BITS AND BYTES

Midland Computer Club
Midland Michigan

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https://mcc.apcug.org/

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

Wednesday, January 22, 2020
6:00 P.M.
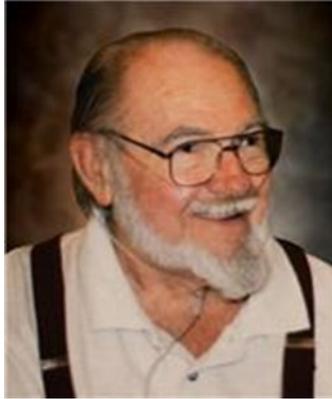
George L. Binder Jr., 82, of Midland and formerly of Edenville, died Nov. 20, 2019 at Woodland Hospice House of Mount Pleasant. He felt blessed to have been the son of the late George Sr. and Lillian (Askey) Binder. He was born Aug. 26, 1937 in East Tawas, where he was raised and educated.

On Feb. 27, 1960 he married Sandra Lee Elizabeth Konenski in Tawas. George joined the U.S. Air Force in 1956 and spent one of his four years on the DEW (Distant Early Warning) line in Goose Bay, Labrador and Frobisher Bay Baffin Islands in the North West Territories. After being honorably discharged in 1959, he went to work for The Dow Chemical Co. in Midland in 1960 working in the labs and later as a master electrician, retiring in 1993 after 33 years. He was a proud member of the United Steel Workers of America Local 12075. He was a union representative of the Joint Apprenticeship Committee. He worked as a sexton for Edenville Cemetery and was elected to a number of years as a trustee of the Edenville Township Board. He was a past member of the Midland-Gladwin Mental Health Board. He sold real estate and received his broker's license after five years with Del Whitney ABC Real Estate. You also may have seen George painting barns or roofs or volunteering at Meridian Public Schools for a few summers. You may have cut your own Christmas tree at his Edenville abode. He enjoyed working in his man-made forest. He enjoyed square-dancing, playing pool, bowling, fishing, hunting and playing cards. His health took most hobbies away but not his passion for playing the stock markets and managing his investments.

George is survived by sons, George lll Binder of Virginia Beach, Va., Kurt (Judy) Binder of Boston, Mass.; and daughters, Gerilee (Russell) Kish of Midland, Kim (Brad) Wishowski of Hudsonville. George had grandsons, Brandon (Shaelynn) Kish of Plymouth, Andrew Kish of Midland, Curtis Binder of Massachusetts and Trenton Stone of Virginia. He also was blessed with great-grandson, Weston Kish. He is also survived by brother, Don Binder (Mary) of Panama; sisters, Barbara Sullenger of Kissimmee, Fla., Lillian Engle of East Tawas and Marylou (John) Bailey of Wayland, Mich. He was preceded in death by a brother, Joey; and sister, Fran Guadagno. George also enjoyed his many nephews and nieces and their families.

There will be no funeral services and cremation has been completed as per his wishes. Please share your thoughts and memories of George with the family at www.waresmithwoolever.com. Those planning an expression of sympathy may wish to consider Woodland Hospice House.

Published in Midland Daily News on Nov. 23, 2019

Crowns and Computers

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July 2019 issue, The ICON Newsletter Meamato76 (at) gmail.com www.iconusersgroup.org

Like most professions, dentistry has been deeply impacted by computer technology. Many dentists, for example, have been using digital x-rays. Several months ago in an article entitled Musings on Medicine, I discussed the advantages of using digital radiography, including quicker imaging times and decreased radiation.

Another major facet of dentistry that has been affected by computers has to do with the way dental crowns are made. A crown is a small prosthetic cap that fits over an entire tooth to restore its strength and appearance. A crown may be necessary for a variety of cosmetic and/or functional reasons. A tooth might require a crown if it is broken, racked, heavily decayed, worn, damaged in some way, or compromised by a root canal.

I had a number of crowns made back in the "old days" before the advent of computers. A tray of gooey putty was placed over my teeth for a few minutes and then the impression was sent off to a distant lab where the permanent crown was made. In the meantime, for the next two weeks I had to endure a fragile temporary crown.

All that has changed with CEREC-3d CAD/CAM. CEREC stands for "Chairside Economical Restoration of Esthetic Ceramic Crowns." CAD/CAM stands for 'computer assisted design/ computer assisted manufacturing."

CAD/CAM has been used in industry for many years, but dental CAD/CAM applications were not available until the 1980s, and CEREC technology has only become popular in the last decade.

My dentist, Mr. Jeff, DD, was one of the first dentists in Springfield to embrace this technology approximately 10 years ago. He has made several crowns for me with this technique, and it was so much easier than the old method – and much faster, too. Instead of taking two visits and two weeks to get the permanent crown, it only required about two hours total in one visit to have the new crown made and placed in my mouth.

Ceramic tooth material

Here is what is involved: The first thing my dentist does is take a picture using a dental program which allows him to make a 3D map of my teeth, including top and side views. This allows him to design the crown chairside right then and there on his computer monitor, bypassing the need for filling my mouth with goop and sending the impression off to a lab. This computer data is then transferred wirelessly to a milling instrument that carves the crown out of a block of strong nonmetallic ceramic material. A block of a harder material is chosen for back teeth because they are subjected to stronger grinding forces. The milling machine (about two feet long by one foot wide) takes up to 30 minutes to make the crown, which is then bonded into place in the patient's mouth.

This method is so precise that there is virtually no risk of damage to adjacent teeth. My crowns also have a very natural feel because they are customized to my bite. They blend in well with the rest of my teeth and look and feel natural.

