Our Club

RCSI is a nonprofit 501(c)(3) group open for membership to anyone interested in computers and related technology. Our aim is to provide an exchange of information between users of digital devices. We are not in any way affiliated with any computer manufacturer or software company.

Program Meetings

No admission fee for non-members. Everyone is welcome! Second Tuesday of every month, except August, from 6:30pm – 9:00pm.

Help's Half Hour (Q & A) 6:30pm – 7:00pm. Members and Guests are welcome to attend and bring their computer related questions with them to get answered.

7:00 – 7:15, Club Business

7:15 – 8:30+, Main Presentation

Come and join in the fun and enjoy a snack! You are welcome to bring a friend.

Become a Member

Go to our website, www.rcsi.org, and download a printed form for use by the Post Office mail, **or** enter your info online and pay with a credit card or PayPal, **or** attend a meeting.

Monitor

The Monitor is published monthly by members of RCSI. Articles by our members may be reprinted by other user groups or nonprofits, without special permission, provided they are unaltered. A courtesy copy may be emailed to our author or Monitor editor.

The Rochester Computer Society, Inc.
a computer/tech club open to everyone

M NIT R

Vol. 37, No. 10   Rochester, NY   October 2019

Tuesday, October 8, 'Protecting Your Digital Life', remote presentation by Bob Gostischa

Tuesday, November 12, 'Free Software for a Windows Computer', remotely by Francis Chao

NO December meeting, see you January 14, 2020

In This Issue

* * October is *Cyber Awareness* month * *

Security – June 2019

By David Shulman, Director, Weekly Update co-editor, intergroup liaison, and a co-organizer of WPCUG's Meetup, Westchester PCUG, NY

Malwarebytes, the protection software you can run alongside your antivirus, has reported that personal attacks are down this year. Cause for celebration? NO! "The Malwarebytes Labs Cybercrime Tactics and Techniques Q1 2019" report found businesses at the butt end of a bad joke. In just one year, threats aimed at corporate targets have increased

"Your Computer User Group of the Air", Saturdays from 12:00 pm to 2:00 pm with Nick Francesco, Dave Enright, and Steve Rae. Broadcasting on JAZZ 90.1 FM from Rochester, NY.
Call 966-JAZZ (585-966-5299) or 800-790-0415

The RCSI **'Monitor'** newsletter can be found in most public libraries in Monroe County. *Free* copies can also be found in the following computer stores: Microworx, Just Solutions, TSC Electronics, and Pod Computers. Digital copies may be obtained from **www.rcsi.org** or my **Pcloud** storage at **https://tinyurl.com/tonydel-rcsi**. Also includes presentation slides and articles too large for this newsletter.

Some Past Presentations:
Cut the Cord, Streaming Services
Autonomous Cars and Robots
Open Source and Free Software
Protecting Your Identity
Keeping Mobile Devices Secure
3D Printing, ENABLE project
Flash Drives-Not Just for Storage
Features, Mac OS X & Windows
Tablets, the Programs and Uses
Personal Finance Software
Amazing Browser Tips
Linux is Like Cars
Close up Photography
Drones and Their Many Uses
Gifts and Gadgets for the Holidays
Video Night presentations

with Trojans, such as Emotet, and ransomware in particular revving up in the first quarter.

Included in the report is analysis of sharp declines in consumer cryptomining and other threats, further cementing the shift away from individual targets and toward businesses, with SMBs suffering because of lack of resources.

"Consumers might breathe a sigh of relief seeing that malware targeting them has dropped by nearly 40 percent, but that would be short-sighted," said Adam Kujawa, director of Malwarebytes Labs. "Consumer data is more easily available in bulk from business targets, who saw a staggering 235 percent increase in detections year-over-year.

Cybercriminals are using increasingly clever means of attack to get even more value from targets through the use of sophisticated Trojans, adware, and ransomware." Read more here: https://press.malwarebytes.com/2019/04/25/malwarebytes-q1-cybercrime-report-emotet-and-ransomware-attacks-renew-focus-on-enterprise-trojan-detections-grow-200-percent/   http://bit.ly/2wprohB

Delivery scam—revived from a decade ago and more clever now. Watch out for this one! A delivery service calls you to verify that your address is correct because they have a delivery for you. Then a delivery truck pulls up and the uniformed driver carries a basket of goodies to your door. He says that he knows you got a verifying call and has your package. As you are reaching for this, he says that he must verify that it's you because it contains alcohol (or some such) and asks that you produce a credit card that can be scanned so he is protected from an accusation that he delivered to a friend of his—"but don't worry, it's only for verification." If you scan your card, hundreds of dollars will be charged to your card before you can blink.

