can be found on APCUG's YouTube channel

[www.youtube.com/apcugvideos](http://www.youtube.com/apcugvideos).

To register for this VTC, please click on the below link:

<http://bit.ly/apcug-fall-2017-vtc-eventbrite>

Spread the word by forwarding this e-mail to your members. VTCs are a great way for them to expand their technology experience and be introduced to new skills. Below are the sessions that are currently scheduled.

### TRACK 1

#### 1:00 PM ET

Tips for Staying Safe Online and Preventing Identity Theft  
Bob Gostischa, Avast Evangelist

Learn to use the tools that make visiting the Internet safe and enjoyable. It really isn't important what you use to get to the Internet.

- It's important to use the right tools once you get there
- It's important to exercise caution when visiting the Internet
- It's important to avoid the dangers found on the Internet

This presentation will cover the do's and don'ts and what you need to know to stay safe on your devices (computer – Windows and Mac, tablets and Smartphones) and the Internet

**2:00 PM ET****Internet Camouflage Using VPN****How to Use VPN As Your Cloak of Invisibility When Accessing the Internet****Joe Melfi, D-Link**

How do we keep the curious and the devious from seeing our activity while using the Internet? We all have critical information like passwords and account logins that we don't want to be known, some info we consider private, or we simply don't want anything to be seen by others because it's nobody's business. It's our data, our conversations, and only those we grant permission should see that data. You may have heard that your web surfing and emails could be vulnerable to snooping. It may be easier than most people know, especially when using public Wi-Fi! We'll discuss the best way to help make your data unreadable and untraceable - by implementing VPN.

**WHO SHOULD BE USING VPN?:**

Anyone in public... Free/Paid Wi-Fi at coffee shops, restaurants, libraries, hotels, etc.

Mobile users and travelers that may need to use unfamiliar networks

Home users for security and privacy

EVERYONE!

**TOPICS:**

Focus on VPN solutions

How it works

Types available

Apps and software

Devices and hardware

Free versus pay options

Caveats and compromises (nothing is perfect)

**3:00 PM ET****iOS 11 Tips & Tricks****Jere Minich, Program Chair, Lake-Sumter Computer Society**

iOS 11 has many more custom options than usual and many of them are first-rate. Jere will show us how to tailor some of these options to meet our needs.

**TRACK 2****1:00 PM ET****Hands-on LibreOffice Demo****John Kennedy East-Central Ohio Technology User's Club**

Free software - it's all about sharing. John (otherwise known as Free-John) will be sharing the flagship productivity suite called LibreOffice. This piece of software has all the components (and a couple extras) that another major software company has, that is widely used in business. He will take us on a hands-on tour of the different sub-programs LibreOffice has and hopefully you discover a free program that has all the features you would need in a productivity suite.

**2:00 PM ET****Google Photos****Ron Brown, Program Chair, Silvercom Computer and Technology Club**

Stats – 1B users; 1.2B photos uploaded each day. And, it's FREE. It's like a shoebox full of photos but you can easily find a specific photo. Since we now take most of our photos with our phone, it's designed for mobile first but can also be used with our computer. It's easy-to-use with unlimited storage. Do you need a backup strategy? How to sync them? Who can see my photos? How do they get archived after death? All these topics and more will be covered in Ron's presentation. As well as a hands-on demo.

**3:00 PM ET**

**Voice Operated Assistants**

**Greg Skalka, President, Under the Computer Hood UG**

What's new in technology? First it was the Cloud and now it's Voice Operated Assistants = the future is here! Voice operated assistants like Amazon Echo, Dot and Tap and Google Home are here to help us with automated tasks and more. Siri, Cortana, and Google Assistant also help us with our technology.

What can they do?

What are the benefits?

How about the dark side?

*Virtual Technology Committee*

*Judy Tylour, Chair*

*Francis Chao*

*Jim Evans*

*John Kennedy*

*Jere Minich*

*David Williams*

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## **Using Windows (File) Explorer - Working with Single Files**

By Jim Cerny, Chairman, Forums Committee, Sarasota Technology UG, Florida

September 2016 issue, Sarasota Technology Monitor [www.thestug.org](http://www.thestug.org) jimcerny123 (at) gmail.com

[Please read this article with your computer! DO the steps and you will find it all much easier to understand. Otherwise you will forget. Trust me on this.]

This is the third of a series of articles on the basic use of Windows Explorer (known as File Explorer in Windows 10). In the previous articles we looked at the basic window layout when you open this app or program and we also talked about the two "panes" in this app window – the "Folder List" in the left pane, and the contents of a folder displayed in the right pane. In the second article we looked at the different VIEWS you can use in Windows/File Explorer and why I recommended the "Large thumbnail" view for pictures and the "Details" or "Detailed List" view for all other files.

Once you have learned how to explore your files and folders, how to FIND a file or folder you want, then you can WORK with that file or folder. Every file / folder has a NAME. You cannot have two files with the SAME name in the SAME folder. FILES take up computer space and contain data and information. FOLDERS are LOCATIONS in your computer or memory device.

Now open the Windows File Explorer app or program and find "Documents" (or "My documents") in the left pane and click on it once to open the contents of the Documents folder in the right pane. You should be saving all your documents and most files here. To SELECT a file for some action, left-click on it once in the right pane and the file name should be highlighted. (NOTE: If you double-click on a file name your computer will try to OPEN that file using your computer's default program or app for that file type). When people say "click" using the mouse, they always mean a LEFT-click. A "right-click" of the mouse is specifically stated as a RIGHT-click.

### **DELETE A FILE**

Ok, let's say you want to DELETE a file. As usual, there is more than one way to do the same thing. If you RIGHT-CLICK your mouse on the file name a menu of choices will appear for you to pick from. One of these choices will be "Delete" – and, if you CLICK your mouse on "Delete" it will delete the file! (Another way to delete a file after you have selected or highlighted it is to left-click on the MENU option(s) at the top of the window). A file deleted from your C-drive will be placed in your Recycle bin from which you can restore it if you change your mind. This "Right-clicking" the mouse thing is really helpful in a great many

places on your computer – whatever you right-click on, a menu of choices will appear. For example, if you right-click your mouse on your desktop screen you will get a menu of choices of things you can do with your desktop. If you right-click on an icon you will get a menu of choices of what you can do with that icon. To make this pop-up menu go away without making any choices, simply left-click OFF of the menu. So, to delete a single file, highlight the file by clicking on it (in the right pane of the window), then RIGHT-click on the file to get the menu of choices, then click on “Delete”.

You need to understand how to delete files from other memory devices too. Suppose you have a small drive or a thumb-drive, camera or memory card is plugged into your computer – how do you delete files from them? Well, the same way. All you have to do is FIND the files. And we discussed that in a previous article. Remember ALL FOLDERS are listed in the LEFT pane of the window – simply scroll down until you find the memory device listed and click on that device (the entire memory of the device is one big folder) and the contents will appear in the RIGHT pane of the window. Click on the folders to open them, etc., until you find the files you want to delete. Files deleted from other memory devices (that is, NOT your C-drive) will NOT go to your Recycle bin, they WILL BE DELETED. So be sure before you delete anything.

#### MOVE or COPY A FILE TO ANOTHER FOLDER

To MOVE a file simply DRAG the file to another folder. Dragging means placing your mouse arrow pointer ON the file name you want to move, HOLD DOWN the LEFT mouse button and, while you are holding it down, MOVE the mouse until the pointer is EXACTLY pointing at the destination folder. Then let up the mouse button. You can drag ANY file and drop it into ANY folder. But be careful! Only move and copy files to YOUR folders (Documents, Pictures, etc.). Yes you can drag and drop a document file into a pictures folder, it is up to YOU to keep your files where you want them, the computer does not restrict your moving files. The starting folder is called the “origination” folder and the receiving folder is called the “destination” folder. If you DRAG a file from one folder to another you are MOVING the file and it will no longer be in the origination folder. But if you DRAG a file from a folder on one memory device, such as your C-drive, and drop it in a folder on ANOTHER memory device, such as a thumb drive, then it makes a COPY and the original file will still be in the origination folder. The file will now be in TWO places.

To ALWAYS make a COPY of a file, drag it while holding down the “ctrl” key on your keyboard, then it will ALWAYS make a COPY.

While you are DRAGGING the file, as you move the mouse you will see a small box which tells you if you are MOVING the file or making a COPY of the file and will indicate the destination folder. When you let up the left mouse button to complete the move, make sure the tip of the arrow is indeed ON the correct destination folder!