The milling machine used to make crowns using CAD/CAM technology.

Dr. Jeff estimates he has made approximately 3,000 crowns using CEREC CAD/CAM. Currently only about 20% of dentists in the Springfield area have this technology, so if you need a crown, be sure to check if it is available at your dentist's office and ask how many crowns they have made using it, since like everything else with computers there is a learning curve.

In summary, I am very lucky that my dentist is on the cutting-edge of dentistry and that he could offer me this computer-based technology. I can attest from my personal experience that it is definitely easier, faster, and more accurate than the old method of creating crowns.

File Explorer – Files, Folders and Beyond!
Author: Phil Sorrentino, Contributing Writer, The Computer Club, Florida
July 2019 www.scccomputerclub.org Philsorr (at) yahoo.com

File Explorer is an integral part of Windows 10. You might have even heard that it is the "Keys to the Kingdom." File Explorer, as you probably know, provides the ability to work with, and manipulate, the Files and Folders on your computer. Files are the basic elements that we collect and use. Folders are the infrastructure that we create to allow us to manage the store house of knowledge that is in the collection of files. So with File Explorer you can create new folders to organize your data. You can Move or Copy files and/or folders to new locations. You can even examine the properties of a file or folder. And File Explorer is the component of the Operating System that provides a Graphical Interface so we don't have to remember any arcane commands for a command line interface These basic features have been available as long as File Explorer has been part of the Windows Operating System (circa the hazy past when Windows 95 was new).

A File Explorer window provides a lot of information about your computer. There are three main areas of interest in the window, the (context sensitive) Ribbon, the Navigation pane, and the Contents pane. (Yes, I know you can add a third pane to the right of the Contents pane which then provides further information about the item selected in the Contents pane, but that's just icing on the cake.) The Ribbon provides the set of tools that can be used, based on the selection in the Navigation pane and the Tab (above the ribbon) selected. The Navigation and Contents panes are below the ribbon, Navigation on the left, and Contents on the right. These two panes allow you to review and modify the collection of files and folders on your computer. When you highlight an item in the navigation pane, the contents thereof are shown in the contents pane. This allow you to easily move or copy items using "Drag and Drop", always moving items from the right (Contents pane) to the left (Navigation pane). Of course you can also use the keyboard commands for Cut (Ctrl-X), Copy (Ctrl-C), and Paste (Ctrl-V) to accomplish the same move or copy.

When you first open a File Explorer window, it will be focused on the Quick Access area by default (unless you have attended the File Explorer class and have made the suggested change to focus on "This PC." This can be done by selecting the View Tab and then clicking on the "Options" button, choosing "change folder and search options, and finally selecting "This PC" in the popup window). Focusing on Quick Access doesn't provide many new features, but if you change the focus to "This PC," either manually by clicking on "This PC,' or making the change described above, you will have the ability to get to some useful areas.

Here are the controls you will have available when you focus on "This PC." It is probably obvious that "This PC" is your computer, whereas, Quick Access is quite different. Quick Access is an automatically populated list of recently accessed files and frequently accessed folders, which will probably change automatically, over time. (This may lead to confusion if you get used to using Quick Access because of the fact that its contents may change without your provocation or knowledge.)

The first item that is available on the ribbon is "Properties." Click it and you will see information about your computer's Hardware and Software. Yes, this is the Control Panel's System page, but now it is easily available whenever you have a File Explorer window open. Next on the Ribbon are Network features. If you have a home network of computers this can be helpful, if you don't have a network move on to the System group. Here you can immediately get into Settings by clicking on "Open Settings" (this is probably not terribly valuable because Settings can easily be accessed via the Start button which is always available on the Taskbar). The next item in the System group may be more useful; it is "Uninstall or change a program." This is a quick way to get to the App option in Settings. Here you will see a list of all of the Programs (Applications) installed on your computer. This is where you can Uninstall a program or possibly modify its operation. The next item, "System Properties" is another choice from Settings; the "System-About" screen. This screen shows the Hardware (Device Specifications), gives you the ability to "Rename this PC," and provides a summary of the Security features being employed by Windows, such as "Virus & Threat Protection" and "Firewall & Network Protection." Clicking "See details in Windows Security" immediately gets you to the Windows Security page in Settings.

The last item in the system group is Manage. This provides entry to "System tools," "Storage," and "Services and Applications." I know you can get there via the Control Panel by selecting "Administrative Tools," and finally selecting "Computer Management," but this is a much easier way to get to these areas. System Tools includes a few useful tools like a Task Scheduler and Performance monitoring tools. Storage provides "Disk Management" which allows you to look deeply into your hard drive partitions. This is a place you may only want to view, and not try to change anything unless you have very good directions and the phone number of someone who can get you out of any trouble, should you get into trouble. The last area is "Services and Applications" which provides a view into the "Services" that are part of Windows 10. Services are software programs that are part of your system. The Services view shows you all the many Services and whether they are running or not. This view allows you to change how some of the services are started and how they run. This area should mostly be considered Off Limits, again unless you have very good directions for a particular change. (And you may someday find yourself in this area if you're trying to troubleshoot a strange problem, but most of this should be left to someone with a lot of "under the hood" experience.)

All of the tools mentioned so far are available because "This PC" has been selected in the Navigation pane, and the "Computer" Tab was selected. (Remember that the ribbon is context sensitive; meaning that, based on the selection in the Navigation pane and the Tab selected, certain tools will be available on the ribbon). So, there are other tools that are specifically for use with your disk drive that become available on the ribbon when you select your hard drive, typically the C: drive in the Navigation pane and then choose the "Drive tools" tab. Here you will find tools for Optimizing,

Cleaning Up, and Formatting disk drives. You may not use these tools very often, but when you need them they will be easily found File Explorer's ability to organize and access our data with all of these tools and features, guarantees it will continue to be the "Keys to the Kingdom."

