



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 – 8:30pm.

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 guest.**

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.

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



Vol. 38, No. 07

Rochester, NY

July 2020

**Tuesday, July 14, 'What Will 5G Mean to You',
a video of Ron Brown's presentation at the
February VTC (Virtual Tech Conference)**

**Tuesday, August 11, Annual Club Picnic??? - or TBA
(Town of Henrietta has not canceled August events yet)**

In This Issue

- | | |
|--|-----------------|
| Staying Safe Online – A Rational Approach | Pam Holland |
| Wi-Fi Security – Which one, WEP,
WPA, or WPA2? | Phil Sorrentino |
| Why Is My Computer So Slow? | David Kretchmar |
| What's Inside the Wayback Machine? | Bob Rankin |
| Bits and Pieces in the News | RCSI editor |
| Stanford Researchers Design a More Efficient and Affordable
Desalination Process | |
| Carnegie Mellon Tool Automatically Turns Math into Pictures | |
| These Smart Contact Lenses Overlay Info Without Obscuring Your
View | |
| Club and Regional News | |
| APCUG is pleased to announce that we will be having online
workshops during the summer and fall | |

Staying Safe Online - A Rational Approach

Pam Holland, Founder and President, Tech-Moxie

We get many questions about online security. And we often get brought in to help clean up after an incident of fraud. As a result, we have developed what we consider 'a rational approach' to online security. Rather than focusing on all of the possible risks, we urge our clients to first address factors that present the highest risk. With respect to protecting from online risk, we apply the 80/20 rule. In short, 80% of the risk comes from 20% of the possible causes. In other words, if we just address the top possible risks, we eliminate the most common ways people are victimized online.



“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 (WGMC) from Rochester, NY. Call 966-JAZZ (585-966-5299) or 800-790-0415

Sound Bytes is the longest running computer call-in show in the known universe.

Free copies of the RCSI 'Monitor' newsletter can be found in the following computer stores: Microworx, TSC Electronics, Pod Computers, and Just Solutions. Digital copies may be obtained from www.rcsi.org or my Pcloud storage at <https://tinyurl.com/tonydelrcsi> (this link works on PDF version only). 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
Drones and Their Many Uses
Gifts and Gadgets for the Holidays

We suggest thinking about protecting your data as you might approach protecting your home. We all take reasonable steps to secure our homes; we lock our doors, close windows, and leave lights on. The goal is to *reduce* risk as eliminating risk is nearly impossible. The same is true in our digital lives. Taking small measures goes a long way towards keeping us safe, but it is nearly impossible to eliminate all risk.

Consider your personal risk factors. This is not unlike assessing your home for the risk of a break-in. If you live on the top floor of a high-rise, leaving your windows open does not present the same risk as if you were on the ground floor. With respect to your tech, do you have people regularly in your home that you need to protect your data from? Do you bank online? Do you have sensitive financial or other documents on your computer? Do you only use your computer for email? Do you or a family member have cognitive issues that might make you more vulnerable to fraud?

Based on our experience seeing the aftermath of fraud, taking steps to cover these six items will go far towards your online safety:

- **Use Unique Passwords.** I know this isn't what many want to hear, but unfortunately, the risk in re-using the same password is increasing. A few years ago, the common advice was to create a unique password that was hard to guess. Today, the risk is not that someone will guess your password - the fraudsters already know it. Large corporate data breaches (e.g., Equifax and Marriott) may have put our passwords into the hands of fraudsters. If you typically use the same password for multiple accounts (and worse if you have used it for years), fraudsters are more likely to be able to access your other accounts. To return to the home analogy, it is as if you have given out your key to numerous people over the years - it's now time to change the locks. Some options:
 - **Use a password manager** - This might mean allowing Chrome or your Mac to save your passwords or using a third-party service like LastPass. I am often asked if they are safe. The only answer that I can really give is that they are safe until they aren't. I have chosen to allow my passwords to be saved on my Mac. For me, it has reduced my risk (because I don't need to reuse passwords) while (somewhat) saving my sanity. *But a caution: If others have access to your computer, they may be able to view your passwords.*
 - **Write them down** - This works well for many. Of course, it is important to keep the passwords in a safe place.
 - **Develop a unique naming convention** - For example, you might take a short phrase that you will remember, then add something unique to that account site.
 - **Make your passwords safer by using two-step authentication** - This is an option in most online

Special Interest Group

Linux Sig



We are back!