Order confirmations in your inbox—Have you received an email confirming a purchase you didn't make? Is there a link at the bottom labeled "Report a Problem!" or "Payment Resolution"? Don't click anywhere in this email. Just delete it.

Affinity offers--These are offerings that pander to an interest of yours: knitting, car racing, airplanes, travel, food, diet, boating, whatever. How do they know so much about you? Over the last few years, so many companies, so many credit companies, so many special interest venues, etc., have been penetrated that a surprising amount of detail is known about you. As time goes on, and your life becomes more connected, and more data is aggregated, and less restriction is placed on this collection, your life is literally becoming an open book.

HOW DO YOU PROTECT YOURSELF (ASIDE FROM MOVING TO MARS)?—My suggestion is this: everything you get by email has a sender's email address. Examine it by either hovering over it with your cursor or clicking on it to reveal it. If it has no relation to the content, it is spam. Now what happens if the address might be legit? Contact the company directly. Don't use a link in the email, but get a good link online, or a telephone number.

WHAT ELSE CAN YOU DO? Protect your privacy! Use a private window for browsing, use a VPN, use a disposable credit card number (yes, they exist from some credit card issuers), use an email address that is disposable (Yahoo and Gmail have them) for a particular purchase that forwards to your main email. Don't freely supply your email to

Linux Sig

The workshop is the **third Saturday of each month**, at Interlock Rochester, 1115 East Main St.
www.interlockroc.org
 Enter through door #7 on the end of building, near *Comics Etc* and Goodman St. Find 'Interlock' on the intercom directory to get buzzed in and go upstairs to suite #200.

We have experts on hand to fix problems and answer questions about Linux and FOSS (free and open source software). Bring your system in so we can help you get the most out of it. Hope to see you there.

Free, **Virtual Technology Conferences**, ONLINE presented by APCUG

2019 Schedule
Saturday: 11/2
For Conference Description & Registration Links, go to **apcug2.org/category/ virtual-tech-conference** from 1 – 4 pm, EST

---

every site you visit. Use a junk email account for that. Yes, YOU can have a junk email address for your own use.

PLEASE—CHANGE YOUR PASSWORDS AND MAKE THEM LONG AND UNIQUE. Remember that all your precious online and electronically stored "stuff"—your pictures, important papers, memories—all of it—can disappear FOREVER if you do not have a good, verifiable, disconnected BACKUP.

From the June 2019 issue, Westchester PC News, www.wpcug.org, intergroupliaison@wpcug.org.

Tom's Tech-Notes

Backup Tools and Procedures

By Tom Burt, Vice President
Sun City Summerlin Computer Club, NV

It's been several years since I've written about tools and procedures for backing up your computer. With the growing popularity of smart phones and tablets, the need for backup has expanded to include those devices as well as traditional Windows and Macintosh PCs. I can't stress enough how important it is to make regular backup copies of your data files and of your computer's entire hard drive. This article, based on material from my annual "Backup" seminar, will explore these topics.

What is Backing Up?
Backing up means making an accurate copy of some or all of the data and software stored on your computer's storage drive. The copy is commonly stored on some type of external storage device that is not normally connected to your computer. The external device may be a USB hard drive or flash drive, a removable rack-mount hard drive, a folder or partition on another computer on your in-house network or a server elsewhere on the Internet such as Dropbox, MS OneDrive or Google Drive. A personal backup solution may include some or all of the above.

Why Back Up?
The reason to make backups is that (putting it politely) BAD STUFF HAPPENS! Computer equipment is highly reliable and may run for years without failing, but sooner or later, storage devices fail. More likely is that accidents (drops and spills, turning off the power, power failures and power surges and so forth) happen, causing a storage device to fail. A vast array of malicious software waits for any opportunity to attack and damage or lock up saved data.

There's also basic human error – accidentally deleting a file or a folder. Without a safe backup copy, data saved on your computer may be irretrievably lost. Consider digital photos, videos, music, financial and tax records. Also, if you had to start over with a new, blank hard drive, it would be relatively easy to reinstall Windows or MacOS, but what about all the other programs, settings and all your data?

Full Disk Backup – Cloning and Imaging

　A clone of a hard drive is a complete copy to another hard drive. All information needed to boot and run the computer, as well as all the programs, settings and data are written to the backup hard drive. A clone completely consumes the backup hard drive; only ONE clone can be written to the backup drive. To restore after the computer's internal hard drive has failed or been corrupted, one can either clone from the backup drive to the computer's (possibly new) internal drive or one can remove the failed drive and install the backup drive in its place. On a laptop or all-in-one computer, cloning back should be the first choice, provided the internal drive hasn't failed. Removing and replacing a laptop's internal drive is a challenging task.