Making Your Tech "Fit" - Tech and Your Eyes
Author: Debra Carlson, Technical Advisor, CVC Computer Club, CO
Q1 issue 2019, Tech-Notes cvc.computer.club (at) gmail.com

Words like "ergometrics" and "accessibility" fly around when talking about tech devices but what does that mean practically – to the user?

First, a definition:
Ergometrics is an applied science concerned with designing and arranging things people use so that the people and things interact most efficiently and safely — called also biotechnology, human engineering, human factors merriam-webster.com/dictionary/ergonomics

This quarter we'll talk about how tech interacts with EYES.

COMFORT can be an important guide for dealing with eyes and tech.

1. Ambient lighting should complement light from the screen.
Lamps pointed directly at the screen cause reflection making it harder to see what is printed. If you are typing from notes, however, it is important to have that document well-lit to prevent eye fatigue. Avoid setting a monitor where it will get direct sunlight for the same reason.

2. Most monitors (*hardware*) and operating systems (*software that controls how interactions occur within various computing components like hardware or programs used to browse the internet or create documents*) have light level controls in addition to color and size settings. Tempering the background color and complexity of any graphic that "shows through" your viewing windows will lessen the need for more lumens (*the amount of light*). Sometimes changing to dark background and yellow or white print is less taxing to the eyes … making it easier to see.

3. The position and angle of the monitor are important! You might be surprised how much raising the monitor, or tipping it slightly, will improve screen visibility.

4. Some find "computer glasses" help arbitrate the distance to a monitor if using a desktop or laptop regularly … and some find glare is cut (*particularly with cataracts*) by using "yellow lens" sunglasses (*slipovers or clip-ons*).

Safety is assisted by comfort, but it is a **DISCIPLINE**. Eyes, balance, circulation, joint health, and physical health in general benefit from:

1. Adjusting the monitor so you can see it easily. Perhaps getting a riser for it (*if you are taller)* so you will sit straight in the chair.

2. Look away from the screen often. When you look away from the screen, shake out your hands.

3. Plan to stand and walk regularly – some suggest every 10 minutes … most at least every half hour.

Don't be afraid to experiment with screen resolution or font size. Just remember the following:

1. Before a change, take note of what it is you are having trouble seeing. Every solution makes "changes." But making the ***most efficient change*** for your problem will be the most helpful. It also makes it easier to "undo" if your needs evolve.

2. Make one change at a time and see if (or how well) it works for you. This may seem pedantic, but it will assist you in knowing what part of the system, changed, helps you most.

3. Don't forget – color change can be as or more effective than size change in some circumstances.

4. Many programs have "options" or "preferences" that can be set to make viewing easier. Where these do not exist, third-party "extensions" can provide additional modifications not included by the developer.

Don't forget about using ZOOM to make individual pages larger or smaller when needed, rather than changing the entire machine unnecessarily.

Hopefully, you got an idea or two in this. In coming issues, we will talk about:
Does size matter?
Things in your hands
Cords, Voice, Sound, and other hazards

Sad Story, Happy Ending
By John Roy, President, The PC Users Group of Connecticut
August 2019 issue, The Program www.tpcug-ct.org johnroy1 (at) comcast.net

I have an Android phone and use Google Photos. I wanted to create some storage space on my phone and decided to delete photos that were already residing in the cloud in Google Photos.

Using a local photo application, I started deleting photos off my phone. Being a little tedious doing this one -by-one I looked for a select tool but couldn't find it. I then realized it was available on the Google Photo application so I then started some bulk deletes using Google Photos. I then had this startling revelation that I was deleting my cloud Google Photos and not the dupes residing on my phone. Panic quickly set in when I realized, in my haste, that I was no longer using the original phone application that was only deleting photos on my phone.

I took a deep breath and searched for recovery solutions. Hooray, there was an easy solution that I had never used. The photos were dumped into a trash bucket that holds deletions for 60 days. Following the steps below recovered the deleted photos.

Recover permanently deleted files from Google Photos in Trash

Files that are accidentally deleted from Google Photos will stay in your trash for 60 days. So, if you permanently delete your photos or video on your phone, you can try to fully retrieve them back in Trash during this period.

1. Open the Google Photos app and tap on "Menu." Then select your "Trash" folder.

2. All of your deleted files will be listed. Simply select the photos or videos you wish to recover, and then tap the Restore button to restore them.

Settings – What happened to Control Panel?
Author: Phil Sorrentino, Contributing Writer, The Computer Club, Florida
www.scccomputerclub.org Philsorr (at) yahoo.com

Way back in the days of Windows 7, the Control Panel was the way we adjusted the operation of certain parts of the Operating System. Control Panel was easily found because it was in a short list of options when you clicked the Start button. When you clicked "Control Panel," you were presented with a set of Apps (originally called Applets), that would allow you to change the way certain features operated. (To get this list you had to choose "View by Icons" rather than "View by Categories.") The list of Apps included, Display, Keyboard, Mouse, System, Default Programs, Power Options, Programs and features, Folder Options, Network and Sharing, Device manager, just about all the features that you can adjust. Maybe the statement at the top of the set of Apps was prophetic in its language. The Apps were introduced by a text line that said, "Adjust your computer's settings." And maybe the thought of Settings was carried over from the Smartphone world, (i.e. Apple's iOS and Google's Android) just about when Windows 10 was being developed. No matter how it evolved, Settings seems to be the preferred term for the place to go to change the way the device operates.