Linux Workshop,
**third Saturday of
each month, Noon-4PM**

NEW LOCATION:

Gates Public Library
902 Elmgrove Rd, 14624,
between Buffalo Road and
531 Expressway.

The room we use is on the second
floor, SE corner, by the restrooms.

<https://www.meetup.com/Interlock-Rochester-Hackerspace/events/psggngqybcbxb/>

Come and get your questions about Linux answered. 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.

Carl Schmidtman

Because of coronavirus,

we meet online. A link will be sent by email. *Details on back page.*

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

remaining 2020 Schedule
Saturdays:
Aug 15, Nov 7
from 1 – 4 pm, EST

For Conference Descriptions
& Registration Links, go to
**[apcug2.org/category/
virtual-tech-conference](http://apcug2.org/category/virtual-tech-conference)**

accounts (email, Facebook, banking). How does it work? When you log in from a new device or location, you'll be sent a code via smartphone or landline. This makes it harder for fraudsters to log into accounts, even if they have your password. To set up, go to the account or privacy/security settings in your online accounts.

- **Never Allow Remote Access to Your Computer** (unless you have sought reputable assistance like from Tech-Moxie 😊). Fraudsters would like nothing more than to gain access to your computer. They pretend to be from Amazon, Microsoft, Apple or another company you know well, offering to "help" you with a service issue. Assume fraud if you get an email, call or computer alert from a familiar company or government name. Once in your computer, they can access accounts and passwords. We have seen quite a lot of damage from these schemes.
- **Think Before You Click.** Assume links in the email are fraudulent unless you can prove otherwise by checking with the sender. Fraudsters easily create emails that look like they came from a friend, bank or even the government. The email might be friendly ("*Hey, check this out*") or intended to provoke anxiety ("*your Amazon order for a diamond ring has just shipped*") or seemingly innocuous ("*your computer needs service*"). Fraudsters are hoping to get passwords or other personal information. Remember, customer service doesn't come to you! Instead of clicking, go to the website directly via the Internet.
- **Beware of Pop-Ups** A "pop-up" is a window or box that opens on your computer - often with a warning. Do not believe pop-up warnings claiming there is a problem with your computer. Never give them remote access. Warnings may claim to be from Microsoft, Apple or another company you are familiar with. What to do? Shut down and restart your computer and the pop-up should be gone!
- **Update Devices Regularly.** Companies like Microsoft, Apple and Google look out for software vulnerabilities that fraudsters can take advantage of. They issue updates to fix these issues. Some devices may be set to automatically update, but others may require you to take a specific action. This applies to computers, tablets and smartphones.
- **Beware the Telephone.** Scams change but follow common themes. Neither Apple nor Microsoft will call to alert you of problems. Government agencies such as IRS, Social Security Admin nor the local Sheriff will call claiming you owe money. If you are still in doubt, hang up and call the agency from a number that you have looked up independently.

We hope you find these tips helpful - and as always, we are here to help!

From December 2019, <https://www.tech-moxie.com/>, Pam@tech-moxie.com.