　An Image of a hard drive is a complete copy written to a single compressed file on another storage device. The compressed image file doesn't typically use up as much space as the original data, and only actual space used is backed up. It's usually possible to keep several image files on a single external storage device. As with a clone, the image file contains all the information needed to boot and run the PC along with all the programs and data. However, the image file is not itself bootable.

　For restoring either a clone or an image file, a bootable recovery disk (CD or DVD) or flash drive is required. All the major backup tools include a tool to create bootable recovery media.

Popular Full Disk Backup Tools for Desktop Computers

　There are several well-known software tools for backing up the hard drives of desktop PCs and Macs.

Acronis True Image Home (2019)
- https://www.acronis.com/en-us/ or http://ugr7.com/
- Single PC about $25, family pack of 3 about $50 (UGR7.com)
- Excellent for backing up entire hard drives or partitions.
- Makes both "clones" or "images".
- Can "mount" a backup image as a logical drive.
- Can make bootable "Rescue Media" for both backup and restore.
- Can also can back up individual files and folders.

CASPER by Future Systems Software
- https://www.fssdev.com/products/casper/
- Makes both "clones" or "images".
- Features SmartClone technology (differential clones).
- Single system price about $50; family pack of 3 for $70

Macrium Reflect 7 – FREE Edition
- https://www.macrium.com/reflectfree
- Can back up entire hard drive or partitions.
- Makes both "clones" or "images".
- Can "mount" a backup image as a logical drive.
- Can make bootable "Rescue Media" for both backup and restore.
- Paid editions have extra features; you may not need them.

Programs recommended by our members

AdwCleaner is one such specialty program. It does a superior job of rooting out rootkits, toolbars, PUPs (potentially unwanted programs), and browser hijackers. It finds malware traces left in the registry, temp files, and browser settings that can sometimes resurrect these pests when a machine is rebooted. Best of all, it's free and very easy to use.

AdwCleaner was created by a French firm called Xplode, but now is maintained by MalwareBytes. It's best to download AdwCleaner directly from its support site where you'll also find news and FAQs about AdwCleaner. But before you do, I recommend that you make a System Restore point, just in case you need to undo any of the changes AdwCleaner makes. (Click Start, then type **create a restore point** to begin the process.)

www.ccleaner.com
Award-winning PC Optimization. Trusted by millions and critically acclaimed, there's a reason why CCleaner is the world's favorite PC optimization tool! Easy to use, one click cleaning so beginners can optimize their computers in seconds. Plus, it's packed with advanced features for power users.

Of these, Macrium Reflect Free Edition has become my personal favorite. It's fast, easy to use and does everything I need for whole disk backup. And the price is right!

File Backup Tools
Full disk backups are great, but users don't typically run them every day because they take time to run and the backup drive has to be retrieved and connected to the computer. This creates a risk that data files that change often may not be accurately reflected in the backup. Think about your saved email and contacts, financial and accounting files, other documents and spreadsheets you may be working on.

Windows File History or MacOS Time Machine
One approach is to use an automated file backup tool that scans a designated set of folders at some specified time interval (say every hour) and makes a copy of any new or changed files to a backup storage device such as a flash drive, external hard drive or a shared folder on another computer. I use File History, checking once an hour, to supplement full disk backups for certain key file folders.

Windows File Explorer or MacOS File Manager / Finder
For simple one-shot backups, you can still use the built-in file manager programs to select a set of files and copy them to an external flash drive or hard drive or to a network shared folder.

Cloud Backup Tools
There are many free and paid cloud backup services. Most of these include an automatic sync tool that copies files from your computer to your private space on the cloud server. Here are some of the free ones:

Google Cloud (Google Drive) - FREE
• https://drive.google.com/drive/u/0/my-drive
• Requires a Google / Gmail account
• 15-17 GB of free cloud storage
• Install Google Backup and Sync app (Windows)
• Use Settings to specify a set of folders to be monitored and backed up to the Google Cloud whenever a change is detected (very similar to Windows File History)

Microsoft OneDrive - FREE
• https://onedrive.live.com/about/en-us/
• Requires a Microsoft Account
• 5 GB free (more if subscribed to Office 365)
• Syncs from a OneDrive folder on your PC or device to your OneDrive cloud storage.

Apple iCloud – FREE
• www.apple.com/icloud
• Requires an Apple ID (Account)
• 5 GB free, can add more space for a fee
• Built into all Apple devices, can install an App for Windows
• Syncs across all your devices

Jere's Tech Tips

By Jere Minich, Apcug Advisor,
Region 5 (AL, FL, GA, SC)

HOW TO BACK UP YOUR LINUX SYSTEM – Don't risk data loss. Back up your valuable data from the Linux command line. We'll be using the rsync command for this, and we've even found some nice optional graphical interfaces for it.