"Settings" has become a common feature on many computing devices. It even shows up on other things like electric ovens, exercise machines, thermostats, and kitchen appliances. So now Settings is the place to set many of the features of Windows 10. Yes, Control Panel still exists, but it is not as apparent, or easy to find. It seems like it has been moved to different places in different Windows 10 editions. But, fortunately, you can always find it just by clicking the "Type here to Search" circle next to the Start button, and then typing "Control" into the Search bar.

You may not even have to go to Control Panel for most of the things you may want to change, because clicking Settings will more than likely get you there. And, Settings is very easy to find; just click the Start button and the Settings icon, which looks like a gear, appears right above the Power icon. Click the icon and you will be shown all the Settings categories. Just to add a little confusion, these new categories are not the same categories that are used in Control Panel, although some of the titles will be familiar. The Settings screen on one of my machines is as shown here:
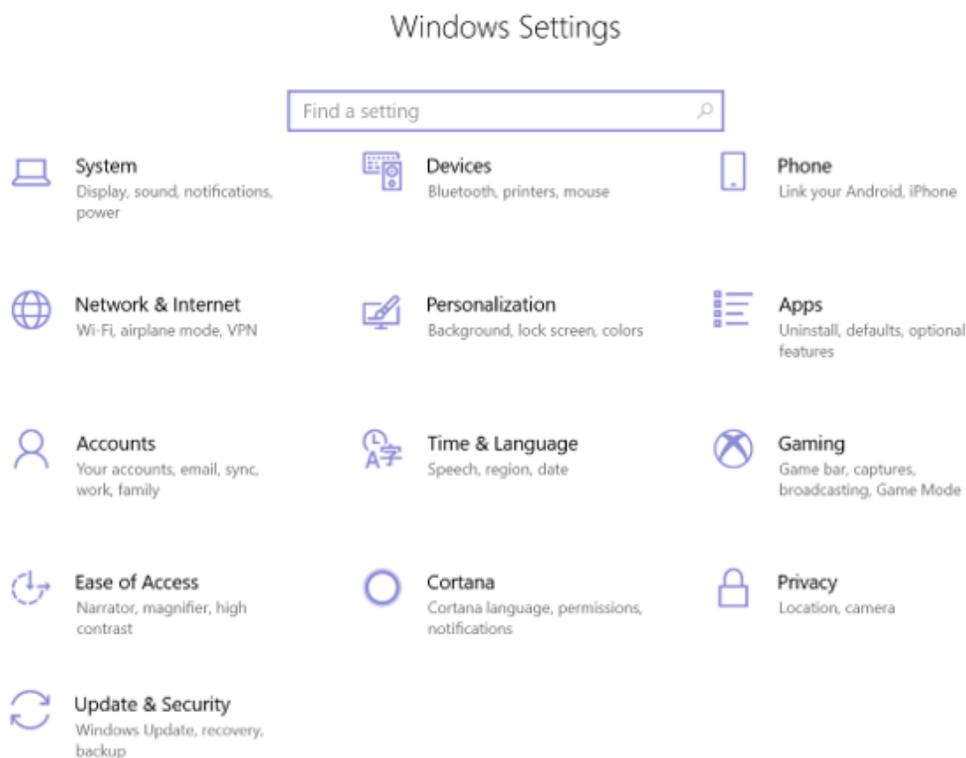
Notice that they are not is alphabetical order. Note too, that System is the first category, so Microsoft must consider these to be important settings. Here are the items in the System category:

Display. Here you will find Display-related information and settings. The first setting is "Night light," which allows you to set a schedule for the Night Light and set the "Color temperature at night." The introduction explains that "Screens emit blue light, which can keep you up at night." So, by using warmer colors, there may be less interference with your sleep. (I'm only the messenger.) Here is where you can "Change the size of text, apps, and other items," if so desired. The Resolution of the display is another setting that can be changed. (Keep in mind that if you choose a higher resolution, the text and pictures on the screen will be smaller, so if you want larger items on the screen, you will have to lower the Resolution. I know that sounds counter-intuitive.)

Sound is where you choose your output or input devices, volume, manage your sound devices and troubleshoot those devices.

Notifications & actions is where you set up the Quick Actions, the icons you see when you click the Action Center icon at the right-hand end of the taskbar. (Clicking the Action Center icon also shows you any notifications that are available.) This is also where you get to determine the notifications you can receive, and who can send you notifications.

Focus Assist is where you can choose which notification you'd like to see and hear so you can stay focused. The rest will go straight to the action center where you can see them any time.

Power & sleep. You can customize how long the screen will stay on after the last keystroke, and when the computer will go into the sleep mode. If you have a laptop, these settings are made for both "On battery power" and "When plugged in."

Battery. Here you will see a battery charged percentage indication and if you click "Battery usage by app," you will see how the battery is being used by various Apps. Battery saving options are also shown here.

Storage is where you can see the size of each local storage device (drive) and how much is being used. There are also a few storage related items here such as "Change how we free up space," and "Manage Storage Spaces." You will probably want to customize these options. You will also find "Change where new content is stored," which determines where various file types, like documents, music, and pictures will be stored.

Tablet mode optimizes your device for a touch screen so you don't have to use a keyboard and mouse.

Multitasking gives you control of the "Snap" feature, that is the ability to snap windows into half the overall screen. This can be useful if you want to Copy & Paste between two documents.

Projecting to this PC gives you the ability to wirelessly project some Windows and Android devices to your device. If you give presentations, turn on "This PC can be discovered for projection only when it's plugged in."