RCSI Officers

Pres: Mark S. Lawson . . 544-5377
mslawson51@peoplepc.com
VP:

Treas: Jerry Seward
jerry@jerryseward.com
Secretary: www.rcsi.org
Help's Half Hour . . Jan Rothfuss

Board Members at Large

Jan Rothfuss 347-6020
jan_rothfuss@hotmail.com, 9/22
Tony Dellelo 734-6149
tonydel@techie.com, 9/21
Bob Avery 385-4491
webmaster@rcsi.org, 9/20

Standing Committees

Linux SIG: . . . Carl Schmidtman
unixgeek@faultline.com
Programs and *Monitor* editor: . . .
. Tony Dellelo
Webmaster: Bob Avery
Membership: Jan Rothfuss

Planning Meeting

Held on 1st Tuesday of each month
at 7 pm, at St. John's Meadows,
Briarwood building. ANY CLUB
MEMBER MAY ATTEND.

Newsletter Printing

Limited copies will be printed and
available at some of the local
computer shops. *A few copies will
be available at our meetings.*

Club Mailing Address

Rochester Computer Society, Inc
PO Box 18516
Rochester, NY 14618

Wi-Fi Security - Which one, WEP, WPA, or WPA2?

by Phil Sorrentino, Contributing Writer
The Computer Club, FL

Well, it finally happened. I tried to add another device to my home Wi-Fi network and I couldn't. I have been in fear of this happening for the last few years. No, it is not the fact that I tried to add one more device and that went over a limit. The limit on the number of devices you can have on a Wi-Fi network is only limited by the local IP addresses you set up, which was much higher than the number of devices I had on the network. I have had my current router since July 2010. I bought it shortly after the 802.11n standard found its way into reasonably priced routers (around 2009). The "n" version followed the "g" version and increased the bit rate (speed) from about 50mbps to somewhere in the 100 to 300 Mbps area. (The actual speed you get from the router to a device is dependent on many things.) When I set up the router I had a few older (legacy) devices that I still used. Some of those older devices didn't support the latest Security. So when it came to set up security for the network, I chose the older security standard "WEP." Although WEP is not nearly as secure as WPA2, every device supported WEP so there was no problem, until today, when I tried to add a device that did not support WEP. The new device, a security camera, only supports WPA and WPA2. So, now I have to change the security used by my router to either WPA or WPA2. This may not sound like much of a problem, but once I change it in the router, I have to change every device that wants to use my Wi-Fi network. Yes, all the laptops and tablets, all the cell phones, all the streaming devices, all the smart TVs, all the smart bulbs and plugs, the wireless printer, any Wi-Fi extender access points, Alexa, Google Home, and all the phones and tablets owned by friends and family that use my Wi-Fi network when visiting.

The first thing I'll have to do is change the security used in the router. For this, I will need the Username and Password for the router. Many router's Username can be left blank and the default password is typically "Admin." (If you have changed either of these on your router, this is a good time to resurrect the correct Username and Password for future use.) Now, using a Browser, I'll go to the IP address of the router. Many routers use http://192.168.1.0 or http://192.168.1.1. Once at the router page, I'll put in the Username and password. Once in the router setup, I'll find Wireless or Wi-Fi Security and look for the Security type. Then I'll choose the desired Security type and put in a passphrase. I'll make a note of the new Wi-Fi Password for the future (a very important step). Now I can go around to all the devices that use the Wi-Fi and make the appropriate changes in their setups. Wish me luck.

So, what really is Wi-Fi security? Well, directly from Wikipedia "Wireless (Wi-Fi) security is the prevention of unauthorized access or damage to computers or data using wireless networks." Basically, Wi-Fi Security protects the data that goes between a Router and a Device. The device could be a computer, a wireless phone, a smart TV or DVD player, a smart LED bulb, any device that connects to the router, even a smart

Tidbits of probably useless information

Longest Hiking Trails in USA

Clocking in at 2,663 miles, the **Pacific Crest Trail (PCT)** stretches from Mexico to Canada through California, Oregon, and Washington. The PCT passes through 25 national forests and seven national parks, with elevations ranging from just above sea level to 13,153 feet.

The PCT is one of the original National Scenic Trails, established in 1968 with the passage of the National Trails System Act. In 1993, the PCT was officially finished.