#### CREATE A NEW FOLDER

This also is easy. You should be IN the folder in which you want to create the NEW folder. In other words, you should have clicked on the folder on the left pane into which you want to create a new folder. The contents of that folder will be displayed in the right pane. At the top of the window will be an icon that will create a new folder – look for it and click on it once. A NEW folder will appear in the right pane – the NAME of the folder will be highlighted, “New folder”, and ready for you to type in the NAME you want to give it. Every folder has a name, so give it a good one. Do not use odd characters in creating your names, use only letters, numbers, dashes, and spaces.

#### TRY IT NOW

Create a new folder and try MOVING files into it, one file at a time. Then move some of them back. You can drag a file to a folder in the LEFT or the RIGHT pane if you can see the folder. If you cannot see the folder you want, use the scrollbars so that you CAN see it. But remember a folder can be IN another folder, so you may have to open a folder to see it. Give it a try. Try making COPIES of files, and then DELETE the copies. Deleting files you do not need keeps your computer cleaner and easier to find what you need.

NEXT TIME we will look at how to work with MULTIPLE files – that is, deleting, moving, and copying SEVERAL files at one time. This is exciting stuff and makes it easy to make your own BACKUPS of all

your FILES on another memory device and also to DELETE many files at one time. To get further help, go to Google and enter your question, such as: “How do I copy a file from one folder to another in Windows 10?” and you will get some great videos to watch too. It helps to be specific with your question. Cleaning up your computer memory of files that you no longer use will save space and keep your computer running quickly. If you have seldom used files which you want to keep, copy them to another drive (a plugin portable drive) to free up space on your “C” drive. Just like your car or your health, your computer needs periodic maintenance!

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## Back to Basics

### Using Windows (File) Explorer -- Deleting Multiple Files at One Time

By Jim Cerny, Chairman, Forums Committee, Sarasota Technology UG, Florida

October 2016 issue, Sarasota Technology Monitor [www.thestug.org](http://www.thestug.org) jimcerny123 (at) gmail.com

[Please read this article with your computer! DO the steps and you will find it all much easier to understand. Otherwise you will forget. Trust me on this.]

This is the fourth, and last, of a series of articles on the basic use of Windows Explorer (known as File Explorer in Windows 10). In the previous articles, we looked at the basic window layout when you open this app or program and we also talked about the two “panes” in this app window – the “Folder List” in the left pane, and the contents of a folder displayed in the right pane. Clicking on any folder on the left will show the contents of that folder on the right. In the second article we looked at the different VIEWS you can use in Windows/File Explorer and why I recommended the “Large thumbnail” view for pictures and the “Details” or “Detailed List” view for all other files. In the third article we looked at selecting files for some action, such as to move them, copy them, or delete them. In this article we will learn how to work with MULTIPLE files at one time.

Open the Windows File Explorer app or program and find “Documents” (or “My documents”) in the left pane and click on it once with your mouse to open the contents of the Documents folder in the right pane. You should be saving all your documents and most files here. To SELECT a file for some action, left-click on it once in the right pane and the file name should be highlighted. (NOTE: If you double-click on the file name your computer will try to OPEN that file using your computer’s default program or app for that file type). When people say “click” using the mouse, they always mean a LEFT-click. A “right-click” of the mouse is specifically stated as a RIGHT-click.

#### SELECTING FOR ACTION

One of the computer skills that is so very helpful in many different apps is the way to SELECT something for some ACTION. This is a two-step process that allows you to work with files, photographs, emails, menus, and so much more. To select a single file in Windows File Explorer, you simply click (that’s a left-click) once on the file name to highlight it. But how do you select MULTIPLE files at one time? Well, there are TWO easy ways and both ways are helpful.

Using the SHIFT key on your keyboard – After you click on the first file, move your mouse to another file in the list and, while holding down the SHIFT key, click on another file name. Presto, ALL the files between have been highlighted! Now if you click on “delete” ALL the highlighted files will be deleted. Did you make a mistake and select too few or too many files? No problem, just click anywhere and the highlight will disappear and you can try again. This is a great way to select multiple contiguous files.

Using the CTRL key on your keyboard – After you click on the first file, hold down the CTRL (control) key and click on any other file names. Every file you click on will be selected or highlighted. This is a great way to select many files that are NOT listed together. Do not let up on the CTRL key until you have completed your selections. If you make a mistake, clicking on a file that was already selected will “un-select” the file. And again, if you have made any mistakes, just remove your finger from the CTRL key and click your mouse on any file name, your highlighted list will go away and you can start over.

Practice these keystrokes a couple of times to get used to it. Naturally if you do not click on “delete”, no files will be deleted.

Here are some more useful tips:

- + Do not delete too many files at one time, start with just a few until you get used to it, then go for more.
- + The scrollbars should still work, so if you need to select multiple files above or below your first file, you can use the scrollbars to get elsewhere in your list. Clicking on a scrollbar will not change your selections.
- + Select all your files from ONE folder at a time. There may be a way to select files from different folders at one time, but I strongly advise against that if it is possible. You will get too confused.
- + Don't forget you can select a FOLDER as you would a single file. If you move or delete a folder, ALL files and folders IN that folder will be moved to the new (destination) location (folder) or deleted.
- + Yes, you CAN select multiple FOLDERS the same way as you select multiple FILES. You can even select files and folders in the same selection. This is really super-helpful. The computer assumes you know what you are doing, so be careful. This is a great way to copy your stuff to another memory device as a backup.
- + Remember, files deleted from your “C” drive will go to your Recycle Bin folder, but files you delete from other drives (such as a plug-in drive or memory card) will NOT appear in your recycle bin, they will be really deleted.
- + Read the box notices that appear to make SURE you are moving or deleting the correct number of files and, if moving them, that they are going into the proper folder.

Finally, this method of multiple selection comes in very handy in many other computer applications, such as email. You may have to “select” an item by clicking in a box or circle, but there will be a way to do it. If in doubt, ASK GOOGLE – “How do I delete multiple emails in gmail?” is a good example. Google always loves questions!

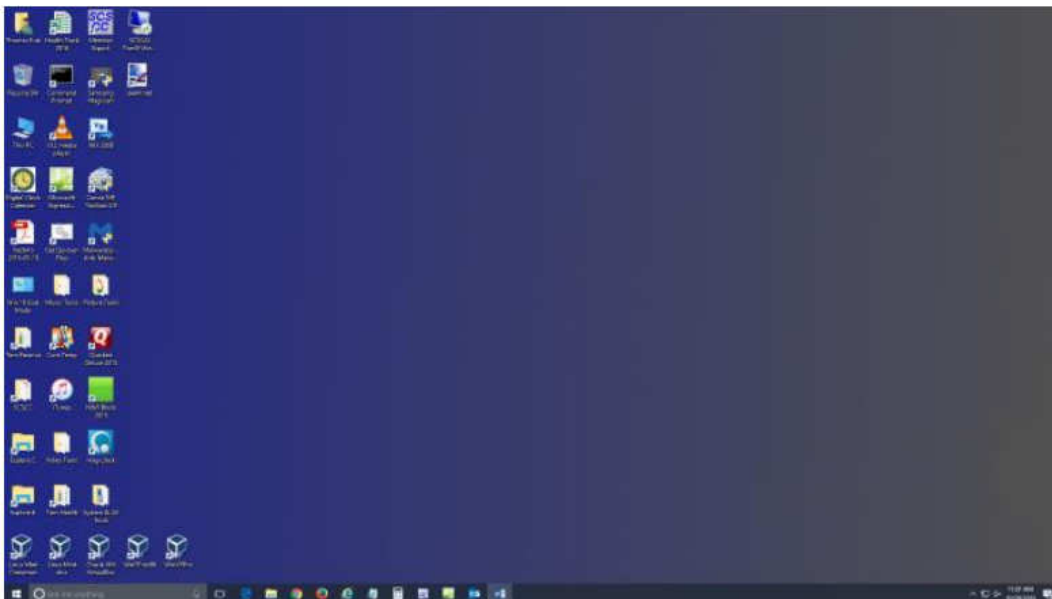
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## Tom's Tech-Notes