Shared experiences lets Apps on other devices open and message apps on your device, and vice versa. This feature improves the ability to share documents and apps among all of your devices and may or may not be useful to you.

Clipboard. You can save multiple items to the clipboard to use later as well as sync them across devices, pin frequently used items, and clear the clipboard data.

Remote Desktop lets you connect and control your PC from a remote device by using a remote desktop client. **Note:** You never want to enable this unless you completely trust the person who wants to take over control of your PC. You might do this if someone you know and trust is trying to help you with something and they are at a remote location.

About contains a lot of device specification information. This is where you will find hardware information such as Device name (with the ability to change the name), Processor type, Amount of memory, and the system type, 64bit or 32 bit. Here you will also find Software information such as the Windows 10 edition, like Windows Home or Pro, and the version number.

"Settings" is a very important and comprehensive part of Windows 10. In this article, we have only reviewed the first category, System; there are 12 more categories full of various types of settings. Stay tuned.

President's Corner—Broken Is As Broken Does
By Greg Skalka, President, Under the Computer Hood User Group, CA
August 2019 issue, Drive Light   www.uchug.org   president (at) uchug.org

We have come to expect good experiences with our technology, and even demand them. A lot of things have to go right, however, to give us those good experiences. When we want to watch a cat video on YouTube, it seems there are few of us in the modern world that don't know how to do it. Most of us probably don't realize all the things that have to work correctly in order to have that experience, however. And when something goes wrong, not all of us seem equipped to effectively determine what is wrong and fix it.

Our watching that cat video depends on a great many devices and systems working perfectly and in concert. To get to that internet site we want to visit, we need to have good ac power available or a good charge on our mobile device's battery. In our computer, laptop or smart phone, a multitude of tiny things need to work perfectly. Processors need to process and access memory and peripherals correctly, memories and other components need to function, input devices (mice, keyboards, touchscreens and switches) must operate and displays and speakers must output. The BIOS or kernel in the device, as well as the operating system, need to work together produce the capabilities and functionality required to make all those components work together to perform the task. Additional browser software must send commands and interpret results correctly. In addition to the hardware and software required at our end, the device's physical connection to the internet (wired or Wi-Fi) must work. Your ISP must provide you with a good connection to the World Wide Web, and all the hardware and software connecting you to that server hosting the web page you want to see must be working. Finally, the YouTube servers themselves must be working. If even one tiny bit of that chain of components and software fails to work as expected, there'll be no cat videos for you. And if it does not work as expected, will we be given any useful information why?

With our increasing dependence on technology, knowing how to debug a tech problem seems like an essential skill to have. Yet troubleshooting does not seem like a common skill. Admittedly, as the devices and systems we use get more complex and tend to be constantly changing, it is very difficult to be an expert on all of it, or often, any of it. Maybe everyone can't be expected to repair their own computers, fix their own cars, debug their own icemakers and unclog their own toilets. But a little bit of knowledge about these devices and systems and some basic fault isolation skills can at least help point you in the right direction and allow you to deal more effectively with any service experts that must be called in.

As an engineer, I've had many personal and professional troubleshooting experiences, but a lot can be done by less experienced users thinking logically and working on the problem methodically. Providing

substitutes for suspect components and conducting controlled experiments can help isolate the fault or eliminate potential causes. In the case of the missing cat videos, using another device to successfully view them points away from a problem with your ISP, the World Wide Web or YouTube. Being able to view other video web sites on the original device probably means it and its internet connection are OK.

When only one item has failed, the odds of being able to isolate the problem to that one item are much better. When there are multiple failures in a system, however, fault isolation becomes more difficult and takes longer. What if your ISP has a failure at the same time your computer has an issue? If your second device also can't view cat videos, you might conclude your first device is good. When you fix your ISP problem and the first device still does not work (but the second one does), further debugging will be required related to that first device.

I recently had a confusing tech problem in which my fault isolation initially pointed in several directions, with a couple of false fixes and multiple issues. Fortunately, though I've still a few minor things to fix, I appear to have resolved my main issue.

All our tech devices need stable, reliable power. Unreliable power can interrupt your use in the best case and damage your devices in the worst case. Valuable devices like computers and smart TVs should at least have a transient voltage suppression device on their power inputs. For computers, where an unscheduled power outage could mean lost data, an uninterruptable power supply or UPS is advisable. This device contains a battery, which powers the device for a short time, allowing a graceful shut-down. These are typically used with desktop computers, while laptops, with their battery installed, have a built-in UPS function when plugged into ac power.

In my home office, I have a Windows 7 laptop, my primary computer, and a Windows XP desktop, which I run from a UPS. I keep the XP machine as it has a lot of software that I still need or prefer (to avoid security issues, I don't have it connected to my home network). I typically never turn off the XP computer; I generally leave the laptop on but close its lid to hibernate it.

One recent evening while working in my home office on my laptop, I noticed that the room lights occasionally flickered, as if the voltage to them was suddenly dropping a bit. I noticed it on the ceiling light and a lamp plugged into a wall outlet, so it was probably not a failing light bulb. I did not see this flickering in lights that were on in other parts of the house but did see it in the laundry room and garage lights.

Fortunately, I made a diagram of our house when we moved in 32 years ago that would be very helpful. On a floor plan of the house, I had drawn all the outlets, wall switches and ceiling lights in each room in their locations. I added information indicating which lights or outlets each switch controlled, and which circuit breaker each was on. Anyone can do this for their own home by turning off each circuit breaker individually, and then noting which items no longer worked. From my diagram, I noticed that all the flickering lights were on the same circuit breaker.