To hike the entire trail in one thru-hike, most hikers will take somewhere around 4-6 months to complete the trek. Somewhere around 300 people attempt it every year, with a little over half of them finishing the entire PCT.

The Appalachian Trail, or better known as the AT by those who hike it, is probably the most well-known of the National Scenic Trails. The AT is approximately 2,190 miles of iconic trails that stretch from the Springer Mountain in Georgia to Mount Katahdin in Maine.

The trail, which was completed in 1937, passes through 14 states. Over 3 million people travel through various parts of the smaller trails every year, but only a couple of thousand people attempt to thru-hike the entire trail.

The Continental Divide Trail is 3,100 miles of trail that is constantly changing, so much so that the exact route is often disputed.

refrigerator. The most common types of Wi-Fi security are Wired Equivalent Privacy (WEP), and Wi-fi Protected Access (WPA). WEP, which is the older standard (Circa 1999), provides fairly weak security. It is well known that the WEP password can often be cracked within a few minutes with a basic laptop computer and widely available software tools. WEP used a 64-bit (or 128-bit) encryption key. The key was manually inserted into the device and it remained constant. WPA was introduced around 2002 to solve some of the problems with WEP. Even if your router is six years old, it most likely supports WPA. WPA2 is a further improvement over WPA and is the current Security standard. WPA2 employs an encryption algorithm that encrypts the data with a 256-bit key, the longest of all the keys used, and the longer the key the stronger the security. WPA also employs a per-packet key, meaning that it dynamically generates a new key for each packet that is transmitted. In early 2018, WPA3 was announced. WPA3 will have several security improvements over WPA2, but it will take some time for it to show up in routers and devices.

To use WPA or WPA2, you provide the router with a “passphrase” between 8 and 63 characters long –the longer the better. The passphrase can be a collection of alpha and numeric characters, including special symbols like \$, %, and #. (Actually, if you are familiar with the ASCII code, **all ASCII printable characters, those decimal values between 32 and 126, can be used.** Which, by the way, also includes “space”.) The router will then use the passphrase and the network’s name to generate unique encryption keys to be used on the network. The keys will constantly be changed to avoid being cracked. WPA2, the second version of WPA uses a more advanced encryption algorithm that is more efficient and more resistant to cracking. (All Wi-Fi products have been required to support WPA2 since about 2016. It was intended that WPA2 essentially replace WPA.) Although it is true that “the longer the passphrase, the stronger the protection”, it may not be the practical way to go. A passphrase only 9 or 10 characters in length may be adequate for most home use. I can’t prove it, but I have seen some research that showed that it would take a fast PC over 15,000 years to crack a WPA2 passphrase of only 10 characters. (Maybe you could do it in a year with 15,000 computers.) That kind of security would probably be enough for most of us.

So, now that we know what’s behind Wi-Fi security, what shall I do about the original problem of what Security selection to use in place of WEP. Well, I guess the obvious answer is WPA2, as long as all devices support WPA2. Unfortunately, I may not find this out until I attempt to have all devices re-setup with WPA2. I only have a few devices that are older than six years old, so it may just work out. Wish me luck.

Postscript: The upgrade to WPA2 worked out just fine. Unfortunately, about 2 months later I had to replace the router. I had to do the whole upgrade all over again, so now I’m really good at updating all my Wi-Fi devices.
From the October 2019, www.scccomputerclub.org, Philsorr@yahoo.com.

Jere's Tech Tips

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

THE BEST CHROME EXTENSIONS FOR ONLINE SAFETY AND SECURITY -

Surfing the web these days can be a security nightmare, with various threats from malware to ransomware. These Google Chrome extensions can help keep you safe and secure.

Searching on the Internet can be risky business these days, with malware, spyware, and browser-based trackers all trying to invade your privacy and security. But Chrome users can fight back by using the right extensions. You'll find a variety of add-ons designed to ward off malicious code, protect your online privacy, and block intrusive ads. Let's take a look at the best ones and see how they can enhance your Google Chrome experience.