### Windows 10 – Tuning Up Your Start Menu

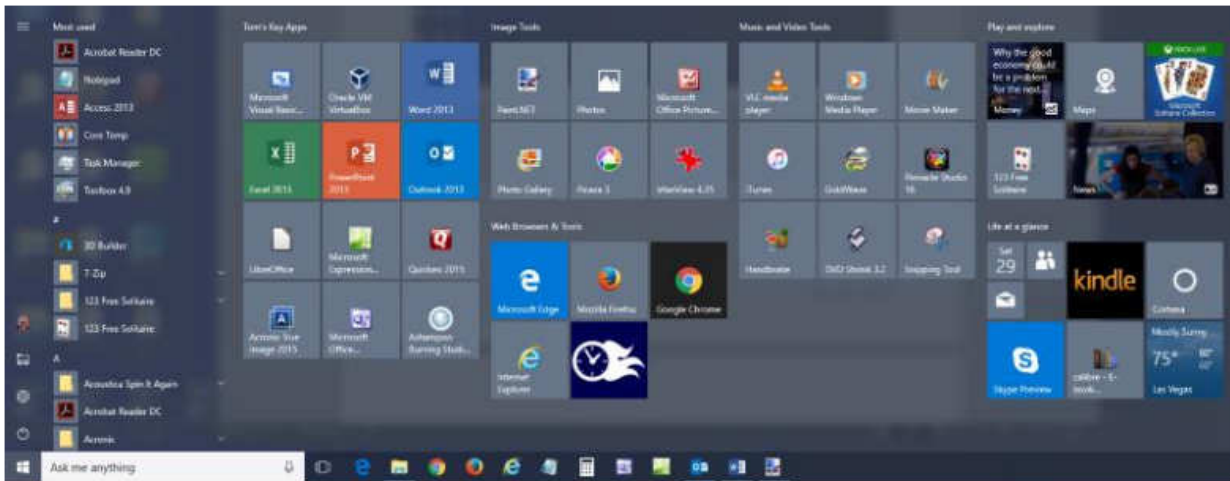
Tom Burt, Vice President, Sun City Summerlin Computer Club, Nevada  
<http://www.scs-cc.com> -- [tomburt89134 \(at\) cox.net](mailto:tomburt89134@cox.net)

Windows 10, originally released in July, 2015, recently saw its second major update (V1607-Anniversary) in July, 2016. By now, most Windows 10 users have received that update. Originally, I had mixed feelings about the new hybrid “list and tiles” Start menu. However, I've gradually come to like it as a way to declutter my desktop and actually make it easier to find things. Here's a screen of my desktop today:



The exact details don't matter. As you can see, I still have a lot of icons on the desktop that I use to launch applications. Over a year of using Windows 10, I've steadily reduced the original number of icons by half to what you see in the screen shot. However, even now, when I'm working intensely and need to start an application while I have others running, it gets irritating. I have to minimize those other apps to uncover the desktop icons so I can double-click the one I need to launch the new app. Also, to launch from a desktop icon, I need to double-click it – something my stiff fingers no longer do well.

The Windows 10 V1607 Start Menu is the best incarnation yet and helps me with some of the above issues. You can open the start menu by clicking the flag icon at the bottom left of the screen or by pressing the Windows key. Following is a screen shot of my current Start menu:



I have stretched the Start menu out to allow four 3-column groups and have almost all my tiles sized to the medium, square size. In this layout, I don't need to scroll to find a particular tile. The tiles are grouped and labeled along functional lines, such as "Tom's Key Apps", Image Tools, "Movie and Video Tools", "Web Browsers and Tools" and others. The app tiles I use most are at the top left.

To launch an app, I just press the Windows key to pop open the Start menu and then click the tile of the app. The app starts up and the Start menu closes back up. I no longer need to uncover desktop icons and double click. Tiles are especially nice on hand-held touch screen devices.

Down the left side of the Start menu is the standard complete list of all installed programs. You can right-click on any program in the list and choose "Pin to Start" to add a tile for that program to the array of tiles. You can then drag the tile to wherever you want it in either an existing group or a new group.

You can right click the tile to adjust its size to small, medium, wide or large. The wide and large sizes are useful for "modern" apps that animate their tiles with "live" content. News and Weather apps are examples. The medium tiles display the app's name and an icon.

You can adjust the width of the Start menu by opening it, positioning the mouse cursor over the right edge until the cursor turns to a double arrow, and then dragging to the right (to widen) or to the left (to narrow). Tile groups will automatically move to fit the new shape of the Start menu window. You can adjust the height of the Start menu by opening it, positioning the mouse cursor over the top edge until the cursor turns to a double arrow, and then dragging up or down.

You can rename tile groups by clicking the space just above the group and then typing a name. You can move entire groups around by clicking and dragging the group's title space.

To remove a tile from the Start menu, right click it and select "Unpin from Start". That program will still be listed in the Start menu's left-side list of all installed programs. I got rid of quite a few of the default tiles for apps I never use.



To add a tile/icon to the Windows Taskbar, right click either the tile or the program name in the program list. In the pop-up menu, hover the mouse over the “More” option to get a second pop-up and choose “Pin to Taskbar”. After the icon appears on the Taskbar, you can drag it left or right to where you want it to be permanently.

So, that’s a quick summary of things you can do to make the Windows 10 Start menu work better for you!

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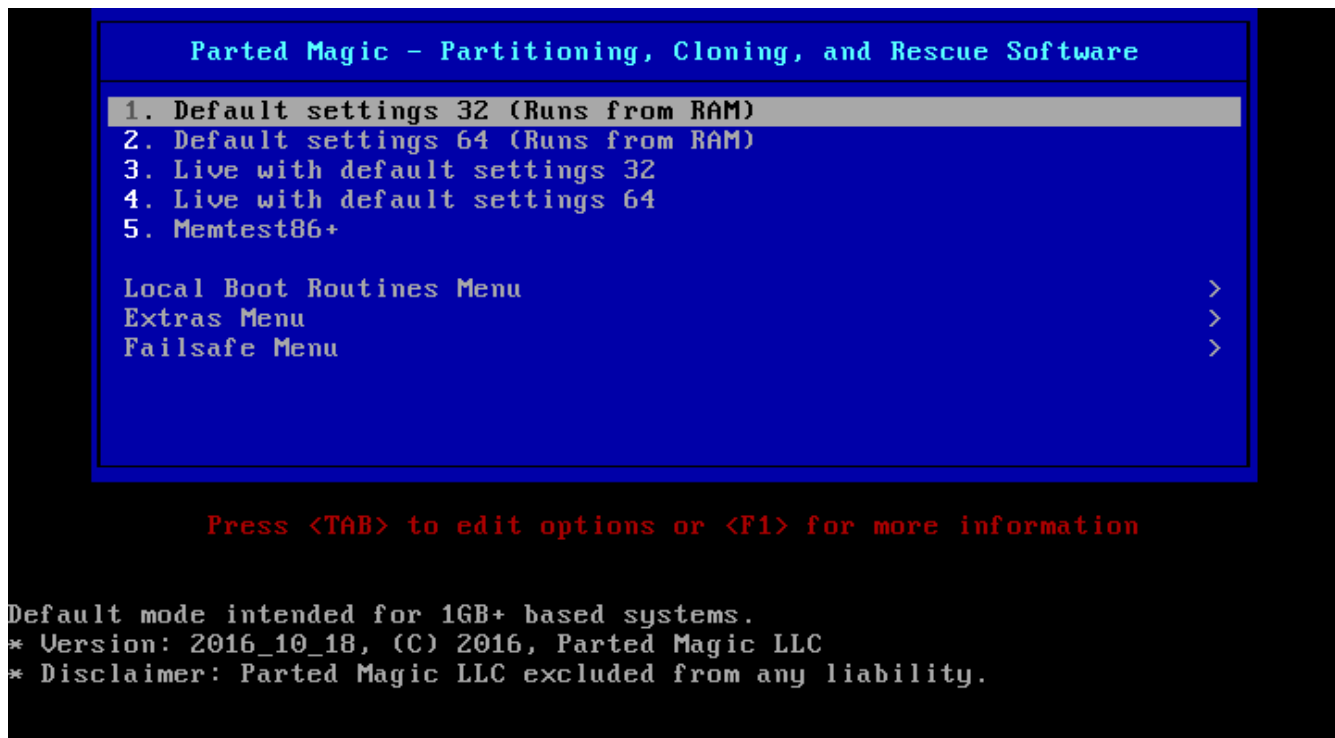
## Revisiting PartedMagic

By Dick Maybach, Member, Brookdale Computer Users’ Group, NJ  
February 2017 issue, BUG Bytes -- [www.bcug.com](http://www.bcug.com) -- n2nd (at) att.net

For many years PartedMagic, <http://partedmagic.com/>, has been my principal computer maintenance tool for formatting and copying disks, recovering deleted files, and correcting file system errors. I always carry it with me in the form of a live USB memory stick, which also has a FAT-32 partition for moving files among computers. I last discussed this tool in April 2012 (all the date references in this article are to my earlier articles in Bytes, which are available at <http://www.bcug.com>). Although it’s no longer free, I think its power and ease of use easily justifies its \$9 download cost. Similar tools are still free, and I reviewed two of these in May and June 2015; make an Internet search of “pc rescue tools” to find more.

Like other live-media tools, PartedMagic boots directly from a CD-ROM or a memory stick, which it uses like a hard disk, and it will run even if your system disk is seriously corrupted or even completely missing. However, to use a live CD or memory stick, you must set up your BIOS to boot from something other than your hard disk; see your computer manual or check the Internet for your computer.