There are many ways to accomplish making a backup copy of your files. We wanted to show you a robust, flexible, and reliable way to protect your data. We choose rsync because of its well-respected algorithms that calculate the differences between files in the source directory and the target directory. Only the differences between two versions of a file are transferred, not the whole file if that can be avoided. When this efficiency is paired with its solid track record in performing file copies and directory synchronizations since the mid-1990s, rsync is a perfect candidate for creating backups from the Linux command line.

Additionally, there are independent software programs that act as a front-end for rsync. They provide graphical user interfaces (GUIs) to rsync which some people may find easier to use. The simpler and faster it is to make a backup, the more likely you are to do so.

Go to this How-To-Geek web article and get the steps plus screenshots. http://bit.ly/2Sj7GOR

What About My Smart Phone or Tablet?

Many computer users now rely on a mobile device as their main computer for communication and for consuming news and entertainment as well as for taking photos, video clips and recording sound. What are the options for backing up mobile devices?

Android Phones and Tablets

If you have a Google account and have configured your device to link to it, you get quite a lot of automatic backup of files to your Google Drive cloud space. You will want to be connected to a Wi-Fi router when this is going on or your Android device may use up a lot of your monthly data allotment.

You can also connect your Android device via a USB cable to your desktop computer and use the File Manager or Finder to copy files from the mobile device to a folder on the desktop computer. You can also copy files from the desktop computer to the Android mobile device.

To fully back up all your Android device's data, you can purchase and install third-party backup Apps. Try a web search for Android Full Backup to see what's available.

Apple Phones and Tablets

If you have an Apple ID, all your devices: iPhone, iPad, Mac, Apple Watch already have built-in iCloud support and will back up data files to your iCloud private storage space on Apple's servers. If you have several Apple devices, a concern is using up your free 5GB allocation; you may have to buy some extra space to cover backups from all your Apple devices.

You can connect your iPhone or iPad to your PC or Mac via a USB cable and then use Apple's iTunes program to synchronize various file types between your mobile device and your desktop computer. This isn't quite as general as what Android offers, but it takes care of many file types. iTunes also offers an easy way to make a full backup of all the data on your Apple mobile device into a file on your desktop computer. It's a good idea to have the iCloud backup enabled on your mobile device. This takes care of frequently changing files. Use the iTunes full backup occasionally to make sure ALL your devices' files are backed up.

With these backups in place, if your phone or tablet is damaged, goes up in flames or gets lost, you can replace the phone or tablet and, with relative ease, restore all your saved data files and be back in business.

From the May 2019 issue, Gigabyte Gazette, www.scs-cc.com, tomburt89134@cox.net.

* ** * * SOFTWARE and HARDWARE * * * * *

Dave's Computer Tips

Security Software

Avira Free Antivirus – Top notch protection for free. Used to suffer from persistent nag screen and additional toolbar but that's all changed now with a clean install and only occasional popup. Highly recommended.

Avast Free Antivirus – Excellent free protection via an extensive array of protective shields plus anti-spyware component.

Tidbits of probably useless information

Electric powered aircraft

--Researchers at Siemens have created a new prototype electric motor specifically designed for aircraft that weighs in at just 50 kg (110 lb) and is claimed to produce about 260 kW (348 hp) at just 2,500 RPM. With a quoted power five times greater than any comparable powerplant, the new motor promises enough grunt to get aircraft with take-off weights of up to 1,800 kg (2 ton) off the ground.

--Solar planes have already traversed the Alps and flown around the world, but one team has its sights set a little higher: the edge of space. SolarStratos is planning to fly a solar-powered plane to an altitude of over 80,000 ft (24,000 m), from where the curvature of the Earth as well as daytime stars will be visible.

--Although manned flights in a tethered helicopter go back to 1917 and in airships to the previous century, the first manned free flight by an electrically powered aeroplane was not made until 1973 and most manned electric aircraft today are still only experimental demonstrators.

--China's first manned electric aircraft has been given a licence for production. The two seater plane was designed by Shenyang Aerospace University and Liaoning General Aviation Academy in north eastern Liaoning province, the People's Daily Online reports. The RX1E is powered by rechargeable lithium batteries. One 90 minute charge means that the aircraft can operate for around 45-60 min.

Eset Smart Security – Truly the absolute best antivirus program available today. Included in this security suite is antivirus, antispyware, antispam, and a personal firewall. It has the highest detection rates, fastest scan rates, doesn't slow your computer down, and uses very little memory. It is simply better, faster, cheaper without dragging down your system like Norton! Eset Smart Security consistently receives a 100% rating from Virus Bulletin and top scores at AV-Comparatives.org. I won't have a computer without it!