Residential electrical circuits used to be protected from over-current and short circuit events by fuses in a fuse box, but modern electrical code specifies resettable circuit breakers. Instead of cat videos, I recommend that everyone search for videos on how circuit breakers work - they are interesting and informative.

I looked in my home's breaker box for the circuit breaker in question, but it appeared normal and had not tripped. I considered if something on this circuit were drawing high current intermittently, but there was not much on this circuit but lights, my computers and the garage door opener, and besides, the circuit breaker should trip if overloaded to the point that the voltage drops enough to be visible as flickering. I cycled the circuit breaker switch for good measure, and then found the flickering had stopped.

A few days later, again in the evening, the flickering lights were back, and this time my XP computer's UPS was making occasional clicking sounds. This seemed to indicate that the UPS was protecting the computer, but then my XP computer went off. The UPS did not protect the computer, which probably meant the internal battery in the UPS was bad. I left the XP computer off and also unplugged the UPS. I'd need to look into buying a replacement battery.

For the next few evenings, it appeared that the flickering had gone away. It is hard to troubleshoot a problem that no longer manifests itself. Though still without a UPS battery, I needed to use the XP computer, and so used an ordinary power strip to plug all the XP computer components into the wall outlet. When I tried to start it, however, the computer would not turn on. Sometimes it seemed like the fans would spin momentarily when I pressed the front panel power button, but it otherwise remained dark and dead. Had the power glitching killed my computer?

I pulled the XP computer out and set it on a table. It was obvious it had been running in its place for a long time, as the air inlets were covered in dust. I opened up the case and cleaned out all the accumulated dirt and dust. I also disconnected and reconnected all of the internal connections I could reach, in case any had corrosion or dust on the contacts. While still open, I plugged a power cord into it and hit the power switch. This time it started up! I switched it off, and then on. This time it did not start. I repeated this a number of times and found it would start about one time in five. I looked like maybe the power supply needed to be replaced, but once it got running, it seemed OK.

Since I needed to use it, I plugged the XP computer back into the power strip and got it running. That evening I noticed the flickering lights again. Then while I was sitting there, the power in the room went out completely for about a second, and then came back on. This was obviously not something shorting the power as the circuit breaker had not tripped - it must be an interruption or "open" in the circuit somewhere.

I told my story to a friend the next day, and he said the very same thing had happened to him a few months before. He eventually found that a staple used to fasten his house wiring to a 2x4 in a wall had apparently been hammered in too hard when his house was built. This had deformed the copper wire it was holding, putting a sharp bend in it. Over time, the weakness in that spot in the wire increased until it opened intermittently under heavy loads. He found where it was by determining that outlets between the circuit breaker and the staple still worked, while those past the staple had problems.

In my case, it seemed all the devices on that electrical circuit were affected, but it would be hard to tell for sure with just flickering. Fortunately, my troubleshooting was about to get easier, as that evening, while using the computer, the power in that room went off and stayed off.

I immediately went down to the circuit breaker box on the outside of the garage and saw that the breaker in question was not tripped. I carefully removed the metal cover from inside the box, exposing the wiring and the power distribution bus bars in the box. I measured the voltage on the output of the suspect circuit breaker (the screw terminal, where a wire attaches) with my digital multimeter to the ground wire in the box. It read zero volts, indicating the problem was not in the house wiring (thank goodness!), but was in the breaker.

I purchased a new circuit breaker from Home Depot the next day and went home right after work to be able to change it out while it was still daylight. To be safe, I shut off the main breakers, cutting all house power (of course my wife just loved that). I disconnected the output wire and pulled the breaker up and out (the breaker has a plastic tab that hooks into the breaker panel on the output side, and metal contacts that slide over the power bus bar in the box on the breaker's input side). I looked at my new breaker and realized it was not the same as my old one. My breaker box has bus bars that run horizontally; the new breaker I'd bought was for a box with vertical bus bars.

While I had it out, I noticed that the contacts on my old circuit breaker and the bus bar where they connected were discolored and pitted. Just like within my XP computer, perhaps cleaning the contacts would help. I used fine sandpaper to clean off both contact points and put the old breaker back in. After putting everything back together, I switched on the main breakers and checked the light in the garage - it was on! I then set about resetting all the clocks in the house and restarting all the other devices. Perhaps my power problem was fixed.
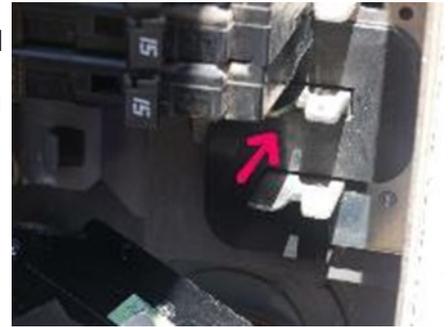
Everything worked fine for another few days, and then one evening the flickering started again. Late that evening the power on that circuit went out completely again. I switched the breaker on and off and wiggled it to try to make better contact, but it appeared that this time it was the breaker itself. It is likely its internal contacts had become pitted and corroded. It was too late to run to the store, so I removed the breaker so that I could take it with me to Home Depot the next day. Unfortunately, having this circuit disconnected disabled our garage door opener and our home internet access (the main Ethernet distribution switches are located in my office, so with no power to them, all wired and Wi-Fi Ethernet would be interrupted). I pulled out extension cords and powered the Ethernet switches and the garage door opener from other unaffected outlets.

With the existing breaker in hand, I was able to purchase the correct replacement and get my home fully powered again. I've had no problems with it since, though I still need to buy a new UPS battery and look into changing the XP computer's power supply. And quickly, before something else breaks!