When PartedMagic boots, you’ll see Screen 1.



Screen 1. PartedMagic Boot Screen.

The default is highlighted, and is what you almost always should select. The two “Live” choices are for PCs with less than 1-Gbyte of RAM. Item 5 is a RAM test; although RAM failure is rare, it produces bizarre and unrepeatable symptoms when it does occur, making it worthwhile to run on a new computer.

Screen 2 shows this test in progress; be sure to let it run for at least one complete cycle (as shown in Screen 2), which will take several minutes.

```

Memtest86 v4.3.7 Intel Core i7-2600 @ 3.40GHz
CPU Clk : 3392 MHz | Pass 3% #
L1 Cache: 64K 97710 MB/s | Test 32% #####
L2 Cache: 256K 52395 MB/s | Test #4 [Moving inversions, 8 bit pattern]
L3 Cache: 8192K 25715 MB/s | Testing: 1024K - 2048M 2047M of 4000M
Memory : 4000M 15722 MB/s | Pattern: 08080808
-----
CPU: 0123 | CPUs_Found: 4 CPU_Mask: ffffffff
State: WWW- | CPUs_Started: 4 CPUs_Active: 1
-----
Time 0:16:02 Iterations: 3 AdrsMode:64Bit Pass: 1 Errors: 0

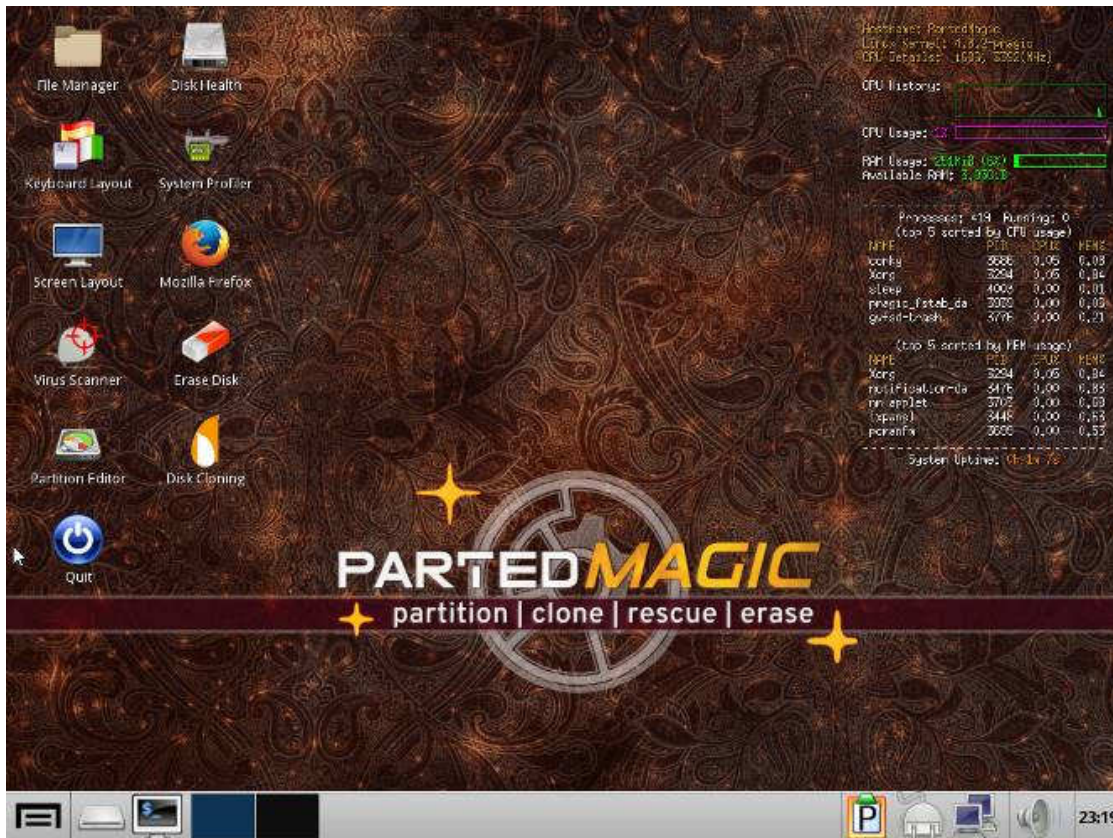
Pass complete, no errors, press Esc to exit

(ESC)exit (c)configuration (Space)scroll_lock (Enter)scroll_unlock

```

Screen 2. Memtest86 in Progress.

Assuming you choose one of the first four boot-menu options of Screen 1, you'll see the display in Screen 3.



Screen 3. PartedMagic Main Screen.

The maintenance tools you'll use most often appear as desktop icons here; just double-click on one to start it.

- *File Manager* allows you to move, copy, rename, and delete files.
- *Disk Health* provides access to the SMART data where your disks record statistics of their internal errors and performance.
- *Keyboard Layout* allows you accommodate other keyboards than the standard US one.
- *System Profiler* details your hardware and network and lets you run performance tests.
- *Screen Layout* lets you change your monitor resolution.
- *Mozilla Firefox* is the standard Internet browser.
- *Virus Scanner* checks files for viruses, but can't correct them.
- *Erase Disk* performs a secure delete of all data on a disk.
- *Partition Editor* lets you add, delete, resize, move, and format disk partitions.
- *Disk Cloning* copies the entire contents of one disk to another or to a file.
- *Quit* does that.

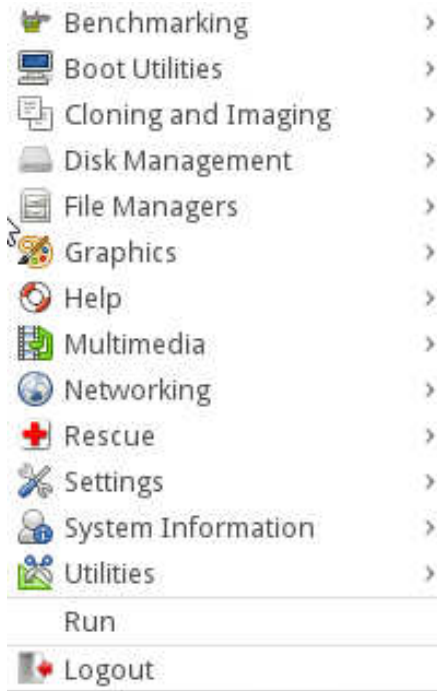
I'll have more to say about many of these later. Clearly, you should use some with care; for example, you seldom want to format or erase your system disk. If you have used computers only casually, you might want to experiment on an old or secondary machine, rather than the one holding the only copies of your financial records and family pictures.

Several more items appear in the tool bar at the bottom. From left to right these are as follows, although they may appear in different order.

- Applications, access to all, not just the icons on the screen.
- The PartedMagic disk (usually a USB memory stick)
- Command-line terminal
- Select one of two virtual desktops
- Clipboard manager
- Power manager
- Network manager
- Volume control
- Clock and calendar

On the right of the screen is a display of the current activity on your computer, similar to what you see on the Windows Resource Manager.

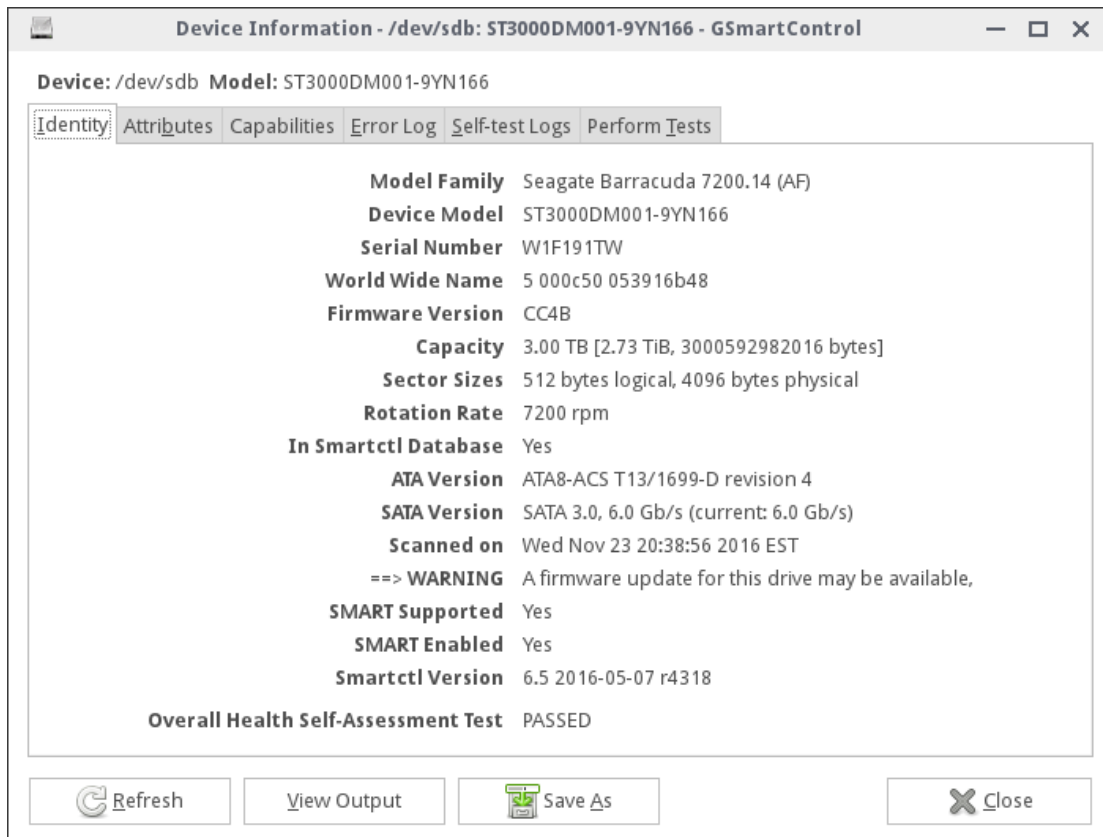
All the tools on the main screen and many more are available in the Applications menu, shown in Screen 4.