Online Armor Firewall – This two-way firewall keeps the bad guys out and your personal information secure. This program has the best user interface of any firewall I've used and has informative dialog boxes. Online Armor Firewall makes your computer invisible on the net! Online Armor is truly the Best of the Best firewalls available today, and you can't beat the price! [replaced by Emsisoft Internet Security]

Panda Free Antivirus – Consistently excellent detection rates, also lightweight and unobtrusive. Just beware of the bundled extras when installing.

Secunia Personal Software Inspector (PSI) – Secunia PSI is a small application which scans the host computer for outdated and possibly vulnerable software. PSI compares versions installed on your computer to a comprehensive list of latest versions contained in its huge database. At scans end, a list of outdated/insecure applications is generated, including links to the latest versions and updates. Secunia PSI is a must have for anyone serious about keeping their 3rd party (non-Microsoft) applications up to date and maintaining a secure computing environment.

Sophos Home – Sophos is new to the home market, but it a well known player in the business AV market. Sophos Home is lightweight, unobtrusive, and effective, and uses the same commercial grade engine as Sophos' Endpoint business class software.

SUPERAntiSpyware & Malwarebytes Anti-Malware – The best free scanner/removers available. Superior detection and removal of all types of malware.

You can sign up for Dave's newsletter at https://davescomputertips.com/.

Some Interesting Websites and Internet Finds

Interesting Internet Finds - June 2019, by Steve Costello
scostello@sefcug.com

Find Free Images with CC Search

https://lifehacker.com/find-free-images-with-cc-search-1834442069

Even though I no longer edit a newsletter, I am still looking for images I can use for free on my blogs. This post explains what is available from CC Search and how to filter to get the most relevant results.

How Much RAM Does a Chromebook Really Need?

https://www.howtogeek.com/413556/how-much-ram-does-a-chromebook-really-need/

My granddaughter just graduated from High School and is planning to start college in the fall. She has been using a Chromebook at school since 6th grade. She is going for the college orientation in a few weeks and will find out what she will need there. If it is a new Chromebook, this post provides information to get her a new Chromebook at the best level and pricing.

What You Need to Know About DuckDuckGo

https://www.groovypost.com/howto/what-you-need-to-know-about-duckduckgo/

This post is one of the most informative I have seen regarding the DuckDuckGo search engine. I have been using DuckDuckGo exclusively for a while now, even on my Androids as the default search engine. Check this out and then make DuckDuckGo your default search engine too.

Is the CPU the PC Shopping Key?

News and/or opinion from Paul Baecker
Editor, Sterling Heights Computer Club MI

With the pending demise of all Microsoft support on January14, 2020 for what is possibly their best operating system to date (Windows 7), many users will be shopping for a new PC as one of their solutions. Another solution could be to install Linux onto that Windows 7 PC as a 'dual-boot' configuration, so that the user can safely surf the web using the Linux boot option, but still maintain the Windows partition with needed Windows applications (just don't go web surfing with it).

If a new PC is the choice, how to go about it? Well, I look at buying a new computer sort of like buying a new car (or SUV if we believe the trends). What is the first thing about a new vehicle that we think of? I'd say it's the engine. You can select a 4-cyl or 6-cyl or hybrid or electric motor. But once you buy it, can you return to the dealer and switch it if you have second thoughts? Nope. I look at this akin to choosing a PC with a particular CPU. Generally, you can't switch the CPU (OK, you extreme tekkies, this column isn't for you!) once you make your purchase. You can usually increase the RAM or switch from an HDD to an SSD, and such things that enhance the PC's performance, but you're stuck with the CPU performance that came with that sparkling new PC.

When you see 5 PCs on the store shelf, all with the same price, how to choose? How to select the 'right' PC, despite what the over-anxious salesperson might push you into buying? A little homework, that's how. The www.passmark.com web site is your new pal. It compares relative performance among over 2700 CPUs from Intel and AMD. AMD is Intel's primary PC CPU competitor, and a CPU brand certainly worth considering (the two manufacturers keep leapfrogging over each other with new CPU technologies — Intel just advertises more, and you pay for that treat). The site also has other hardware benchmarking features (RAM, video cards, drives, much more), but we'll stick to CPUs in this article.

To check the overall performance of a CPU on passmark.com (which is a FREE site), you do this:

- Go to www.passmark.com
- Select Benchmarks from the menu and then down to CPU Benchmarks.
- Click on the "Search for your CPU model" selection.
- The heading will be "CPU List". Below that, "Single CPU Systems."
- To the right of that, there is an empty box, with a "Find CPU" button next to it. This is where you'll enter the CPU model for which you want a ranking.