Playlists – Use them to enjoy your music

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A Playlist is a list of files that can be played back on a media player. If the files are pictures and the media player is a picture viewer, you have a slideshow. If the files are audio files and the media player is a music player, you get music played for as long as the list continues. If the files are video files and the media viewer is a video viewer, you may get an afternoon at the movies. Typically with a play list, the files can be played back sequentially for an orderly experience, or in a shuffled order for a little more excitement.

Audio playlists are a great way of enjoying your digital music. Each tune to be enjoyed must be in one of the music file formats that are popular, .mp3, .wma, .wav, etc. .mp3 is probably the most popular. .mp3 is a lossy compressed format where the resultant files are about 1 tenth the size of the original file. But in the process of compressing the file some of the quality is lost. The quality that is lost is in the higher frequencies, where the human ear begins to attenuate as we age, so many of us older humans may not really be missing that much. (.wav files are lossless, uncompressed files, so if you want all of the quality, you should probably save your music in this file format when you get them; after all, nowadays storage is cheap.) By the way, Windows comes with a great application that you can use to get all of your music from your CDs - it's called Windows Media Player (WMP) and allows you to "rip" your music files from

your CDs (which is absolutely legal). It defaults to creating .wma files, so make sure you change this (in the Options) to .mp3 if you want .mp3 files. There is also an adjustment for the audio quality; the higher the number the better the quality, but the larger the file. So, once you have all of your music stored in a music database, you can start to create the playlists that will use the music files. WMP can also help you in this task. I've used WMP to create many playlists, some of which are called Love Songs, Assorted Favorites, Fun Songs, Songs from an Earlier Period, Folk Songs, Country Songs, etc.

So technically, a playlist is a file with a playlist file type. Many playlist file types have been defined such as .zpl used by the Zune Media Player (probably not many of those around), .wpl defined by Microsoft and used in WMP, .m3u originally created by WinAmp and used in the very popular free WinAmp music player, .vlc, a format used by the VLC Media Player which has the same format as .m3u except for the .vlc designation, .pls a format similar to the Windows .ini file type, and others. Currently, .m3u seems to be the most widely used file type. In my opinion, to keep your playlists most versatile, I would use the .m3u file type; but if you were going to only use WMP then .wpl would be a good choice. (WMP is setup by default to create the .wpl file type. If you want WMP to create a .m3u file type, you can change this after you have put together a list of tunes for a playlist. Right after you click "save list" you will have an opportunity to change the file type to .m3u.) In addition to being versatile, .m3u files can be easily modified, should you want to take on this tedious job. They are just text files with a simple format and can be opened with the "Notepad" word processor. To do this, just go into Windows Explorer and right click the playlist and then choose "Open with…" and choose Notepad. Each line in the file defines the location of a tune to be played, and comments can be added to the file because text lines that start with "#" are ignored. Any helpful information can be put in the comment line. Keep in mind, the tune file name used in the playlist must be exactly the same (character for character) as the tune file name in the tune database.

Here are a few lines from a .m3u playlist:
John Denver
\MP3Music\PopMusic\John Denver - Annie's Song.mp3
Alabama in Country Folder
\MP3Music\Country\Alabama – Give Me One More Shot.mp3

The first line starts with "#", so this is just a comment line and essentially nothing will be done. The second line defines the location of a tune. In this example, the tune is Annie's Song and it is by John Denver. (When you "rip" a song from a CD you have choices as to how the tune file will be named. I have chosen to title all of the tunes in my Music database as "Artist" – "Tune Title". This allows me to see all of the tunes from a particular artist in alphabetical order when I look at the Music folders using Windows Explorer.) When the music player gets to this line it will retrieve the file "John Denver – Annie's Song.mp3" from the folder "PopMusic" and start to play (process) it. Note that the "PopMusic" folder is in the MP3Music folder which is the name of the folder that holds all of my tunes. "MP3Music" also holds folders for many other music genres, such as "Country", "R&R", "PreR&R", "BigBands", "Holiday", "Jazz", "Classical"; you get the idea. So this line is like a road map to where the tune can be found. The third line starts with "#" so, again, it's a comment and nothing will happen. But the fourth line is another tune to be selected. This tune is in the "Country" folder which is also in the MP3Music folder. So when these four lines in a playlist are encountered, first "Annie's Song" will be played and after that is finished, "Give Me One More Shot" will be played. Fortunately, all the hard work of creating a playlist is done for you by the App that you are using to create and play your playlists. WMP is especially easy to use because gathering your tunes for a playlist can be done graphically by just dragging and dropping your selections from the tune (music) database into a playlist area, and finally clicking "save list", and then you are done. Now, all you have to do is start the play list and sit back and enjoy the music.

Very Large Array (VLA)
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The VLA is a physical structure about 50 mile west of Socorro, New Mexico. It consists of 27 large disk radio telescopes in a "Y" arrangement, a Control Center and various auxiliary structures. The purpose is to capture and analyze radio waves being emitted from space to create meaningful pictures and data about outer space objects.

It was originally created in 1980 and has been significantly improved since then. It is used by astronomers and others as needed in their respective occupations.


Each disk is massive, weighing 220 tons and is 82 feet in diameter and 94 feet high. It can rotate and tilt so as to aim in any given direction. Any disk can be moved along special railroad tracks. Since each disk presents such a large surface, they are subject to damage in high winds. In this event, the disk is parked pointing upward to present the least surface for the wind.