Go to this Pc Magazine article and get the dope on Chrome extensions. <https://bit.ly/35CzWCv>

HOW TO GET BING'S DAILY PHOTOS AS YOUR WALLPAPER ON ANDROID -

One thing that differentiates Bing from other search engines is its beautiful background images that change daily. If you're a fan of the photos, Microsoft has an Android app that automatically downloads and sets the high-resolution image at your handset's wallpaper every day.

To set Bing's daily photos as your Android device's background, download the official Bing Wallpapers app from the Google Play Store.

Go to this How-to Geek web page and get the steps. <https://bit.ly/2L9COgM>

Final 'Hard Copy' Newsletter Printing

The final *hard copies* of the 'Monitor' newsletter, being distributed to some of the computer stores, ended with the June issue. New digital copies will still be posted to the club website.

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

Why Is My Computer So Slow?

(Updated from April 2017)

by David Kretchmar, Computer Technician
Sun City Summerlin Computer Club

There are plenty of computers being used that are performing much more slowly than they should. One of the quickest ways to turn a fast, new computer into a slow system crippled by malware is to start downloading what you think is good software from the wrong sites, or by downloading the wrong software from what appears to be the right site.

Newer computers being slowed by unwanted programs is a bother, but the damage done by PUPs (Potentially Unwanted Programs) can be much more serious; PUPs can be responsible for programs that lock up your system and make it impossible to access any of your files, or otherwise ruin your system.

Every time you download anything from the Internet, you first issue permissions that enable the opening of a conduit between the Internet and your computer. The series of complex events is mostly invisible to you, except for your clicking on that virtual button that starts the whole process.

Bing and Google searches often can take you where you don't want to go (see figure below). When searching for popular software, sponsored

The screenshot shows a search engine results page for the query "vlc media player free download". The search bar at the top contains the text "vlc media player free download". Below the search bar, there are tabs for "Web", "Images", "Videos", "Maps", and "News", with "Web" selected. Below the tabs, there is a line of text: "Also try: vlc media player windows 10 · vlc media player 64 bit · vlc player windo...". Below that, it says "469,000 RESULTS" and "Any time". The first result is "VLC MediaPlayer 100% Free - Download Now - safedownload.co" with a sub-link "Ad - safedownload.co/VLC" and a description "Download Now. Plays All Audio & Video Files. VLC Media Player - Free Download". The second result is "Vlc Media Player Free - Vlc Media Player - Latest Version." with a sub-link "Ad - VLC.AppFindr.org" and a description "Vlc Media Player - Latest Version. Download Vlc Media Player for Free!". The third result is "VLC Media Player 2017 - Full Version Software for Free | searchando.com" with a sub-link "Ad - www.searchando.com/Vlc Player" and a description "Get the new version VLC Media Player 2017 for Free. Find with searchando.com www.videolan.org/vlc/download-windows.html VLC is a free and open source ...". The fourth result is "VLC Media Player - Open & Play Movies With VLC Media Player." with a sub-link "Ad - VLC.online/VLC" and a description "Open & Play Movies With VLC Media Player. Install VLC!". The fifth result is "VLC media player - Official Site" with a sub-link "www.videolan.org/vlc" and a description "Official download of VLC media player, ... VLC is a free and open source cross-platform multimedia ... VLC, VLC media player and x264 are trademarks internationally ...".

Scam Alerts

Debt Collection:

Most of the complaints under this category involve debt collectors. Consumers tell of receiving calls from harassing collectors who are threatening and will repeatedly call attempting to collect a debt. Other complaints that fall under this category involved credit/debit card fees, pay day loans, credit repair companies and unauthorized use of credit/debit cards. Some of these complaints involved hidden fees and billing disputes as well.