For example, a PC you're interested in contains an "Intel Core i7-8565U Processor at 1.8GHz" processor. Copy/paste the processor model (in this case, "i7-8565U") into that box (without the quotes). A greyed box will open, listing all of the processors that pertain to that model (for

example, there could be something like an i7-8565UX model, too). It will list all of the CPUs in the same model family. For this 8565 CPU, there is only one model. The site is a bit finicky. You need to enter the proper CPU ID including a dash — for example, like i7 (for Intel) or A10 (for AMD), and then the model number, usually with a dash between them — in order for the site to display it. Keep trying — you'll get the hang of it quickly.

CPU List

Below is an alphabetical list of all CPU types that appear in the charts. Clicking on a specific processor name will take you to the chart it appears in and will highlight it for you. Results for Single CPU Systems and Multiple CPU Systems are listed separately.

How does your CPU compare?
Add your CPU to our benchmark chart with PerformanceTest V9!

Single CPU Systems

i7-8565U   Find CPU

Intel Core **i7-8565U** @ 1.80GHz

CPU Name	Passmark CPU Mark (higher is better)	Rank (lower is better)	CPU Value (higher is better)	Price (USD)
686 Gen	288	2689	NA	NA
AMD A4 Micro-6400T APU	1544	1882	NA	NA

Click on the selection to get it entered in full in the box that was previously empty. It'll look like this:

Single CPU Systems

Intel Core i7-8565U @ 1.   Find CPU

CPU Name	Passmark CPU Mark (higher is better)	Rank (lower is better)	CPU Value (higher is better)	Price (USD)
686 Gen	288	2689	NA	NA
AMD A4 Micro-6400T APU	1544	1882	NA	NA

Then you can click on the Find CPU button, and you'll see the resulting ranking:

CPU Name	Passmark CPU Mark (higher is better)	Rank (lower is better)	CPU Value (higher is better)	Price (USD)
Intel Core i7-8550U @ 1.80GHz	8300	451	NA	NA
Intel Core i7-8559U @ 2.70GHz	12364	206	NA	NA
Intel Core i7-8565U @ 1.80GHz	9067	387	NA	NA
Intel Core i7-8650U @ 1.90GHz	8826	413	NA	NA
Intel Core i7-8665U @ 1.90GHz	9730	329	27.79	$409.00*

So, the CPU in this PC is ranked 387 for overall performance among about 2700 listed CPUs. Remember that "1" is the CPU with the highest overall performance (you can click on "Rank" at the top of the listings to see everything in performance order — you can sort on any of the columns there). A ranking above 400 is pretty darned cool these days and will all-but-promise you a high-performing PC for many years to come.

This web site has many other features, but in my opinion, this CPU-performance ranking is the most useful to typical PC shoppers. The site can also compare up to three CPUs at a time. Clicking on any of the CPUs in the list will display windows with additional qualities — power consumption, number of cores, clock speeds, pricing (which changes day-to-day), and more.

So, when you visit a store (or a retail web site) and observe so many PCs available to your wallet, consider making notes of the various CPUs in PCs in your price range. Peruse their overall performance on this site.

Also consider upping your price range just a bit to get a much-higher-rated CPU, knowing that later you can alter those other PC components to enhance that PC (RAM, drive, etc.). Then go shopping. Some stores offer a return period with a full refund (avoid stores with so called 'restocking fees'!!!), so that you can test drive your new digital toy at home, particularly useful since you really cannot put any PC to the test in a store.

Just ask about it.

From the June 2019 issue, WYSIWYG, www.shcc.org, newsletter@sterlingheightscomputerclub.org.

Sad Story, Happy Ending

by John Roy, President
The PC Users Group of Connecticut

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.

From the August 2019 issue, The Program, www.tpcug-ct.org, johnroy1@comcast.net.

* * * * BITS and PIECES in the NEWS * * * *

Editor's Note: To continue reading the following articles, you may copy the long URL at the end of the article and enter it into a web browser **or** go to www.rcsi.org/newsletr.htm and click on the URL.

It's almost over for Flash Player

By Cyn Mackley

Time is ticking for Adobe Flash Player. Support for the platform will officially end on December 31, 2020. That means no more security updates or bug fixes.

What is Flash Player? It's a platform that allows websites to display things like games and forms, or run educational programs. While Flash is popular, it has a long history of security problems.

Many browsers, including Google Chrome, now disable Flash by default, but you can still activate it if you need it. After December 31, 2020, all major browsers, Chrome, Firefox, Internet Explorer, Edge etc…., will block Flash Player from running.

The only way for games, forms, and educational programs to continue to work is to convert to another platform like HTML 5. The problem is that you can't just flip a switch. The content has to be rebuilt from the

ground up in another programming language. That's a pretty complicated process, and it's not likely that anyone will put that type of effort into older games and content.

Continue the article at .