Screen 4. Applications Menu.

As the arrows on the right suggest, clicking on an item shows the individual programs available in that category.

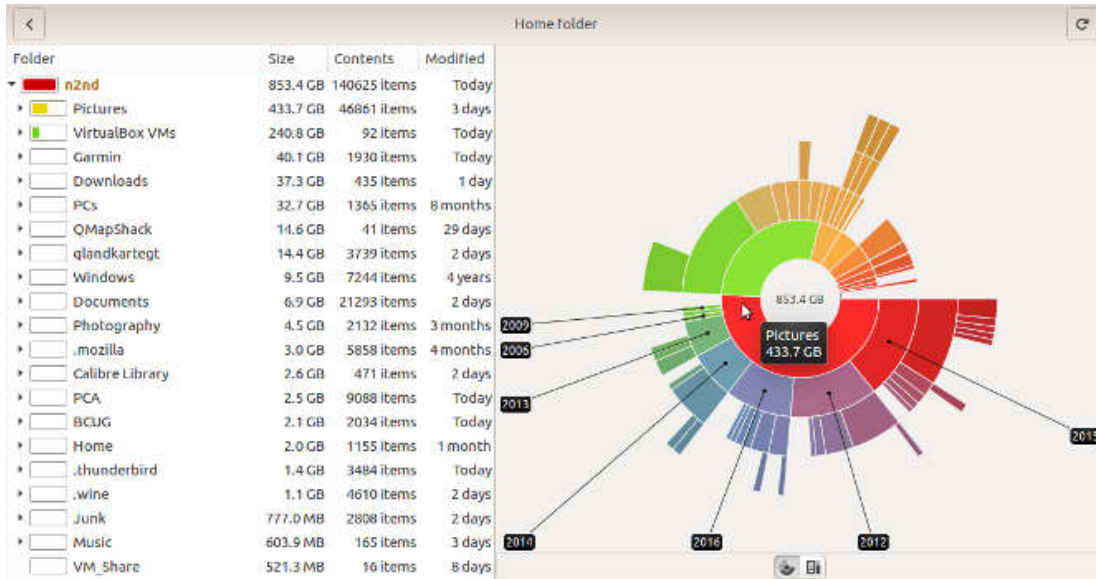
The Disk Health application is safe, as it only displays information about your hard disk and doesn't change anything. When it starts it shows an icon for each hard disk on the PC. Select one of these to see a summary of its characteristics, such as that shown in Screen 5.



Screen 5. Disk Characteristics.

Look carefully at the tabs; if the disk has problems, one of these (most likely Attributes) will be in red. If the disk has failed, it's icon in the opening menu will also be in red. For more on this application, see my May and June 2013 articles.

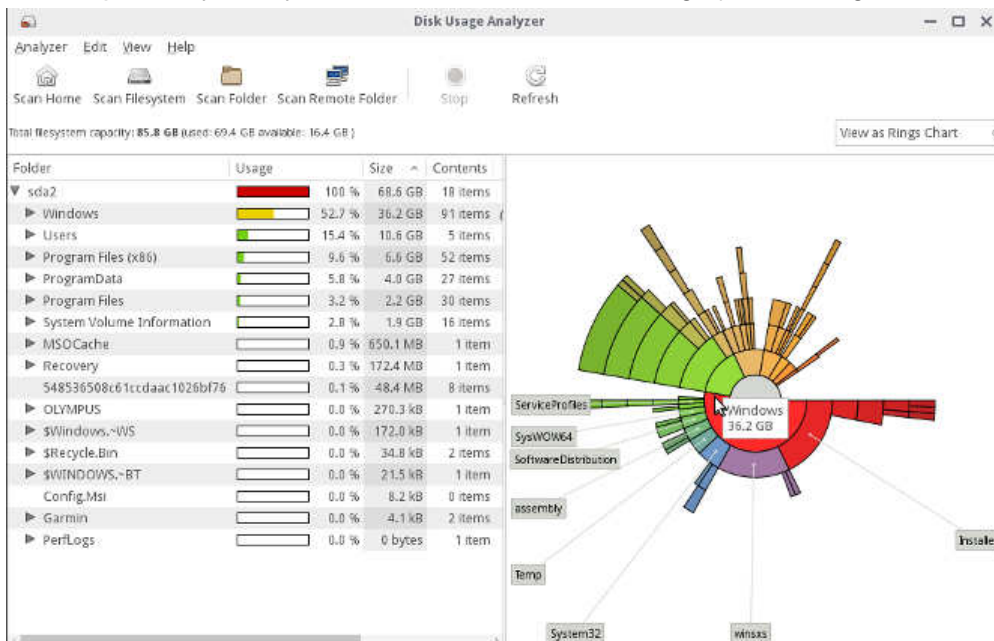
Another safe tool is Disk Usage Analyzer, available under System Information in the Application menu. Screen 6 shows the home directory of my Linux PC.



Screen 6. Disk Usage Analyzer Display of a Home Directory.

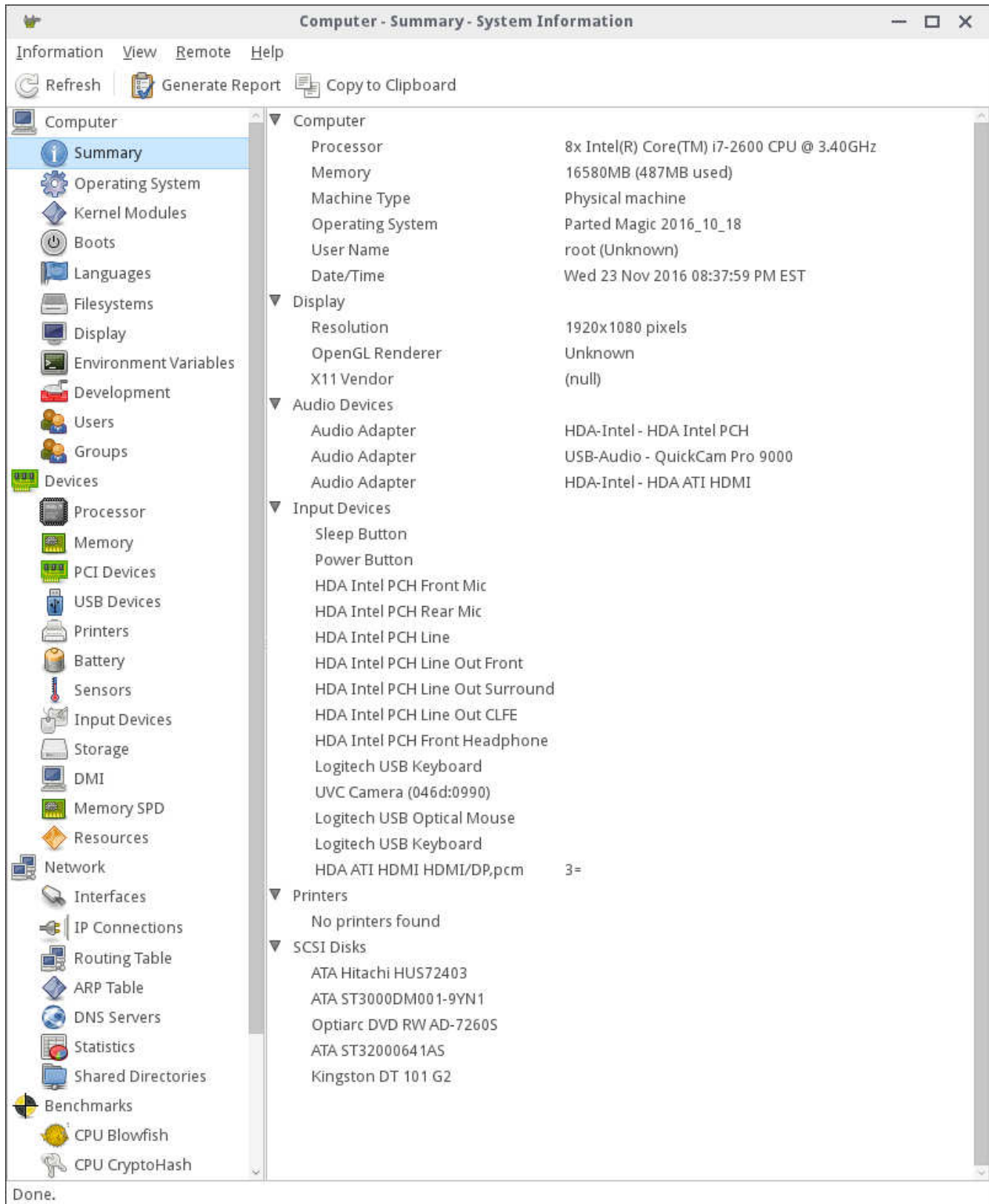
The ring closest to the center shows the directories and files in the main directory, the next ring their subdirectories, and so on. Placing the cursor on a segment displays its name and size and the names of its subdirectories. Similar information appears as text on the left. Here you can see that Pictures occupy the most space in my home directory. If I needed to free space, it would be most efficient to move my older pictures to an external disk.