Fake Government Officials

If you received an email, letter or phone call from a government agency (typically the IRS or FBI) and it instructs you to wire, Western Union or MoneyGram money someplace, or follow a link and enter information - don't believe it! The U.S. government would never instruct anyone to use those methods to pay any bill or carry out a financial transaction, particularly with an overseas bank or agency.

Identity Theft, Phishing and Pharming

Scammers gain access to your confidential information, like social security numbers, date of birth and then use it to apply for credit cards, loans and financial accounts. Typically, the victim receives an email that appears to be from a credible, real bank or credit card company, with links to a website and a request to update account information. But the website and email are fakes, made to look like the real website.

Editor's Note: Printed from www.consumerfraudreporting.org/current_top_10_scam_list.php.

search results (which result in unwanted programs) often appear at the top of the search results page, along with links from the actual software source sites. Often those ad links try to install software on your computer that you do not want. It could be anything; it could be a fake driver update program or a scam system cleaning program. Note that my Bing search for VLC media player (previous page) first showed 4 sites NOT associated with VLC – places that have a high potential for providing bad software.

Testing Misleading Advertisement Links

How bad is it? To find out, I installed a fresh Windows 10, plus all Windows updates, on a freshly formatted hard drive. I downloaded and installed the free version of Avast! Antivirus software that brought a hitchhiker of its own - Google Chrome. OK, I wanted Chrome, but not every user would so I considered this an invasive act by a program I downloaded for protection.

I used Edge, Firefox, and Google Chrome and started using Google and Bing search engines to start searching for popular free programs. The programs I sought are often the first programs that get installed on a PC: Firefox, Google Chrome, OpenOffice, iTunes, Adobe Flash, Java, Adobe Acrobat, VLC, and WinZip. Then, I carelessly clicked on ad results, which appeared above or on the same first page as “real” search results. These paid ads were identified by notes and highlighted in a very pale color to differentiate them (slightly) from the actual search links that appeared nearby.

The ads didn't appear after every search and the ones that appeared varied among searches and were different for different browsers. Sometimes, the first paid ad link actually took me to the software's true source site (i.e. searching for Google offered www.google.com first). Often Avast would block a download it recognized as harmful, but Avast did not catch many problems.

For all of the searched for programs, I was able to bring up more questionable sponsored search results within seconds of repeated searching. Misleading results showed up in all search engines and I could not determine that any browser offered better or worse protection than others.

For each ad link, I clicked through and installed the respective programs via the link or button provided. Instead of delivering just the application I was looking for, all of the paid links attempted to tack on unwanted programs. In some cases, if I was careful to read all of the fine print and uncheck boxes, I could get the files I was looking for without a bunch of extra "added value" software, but it was very difficult.

For the purposes of this article, I acted as an inexperienced user (or an experienced user who's not paying attention) and clicked my way through ads and dialogue boxes that looked like the End User License Agreement (EULA) we're used to seeing through when installing software.

And ... They Got Me!

After installing just a few programs this way, I started accumulating browser toolbars (Bing, Yahoo, and Google) and noticed my search engine and home page had been hijacked to something unwanted. As I continued the process, Windows started slowing down to a crawl.

After installing all of the programs on my list, I opened Windows 10's Programs and Features and each browser's extensions and add-ons and

Some Interesting Websites and Internet Finds

by Steve Costello
scostello@sefcug.com

How To Upgrade From Windows 7 To Linux
<https://www.howtogeek.com/509508/how-to-upgrade-from-windows-7-to-linux/>

With the last Windows 7 updates being January 14, 2020, there are probably some of you still wondering how to replace Windows 7. This post does a good job of showing how to upgrade to a Linux operating system. (Note: I ended up getting a new Windows 10 Home desktop, upgrading my Windows 7 Home laptop (4GB RAM) to Windows 10 Home, and setting up my old Windows 7 Home desktop (2GB RAM) as a dual boot Linux Mint 19.3 desktop to be able to still use some older Windows software, yet still be able to securely access the Internet when necessary via the Mint O/S.)