In the future, this electricity-free tech could help cool buildings in metropolitan areas

Date: August 5, 2019
Source: University at Buffalo

Engineers have designed a new system that can help cool buildings in crowded metropolitan areas without consuming electricity, an important innovation at a time when cities are working to adapt to climate change. The system consists of a special material -- an inexpensive polymer/aluminum film -- that's installed inside a box at the bottom of a specially designed solar "shelter." The film helps to keep its surroundings cool by absorbing heat from the air inside the box and transmitting that energy through the Earth's atmosphere into outer space. The shelter serves a dual purpose, helping to block incoming sunlight, while also beaming thermal radiation emitted from the film into the sky.

"The polymer stays cool as it dissipates heat through thermal radiation, and can then cool down the environment," says co-first author Lyu Zhou, a PhD candidate in electrical engineering in the University at Buffalo School of Engineering and Applied Sciences. "This is called radiative or passive cooling, and it's very interesting because it does not consume electricity -- it won't need a battery or other electricity source to realize cooling."

"One of the innovations of our system is the ability to purposefully direct thermal emissions toward the sky," says lead researcher Qiaoqiang Gan, PhD, UB associate professor of electrical engineering. "Normally, thermal emissions travel in all directions. We have found a way to beam the emissions in a narrow direction. This enables the system to be more effective in urban environments, where there are tall buildings on all sides. We use low-cost, commercially available materials, and find that they perform very well."
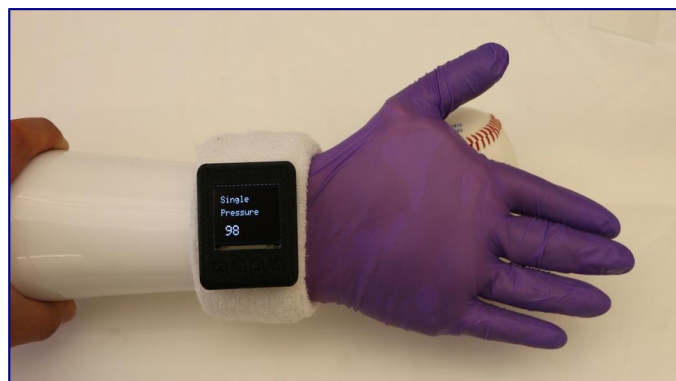
Continue at .

Electronic glove offers 'humanlike' features for prosthetic hand users

Purdue University

Sensor-instrumented glove for prosthetic hand controls has ability to sense pressure, temperature, hydration using electronic chips sending sensory data through wristwatch.

IMAGE: An electronic glove, developed by Purdue University researchers, offers 'humanlike' features for prosthetic hand users. view more

Credit: Purdue University/Chris Adam

WEST LAFAYETTE, Ind. - People with hand amputations experience difficult daily life challenges, often leading to lifelong use of prosthetic hands and services.

An electronic glove, or e-glove, developed by Purdue University researchers can be worn over a prosthetic hand to provide humanlike softness, warmth, appearance and sensory perception, such as the ability to sense pressure, temperature and hydration. The technology is published in the Aug. 30 edition of *NPG Asia Materials*.

While a conventional prosthetic hand helps restore mobility, the new e-glove advances the technology by offering the realistic human hand-like features in daily activities and life roles, with the potential to improve their mental health and well-being by helping them more naturally integrate into social contexts. A video about the technology is available at https:/. [https://youtu.be/lF1VYzKagNo]

Finish reading at https://www.eurekalert.org/pub_releases/2019-09/pu-ego090319.php.

Will your future computer be made using bacteria?

In order to create new and more efficient computers, medical devices, and other advanced technologies, researchers are turning to nanomaterials: materials manipulated on the scale of atoms or molecules that exhibit unique properties.

Graphene—a flake of carbon as thin as a single layer of atoms—is a revolutionary nanomaterial due to its ability to easily conduct electricity, as well as its extraordinary mechanical strength and flexibility. However, a major hurdle in adopting it for everyday applications is producing graphene at a large scale, while still retaining its amazing properties.

In a paper published in the journal *ChemOpen*, Anne S. Meyer, an associate professor of biology at the University of Rochester, and her colleagues at Delft University of Technology in the Netherlands, describe a way to overcome this barrier. The researchers outline their method to produce graphene materials using a novel technique: mixing oxidized graphite with bacteria. Their method is a more cost-efficient, time-saving, and environmentally friendly way of producing graphene materials versus those produced chemically, and could lead to the creation of innovative computer technologies and medical equipment.

Graphene is extracted from graphite, the material found in an ordinary pencil. At exactly one atom thick, graphene is the thinnest—yet strongest—two-dimensional material known to researchers. Scientists from the University of Manchester in the United Kingdom were awarded the 2010 Nobel Prize in Physics for their discovery of graphene; however, their method of using sticky tape to make graphene yielded only small amounts of the material.