Looking at the system area is less useful; for example, Screen 7 shows a Windows-7 disk. I seldom use this, which is why the User directory is so small. Unless you have one application hogging a lot of space, there is probably little you can do at this level, although just looking around can tell you about your system.



Screen 7. Windows Disk.

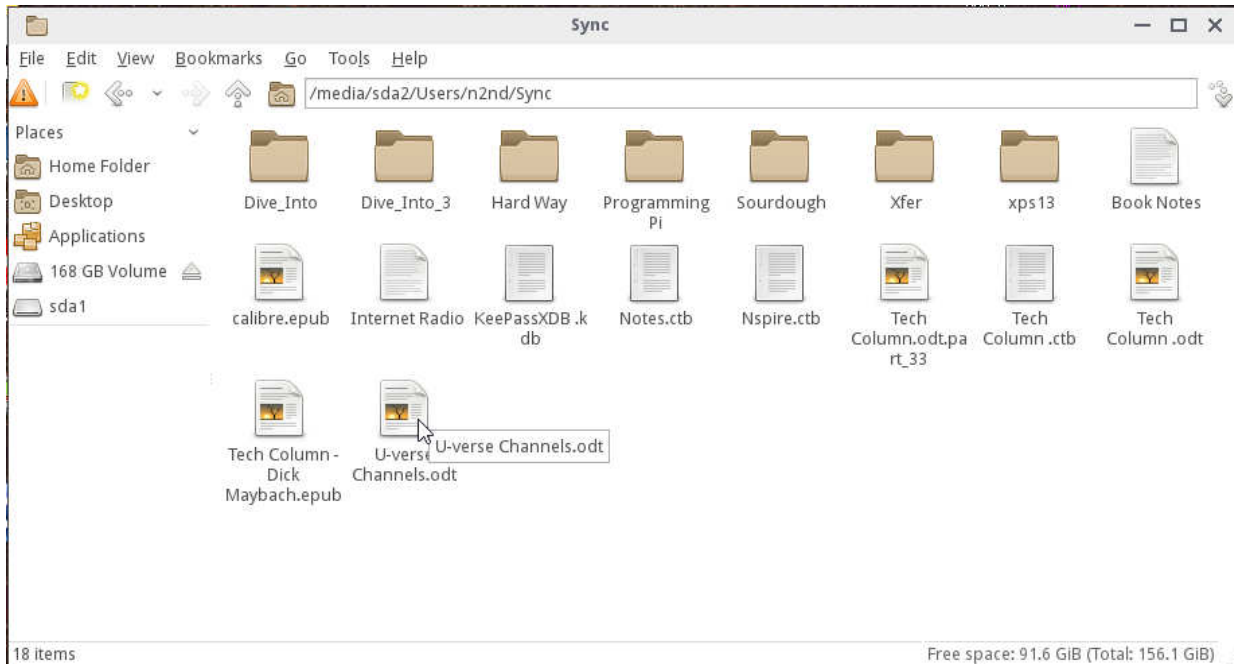
You can safely learn much about your system and check its speed with System Profiler on the main screen. Screen 8 shows its summary display.



Screen 8. System Information Summary.

You can probably learn more about your hardware with less risk using this tool than you can by opening up your system case and poking around inside. There are also features that look at your software, but the results are misleading, as you will learn only about PartedMagic's Linux operating system, not the one residing on the computer. The name of the program is "Hardinfo," and you can install it on your PC if you want software information. The version shown here is for Linux (available in most repositories), but a similar one is available for Windows at <http://www.usro.net/products/hardinfo/>.

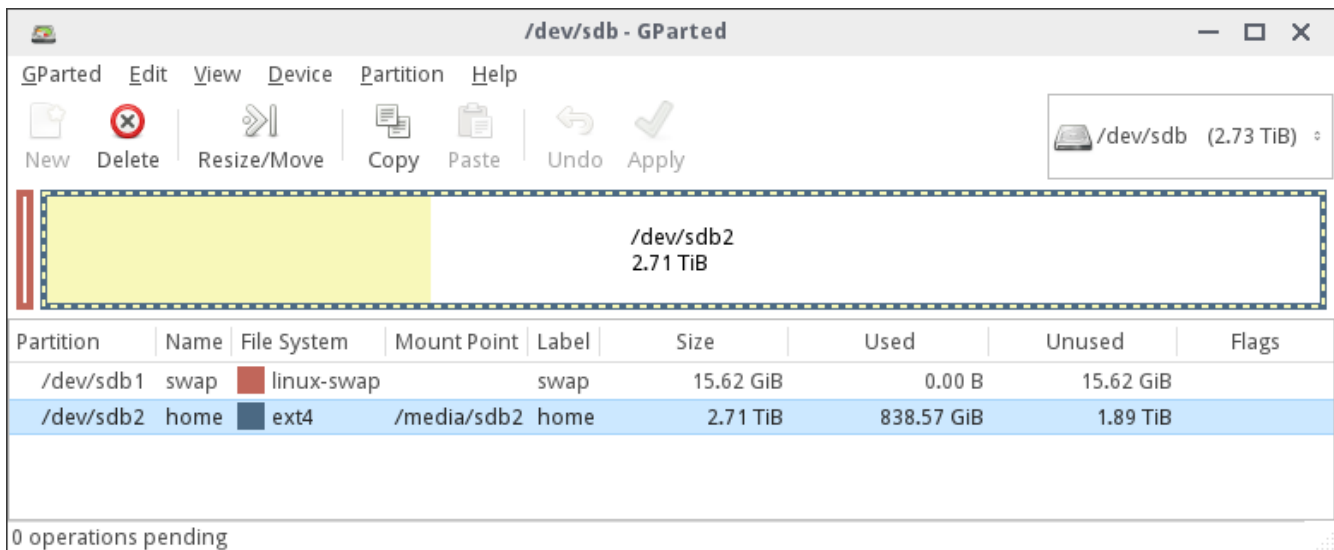
The File Manager operates much the same as Windows Explorer; see Screen 9.



Screen 9. File Manager View of a Windows Directory.

You can delete files and directories and open a second window to drag and drop them to a different location. This is Linux however and the location box toward the top uses Linux instead of Microsoft conventions. In Windows "/media/sda2/Users/n2nd/Sync" would appear as "C:\Users\n2nd\Sync." The only real caution here is that PartedMagic has no Trashcan; if you delete a file, it's gone.

The Partition Editor is quite powerful, but be careful; see Screen 10.