The Best Antenna Set Up For Cord Cutters

<https://thestreamingadvisor.com/the-best-antenna-set-up-for-cord-cutters/>

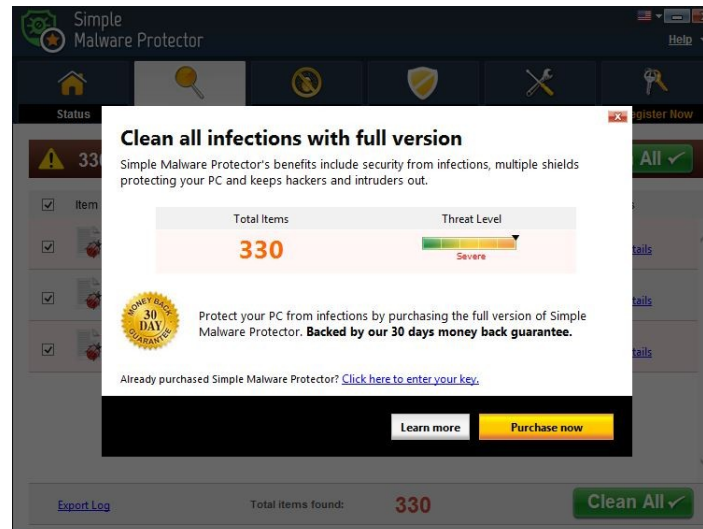
There seems to be more and more interest in cutting the cord these days. If you are thinking about going with an antenna, you should check out this post first.

Is A Microsoft Office Subscription Worth It?

<https://askleo.com/microsoft-office-subscription-worth/>

If you have moved up to Windows 10 and thinking about Microsoft Office, check out this post from Leo Notenboom before making the final decision. Leo talks about cost factors in this post.

counted 39 items that had been installed in addition to the programs I intended to get. On rebooting, three new programs launched popup windows at startup, including two that started running virus/registry scans as soon as they launched, and a couple that flashed

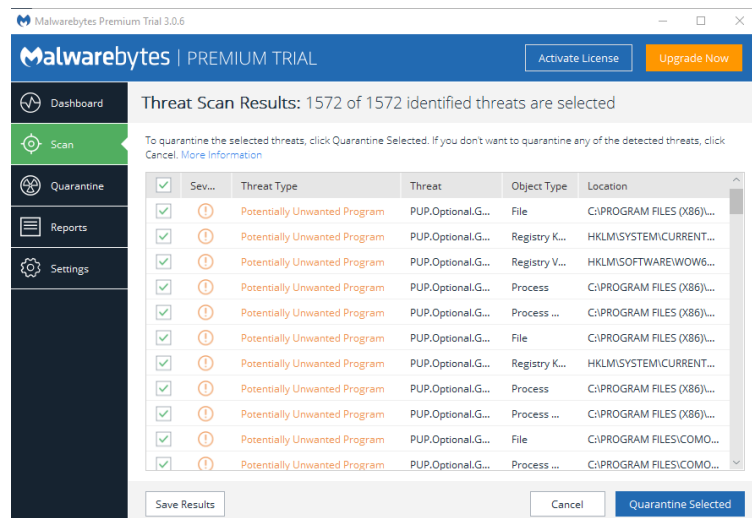


warning windows and offered fixes if I registered and/or upgraded to the full paid version.

Remember this was originally a clean install of Windows 10 that needed nothing.

Within a few minutes, my computer became noticeably slower, plagued by numerous popups, and was becoming essentially unusable.

A Malwarebytes scan disclosed 1572 unwanted programs were present on my system. I'm sure not all of these were nasty, but if even a small fraction of them were, I would be in real trouble.



Conclusions and Recommendations

Most of us will occasionally have reason to download and install some third-party (non-Microsoft) software from the Internet. This does not have to be dangerous if you pay attention, that the software is being offered from the true home site of that product. NEVER download software from any sponsored link unless the desired software creator is the sponsor.