"For real applications you need large amounts," Meyer says. "Producing these bulk amounts is challenging and typically results in graphene that is thicker and less pure. This is where our work came in."

The rest of this article can be found at the U of R news site, https://www.rochester.edu/newscenter/graphene-nanomaterials-future-computers-bacteria-389172/.

New coating developed by Stanford researchers brings lithium metal battery closer to reality

by Mark Golden

A Stanford-led research team invented a new coating that could finally make lightweight lithium metal batteries safe and long lasting, which could usher in the next generation of electric vehicles.

Hope has been restored for the rechargeable lithium metal battery – a potential battery powerhouse relegated for decades to the laboratory by its short life expectancy and occasional fiery demise while its rechargeable sibling, the lithium-ion battery, now rakes in more than $30 billion a year.

A new coating could make lightweight lithium metal batteries safe and long lasting, a boon for development of next-generation electric vehicles.

A team of researchers at Stanford University and SLAC National Accelerator Laboratory has invented a coating that overcomes some of the battery's defects, described in a paper published Aug. 26 in *Joule*.

In laboratory tests, the coating significantly extended the battery's life. It also dealt with the combustion issue by greatly limiting the tiny needlelike structures – or dendrites – that pierce the separator between the battery's positive and negative sides. In addition to ruining the battery, dendrites can create a short circuit within the battery's flammable liquid. Lithium-ion batteries occasionally have the same problem, but dendrites have been a non-starter for lithium metal rechargeable batteries to date.

"We're addressing the holy grail of lithium metal batteries," said Zhenan Bao, a professor of chemical engineering, who is senior author of the paper along with Yi Cui, professor of materials science and engineering and of photon science at SLAC. Bao added that dendrites had prevented lithium metal batteries from being used in what may be the next generation of electric vehicles.

Continue reading at https://news.stanford.edu/2019/08/26/new-coating-brings-lithium-metal-battery-closer-reality/.

The Really Little Engine that Could

by Taylor McNeil, September 4, 2019

Tufts researchers have built the smallest electric motor ever—it consists of just one molecule. "The excitement is in the demonstration that you can provide electricity to a single molecule and get it to do something that's not just random," says Charles Sykes.

The smallest electrical motor on the planet, at least according to *Guinness World Records*, is 200 nanometers. Granted, that's a pretty small motor—after all, a single strand of human hair is 60,000 nanometers wide—but that tiny mark is about to be shattered in a big way.

A Tufts research team has developed the world's first single-molecule electric motor—which is a mere 1 nanometer across. They reported the results in a paper published in *Nature Nanotechnology* on Sept. 4. This development—made possible with a low-temperature scanning tunneling microscope at Tufts, one of only about 100 in the United States—may be the first step toward a new class of devices that could be used in applications ranging from medicine to engineering.

Wow, continue at https://now.tufts.edu/articles/really-little-engine-could.

* * * * CLUB & Regional NEWS * * * *

An RCSI club dinner party is being planned for December 10, at 5:00 pm. More details next month.

Maker Faire is the Greatest Show (and Tell) on Earth – a family-friendly showcase of invention, creativity and resourcefulness, and a celebration of the Maker movement. **The 6th Annual Maker Faire Rochester** event takes place on **Saturday, November 23, 2019, from 9 am to 5 pm at the Rochester Riverside Convention Center**. The day will be filled with exciting exhibitions, demonstrations, and hands-on activities for all ages. Tickets, may be purchased online: Early Bird prices, Single $7.18, Family Pass $21.60.

For more details, go to https://rochester.makerfaire.com/.

The Rochester Computer Society, Inc.

a computer/tech club open to everyone

M NIT R

Vol. 37, No. 10   Rochester, NY   October 2019

Tuesday, October 8, 'Protecting Your Digital Life', remote presentation by Bob Gostischa

Tuesday, November 12, 'Free Software for a Windows Computer', remotely by Francis Chao

NO December meeting, see you January 14, 2020

In This Issue

Our Meeting Place

St. John's Meadows at Johnsarbor Drive, is on the left, past Clinton Avenue, when going West on Elmwood Ave. The opening in the white fence is Johnsarbor Drive. At the 'T', turn right. The meeting is in the first building on the left – **Briarwood.**

6:30   Help's Half Hour
7:00   Business
7:15   Main Presentation

Our meetings end between 8:30 and 9:00 pm.

Our meeting place can change. Please check our website before each meeting. **www.rcsi.org**

See your address label for your membership EXPIRATION DATE!

CHANGE SERVICE REQUESTED

Monitor
Rochester Computer Society, Inc.
2 Bambi Lane
Rochester, NY 14624