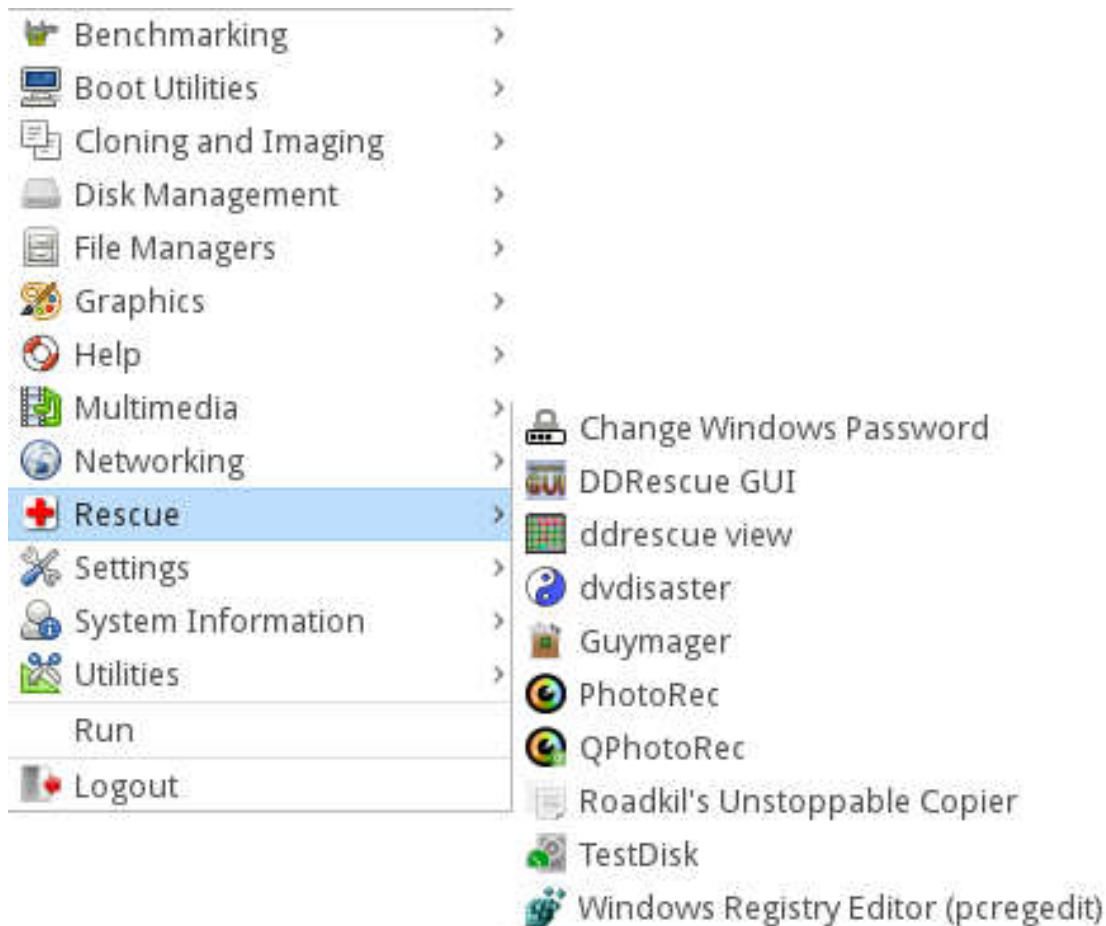
Screen 10. Partition Editor.

As you can see, this Linux disk has only a small swap partition and allocates most of its space to a home directory, which is less than 1/3 full (as shown by the yellow area). If your PC has more than one disk (as does this one), you access them by scrolling the box containing the text “/dev/sdb” at upper right. I most often use this tool for formatting new disks and memory sticks and resizing existing partitions. It is quite straight-forward to use, but if you haven’t done such things you should look for instructions and examples using an Internet search for “gparted.”

Using the Disk Cloning tool also requires care. Make a search for “clonezilla” for guidance. I’ve found that cloning an entire disk to a new one of the same or larger size is fairly straight-forward, as is copying a disk to an image file. Cloning a single partition though is more difficult, has many restrictions, and so far I haven’t been successful at it.

The virus scanner is Clam AV, which is used primarily in servers to avoid passing infected files on to others. As a result, it can only detect malware and can’t repair the files. I used it on a friend’s Windows machine that had become hopelessly infected when a teen-ager downloaded pirated audio files. I copied all their data to an external disk, checked it with Clam AV, and deleted the problem files. We then re-installed Windows and transferred their clean data files back to the PC. Windows users may wish to create a bootable CD-ROM or memory stick that is a malware repair tool such as AVG Rescue CD, <http://www.avg.com/ww-en/download.prd-arl>, or Norton Bootable Recovery Tool, <https://security.symantec.com/nbrt/nbrt.aspx>. You can download them while running PartedMagic by using Firefox for the download and UNetbootin to write a USB or Xfburn to burn a CD-ROM or DVD. However, you should create the tool and try it before you experience a problem. Running malware tools from a live medium is preferable to running them from your operating system, because in the latter case no programs on your disk are running, which means the malware can’t attempt to protect itself.

Selecting the Rescue item on the PartedMagic Applications menu produces the contents of Screen 11.



Screen 11. Rescue Menu.



These applications aid in the recovery of deleted files, and those lost through disk formatting, disk failure, and file system damage. I described the use of some in June, July, and August 2012. I won't repeat that here, but I will say that using them effectively requires some experience. You should practice by completely erasing a (preferably small) memory stick and writing a few files to it. Then try deleting them, reformatting the stick, or deleting its partition, and see what you can recover.

I recently experienced a hard disk failure, and used many of PartedMagic's tools to replace it. SMART had reported that the system disk was beginning to fail, although all the errors were correctable. Modern hard disks have extensive error-correcting abilities. They also have spare storage blocks, and when a block begins to make consistent errors, even though they are correctable, that data is relocated to one of the spares and the storage map is changed. However, the operating system is not aware of this remapping. When a hard disk is delivered, the number of these remapped blocks is zero, so any reported remapping has occurred since manufacture. This is not necessarily true for solid state disks (SSDs), which may show relocated blocks when new. My failing disk showed 120 relocated blocks, and I decided it was time to order a replacement.

This PC has three disks, one for the system, one for the home directory that holds my data, and a removable one for backup. (Having this slot for SATA disks make cloning much easier; an alternative would be a USB-to-SATA adapter.) I had wanted to reorganize the storage for some time, and decided to replace both the system and home disks to make this easier. Normally, I would move the data from a disk to its replacement by inserting the new disk into the backup slot and cloning the failing one, which copies the entire contents of one disk onto a replacement. That wasn't possible here, because I planned to change the disk partitioning from Master Boot Record (MBR) to GUID Partition Table (GPT). MBR dates from the early 1980s and limits the maximum partition size to 2 TBytes, not optimal for my 3-TByte disks. I also wanted to partition them differently, and I had also decided to do a fresh install of Linux. The safe way for this was to all this was to use the PartedMagic File Manager to copy the disk contents file-by-file onto an external disk, install Linux, and copy the contents back. It took four and a half hours to transfer the almost 1 TByte at USB-3 speeds.

The next step was to install the new disks and partition them. (Linux, unlike Windows, almost always occupies more than one partition and frequently more than one disk.) Installing Linux went smoothly as usual, and the result was a nearly empty home directory. I then connected the USB drive and during the next four and a half hours loaded all my user data files. I was careful to do this before installing any new applications or running any existing ones. The first time a Linux application runs it uses the existing configuration file in the home directory if there is one, otherwise it creates a new one. (Windows configuration files tend to reside in the system area.) As a result, I wanted to have my old configuration files in place before I ran anything.

By this time I had two days invested in the project, and I finally took a look at the health of my new disks, only to find that one of them was defective with over 400 bad blocks – on the home disk of course, which now held a TByte of data. Again, the errors were correctable and so had not affected my data. Since the disk was partitioned exactly as I wanted, cloning was possible. I loaded the old disk (that was still good) in the backup slot, partitioned it, and proceeded with the cloning. Since these were both SATA disks, the data transfer was faster and completed in less than two hours. I had only to physically move the home disk to its internal slot and was done. Fortunately, I bought the defective disk on a money-back-if-not-satisfied basis and was out only the two hours to perform the cloning. In retrospect, I should have taken a few minutes to check the health of the disks before I invested the time to install them.

I had installed all my files, including years of tax returns, e-mail, legal documents, and much more personal information, on the defective disk that was now to be returned. You no doubt know that it is trivial to recover deleted files and only slightly more difficult to recover them from a disk that's been formatted. The only sure way to remove them is to write over every byte on the disk, and this is the function of the Erase-Disk utility. Running this on a 3-TByte disk requires about eight hours, and that is what I did. I could have instead physically destroyed the disk, but I wanted that refund.

In this case, I used the PartedMagic file manager, disk health utility, partition editor, disk cloning, and erase disk applications, all of which were available on a single memory stick. It did take some time, but I was usually able to find something else to do while they ran. Without PartedMagic and some experience with it, I would have had little choice but to take the machine to a competent (in Linux) repair shop.