Each leg of the "y" formation contains nine disks, which can be rearranged in several ways. The configuration changes periodically from fully spread out along the "Y" to fully compressed and to two intermediate designs. The effect is to widen the aperture of the telescopes or to narrow them.

The signals from each disk are transferred by fiber optic cables to a system which translates the analog data to digital. The process is quite complicated but is performed by a supercomputer called the correlator.
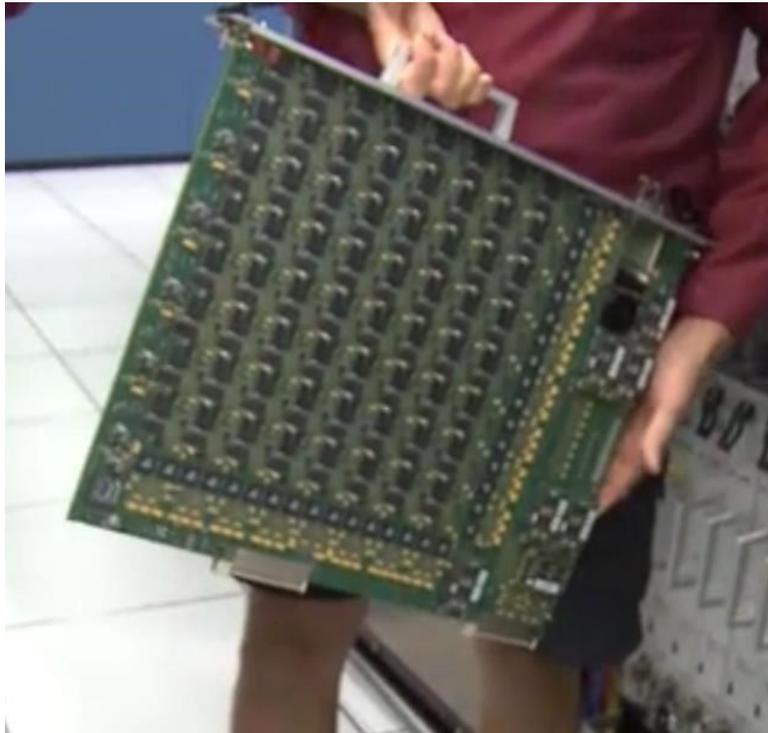
Each of the boards comprising the correlator contains some 180 ICs each with from 250 to 600 pins. VLA personnel state that it is five times faster than the fastest general- purpose computer in the world!

Anyone can access the data produced, for whatever purpose desired. The VLA can be requested for a particular job needed by an astronomer by submitting a proposal. If approved, the proposal is translated into a script for controlling the array for a specific period of time. After completion, the results are given to the requestor and after some months made available to the general public.

The facility is open to the public and a visitor center is available. Tours are provided from time to time.

The site of the VLA is the plains of San Augustin, selected to be as far away from other electronic emanations as possible. Cell phones, for example, emit a radio signal several hundred times louder than the faint signals from outer space. Visitors are asked to keep their phones in airplane mode to mask these signals. In addition, the plains are surrounded by mountains which help to shield the array from man-made radio noise.

For more information see
https://public.nrao.edu/telescopes/vla/

The Very Large Array is owned and operated by the National Radio Astronomy Observatory.

Interesting Internet Finds - August 2019
Author: Steve Costello
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In the course of going through the more than 300 RSS feeds, I often run across things that I think might be of interest to other user group members. The following are some items I found interesting during the month of July 2019.

Trying to stay off your phone? Turn the screen grayscale
https://www.lifesavvy.com/5053/trying-to-stay-off-your-phone-turn-the-screen-grayscale/
A simple, yet effective way to avoid distraction. Since reading this, I set my phone to grayscale whenever I need to concentrate on something. Also, I put the phone in airplane mode.

Search smarter with the DuckDuckGo search engine
https://www.askdavetaylor.com/search-smarter-with-the-duckduckgo-search-engine/
Are you using DuckDuckGo as your default search engine? You should be if you are serious about not having everything tracked. That said, searching with DuckDuckGo is a little different than searching with Google, Bing, etc. Dave Taylor explains how to search smartly with DuckDuckGo in this posting.

Cord-cutters beware: Amazon's TV antenna listings are rife with dubious claims
https://www.techhive.com/article/3409624/amazons-tv-antenna-listings-are-rife-with-dubius-claims.html
Cord-cutting is becoming very popular. This means higher demand for TV antennas. As with anything else, if you decide to go the antenna route make sure you do your research so you don't end up spending your money on useless things. This post explains some of the things to look for.

How to use a public computer safely
https://www.online-tech-tips.com/computer-tips/how-to-use-a-public-computer-safely/
We are in the travel season now, which makes it more likely you will be using a public computer. Read this post from a reminder of ways to keep safe while using one.

6 Ways to Prevent Computer Eye Strain
https://www.elegantthemes.com/blog/business/prevent-computer-eye-strain
This post contains tips everyone who is using computers should know. These are nothing new, but from time to time reminders of how to keep eye strain at bay are needed.

"How should you destroy old USB flash drives so that sensitive information cannot be recovered from them?"
https://langa.com/index.php/2019/07/16/how-should-you-destroy-old-usb-flash-drives-so-that-sensitive-information-cannot-be-recovered-from-them/
The question is specific to USB flash drives. The answer applies to any hardware form of data storage.

The most important thing to check before buying a Chromebook
https://www.computerworld.com/article/3405893/buying-a-chromebook.html
It is almost time for back to school, the holiday season, and the end of Windows 7 support, which means there will be more and more interest in Chromebooks. This Computerworld article explains important things to check before purchasing one.

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