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## **President's Corner**

### **Close Your Windows before You Leave on Vacation**

**or**

### **Can Google-Powered Devices Eclipse Microsoft for Travel?**

By Greg Skalka, President, Under the Computer Hood User Group, CA  
September issue, Drive Light -- [www.uchug.org](http://www.uchug.org) -- [president \(at\) uchug.org](mailto:president@uchug.org)

I've used Microsoft Windows-based computers for probably 90% or more of my computing lifetime. While I've used Apple computers and tablets a bit, and currently use an Android smartphone and a Chromebook regularly, I am without a doubt more experienced with Windows (Win7 and XP) than any other operating system. If compared to languages, I'm somewhat multilingual, but my primary (if not native) language is Windows. That is why it was a difficult decision for me to choose to leave my Windows laptop behind on the weeklong trip I made with my wife to Nebraska to see the total solar eclipse on 8/21/17, and instead use my smartphone and Chromebook on our travels.

On almost every trip I've taken since I bought it in 2012, my Fujitsu Windows 7 laptop has been my traveling companion. From business trips to vacations to weekend getaways, this small, 14" laptop has taken care of all my computing needs while away from home. It has allowed me to connect to the internet (through both wired Ethernet connections and Wi-Fi) for email and information from the web. It temporarily stored the hundreds of digital photos I'd take each day while on ten-day vacations in Hawaii on its hard drive. It aided me in navigation through stored and online maps. It stored electronic copies of our travel documents, camera manuals for reference and books, music and movies to keep me occupied while on the airplane. It even allowed me to write my newsletter column on the plane ride back home, to avoid missing our editor's submission deadlines. Before I had this laptop, my 14" XP laptop performed the same travel duties.

I have been using my 11.6" Acer Chromebook more and more over the last two years. I now use it to take notes at UCHUG board meetings and SCRUGS (Southern California Regional User Group Summit) meetings, as it is much lighter than my laptop and has longer battery life. Because it is so quick to boot up (typically under 15 seconds), it is what I grab to get a quick answer off the web when not sitting in front of my laptop (though I now have an Android smartphone and go to the web on it, I prefer the Chromebook's larger screen).

Two years ago, I even took my Chromebook on a Hawaii vacation along with my laptop; I was not brave enough to take the Chromebook alone. This eclipse trip was the first time it went instead of the laptop (it is also our first vacation since that Hawaii trip – I really need to get out more). I knew the Chromebook would be great for web access, as it boots so fast. It only has Wi-Fi, but few hotels have wired Ethernet available in their rooms these days anyway. Though the Chromebook can't run Thunderbird for email like my laptop, I can still get my Juno email through their web interface.

My main concern with the Chromebook is its lack of internal storage. To capture the entire eclipse experience, we would be taking four still cameras and four video cameras, all digital, on this trip. I could have just bought more extra SD memory cards to use in the cameras, but found I could use an external USB hard drive (2.5" type that gets all its power from the USB cable) as mass storage for photos and videos. The file manager in the Chrome OS does not use the familiar copy and paste; it is a little confusing to the Windows user in that dragging a file from one memory device to another copies it instead of moving it. I practiced on all the cameras before we left and wrote the process on a sticky note on the Chromebook, so I felt the photo storage process using the external USB drive would be OK.

It is funny how technology sometimes comes full circle. In the early days of digital photography, memory cards were small and rather expensive, so a few companies made external photo hard drives. These were small rotating platter drives with a built-in battery and memory card reader or USB OTG (On The Go) interface. You could connect your camera or memory card to one of these photo drives and it could copy off your photos without any other controlling device like a laptop. I still have a few of these photo drives, but their capacities now seem so small. Today memory cards are large and relatively inexpensive, but I still prefer to copy my photos off to a hard drive; I think it is easier to organize and deal with one hard drive than a bunch of memory cards.

Once we got on the plane to leave on vacation, I discovered the other main issue with the Chrome OS – its lack of support (drivers) for some file types and devices as compared to more the popular Windows. We flew on Southwest Airlines from San Diego to Omaha, through Las Vegas. On one of our flight legs, our plane was equipped with onboard Wi-Fi. Southwest provides some free TV shows and a flight tracker in addition to paid movies and an internet connection (\$8 per day) on their Wi-Fi-equipped planes (projected to be on all their fleet next year). I recall watching the free TV the last time I flew; unfortunately, the streaming video format they use is not supported by the Chrome OS. It does not appear I could have used the paid internet service either, as it only listed Windows, iOS and Android for supported devices. At least I could use the flight tracker on my Chromebook. I tried to watch the inflight free TV on my Android smartphone, but it required a Southwest video app that I would have had to have downloaded from the Google Play store before I boarded the plane.

Once at our destination, the Chromebook proved its worth by providing good and quick internet access at our hotels and copying photos and videos from cameras to the external USB hard drive as needed. Copying whole folders of photo JPEG files worked fine, although there were a lot of files, they were not too large. The video files I was copying were up to 1 GB each, which could take 5 minutes or so apiece, so I chose to copy each video file individually rather than as multiples. It seemed the Chromebook took longer to copy files than my Windows laptop did. Since the Chromebook's processor is not as fast or powerful this would not be surprising, but I'd need to do some testing at home to confirm this.

Viewing the photos and videos on the hard drive also brought out the Chromebook's limitations. It could display the JPEG photo files, but scrolling through them was slower than on my more powerful laptop. The Chromebook could view the AVI and MP4 video files my dashcam and action cams produced pretty well, but the MTS files my digital camera creates in video mode could not be viewed at all. I downloaded an app called VLC from the Chrome OS store to view these .mts files, but the playback was very jerky. My digital video camcorder records in high definition AVCHD format, which the Chromebook cannot handle.

I usually receive around a hundred emails a day on my primary email account (Juno), but I could use the Chromebook to tame my email while on travel. I used the Juno web mail interface about once a day to delete all but the most essential emails, so that I could download them into Thunderbird on my laptop upon my return home. I could of course handle those emails that were critical from the web mail interface, but that proved to be necessary for only a few.

The real star of the traveling tech show proved to be my smartphone. I used it to communicate via texts most of the time, rather than emails. Through the camera app I had installed before we left, I was able to view the three Samsung web cameras in our house on the phone and feel confident everything back home was safe. Unfortunately, at this time the Chromebook does not support all Android apps, so my home web cams could not be viewed on the Chromebook. Google is supposed to be fixing Chrome to allow the use of all Android apps, which will be a big benefit; we Chromebook users are still waiting.

I also used my smartphone to run Google Maps for navigation, though as I feared this worked well only in the major cities. Out in the country (which is most of Nebraska), where there is limited cell coverage, new map data could not always be loaded by Google Maps and location searches could not be made. Fortunately, I also brought my Magellan auto GPS receiver, which contained map files to navigate anywhere in North America. Google Maps did provide much better navigation, traffic and point of interest searching where cell coverage was good, so we usually ran both the smartphone and Magellan GPS for

navigation, using each as appropriate to the situation. In San Diego, we take for granted that we will have good cell coverage as we drive. In Nebraska, away from the major cities the cell coverage can be poor, even along the Interstate highway.

With all the cameras and tech tools we brought, we could have a great vacation and see the eclipse in totality for almost two and a half minutes, taking way more photos and videos than we probably needed. I'd seen partial solar eclipses before, but the totality we experienced was a wondrous thing. The next chance to see a total solar eclipse in the U.S. will be on April 8, 2024, less than seven years from now. It will be visible from Texas through the middle of the eastern U.S. and up to Maine. I'd like to see that one as well. With the way my Google devices worked on this trip, I'd definitely consider leaving Windows at home again. But a lot can change in the tech world in seven years. Who knows what kind of technology I'll have to take on my travels by then?

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The **Summer VTC videos** have been uploaded to APCUG's YouTube Channel. You will find the videos embedded on the website at:

<https://apcug2.org/apcug-2017-summer-virtual-technology-conference-vtc25/>

Click on the name of the presentation; the video is below the PDF presentation and other handouts.

**Pi-hole, a LAN-wide ad blocker that runs on a Raspberry-pi** - <https://youtu.be/nQjj2BaBKE8>

**Home Automation Security** - <https://youtu.be/EMeb8eqOukY>

**Finding Tech Information on Medium.com** - <https://youtu.be/A2DPVIMyz-E>

**GNSS (Global Navigation Satellite System) - Why You Shouldn't Get Lost!**  
<https://youtu.be/NVwXG1vbHak>

**Chromebooks are for Seniors** - <https://youtu.be/4uszFPNL-SU>

**Ideas for Revitalizing Your Tech Club** - <https://youtu.be/UM9xq3ebye0>

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