Do not depend on your anti-malware program to protect you. It will catch some issues, but not all.

From the November 2019 issue, Gigabyte Gazette, www.scscc.club, dkretch@gmail.com.

Penguin Platform

By “Free John” Kennedy, Apcug
Advisor, Regions 3 and 6/7

TRY THESE 2 THINGS BEFORE CHOOSING YOUR DESKTOP LINUX OS

– When macOS users decide “OK I’m done with the Apple ecosystem” and switch over to Windows, they have basically one choice for their operating system: Windows 10. When the reverse happens, people diving into Macs also have a single choice. When you take the plunge into desktop Linux, your “distribution” options expand exponentially. It can be overwhelming. Choice is the most beautiful — but sometimes paralyzing — thing about the wonderful world of Linux. If you’re curious about making that jump, wait until you’ve checked out these two fantastic resources.
<http://bit.ly/2HZvWRQ>

HOW TO USE EYE OF GNOME IMAGE VIEWER IN DEBIAN

10 – Eye of Gnome or the Image Viewer is the default picture/image viewing application for Debian. It is available on most Debian versions by default. It integrates with the GTK+ look and feel of GNOME and supports many image formats for viewing single images or images in a collection. The Eye of GNOME also allows us to view the images in a fullscreen slideshow mode or set an image as the desktop wallpaper. Read this article from Vitux to learn more.
<http://bit.ly/37tSFzy>

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. A PayPal account is not needed. You may pay for a new membership or renewal with any credit card, check or bank account (will need routing number).

What's Inside the Wayback Machine?

By Bob Rankin, www.askbobrankin.com
a Translator for the Technology Impaired

The Internet Archive... is it a massive collection of electrons, or a non-profit organization whose mission is to provide "universal access to all knowledge"? Actually, it's both. As part of their mission, the Internet Archive has been crawling the Web for over 20 years, making copies of Web pages and preserving them for posterity. Today, approximately 440 billion Web pages, 25 million books, millions of images, audio recordings, and video, along with 550,000 games and software programs are stored on the IA's servers. Read on to learn how you can access this amazing resource that offers a window into both the history and the present of the Internet...

What is The Internet Archive and Wayback Machine?

The Internet Archive was founded by Brewster Kahle, an Internet pioneer and computer programmer who helped to develop WAIS (Wide Area Information System), a text-based precursor to the World Wide Web. Kahle and others founded WAIS, Inc., to commercialize the text-searching technology; their clients included Ross Perot's 1992 Presidential campaign, the EPA, the Library of Congress, the Dept. of Energy, the Wall Street Journal, and Encyclopedia Britannica.

WAIS, Inc., was sold to AOL in 1995 (which is why you've probably never heard of it) and Kahle went on to found The Internet Archive and the Alexa web stats service (not to be confused with Amazon's Alexa virtual assistant).

The front-end to this massive library is the [Wayback Machine](http://www.archive.org) (which fans of Dr. Peabody and Sherman will recognize). It allows journalists, researchers, and the nostalgically curious to search for older versions of Web pages, even if the pages no longer exist on the Web. If you want to see what Yahoo.com looked like in October 1996, or view snapshots of WhiteHouse.gov over time, it's in there.



**** Computer Jokes ****
Stolen from Everywhere

Funny Office Thoughts

THE COMPUTER OFFICE:

A place where you can relax after your strenuous home life.

CONFERENCE:

The confusion of one man multiplied by the number present.

CONFERENCE ROOM:

A place where everybody talks computing, nobody listens and everybody disagrees later.

LECTURE:

An art of transmitting information from the notes of the lecturer to the notes of students without passing through the minds of either.

YOUR BOSS:

Someone who is early when you are late and late when you are early.

COMPROMISE:

The art of dividing an office in such a way that everybody believes he got the biggest piece.

It also allows one to submit a web page's URL for archiving, and get a URL that will work even if the page is deleted or moved from its original site. These permanent links are increasingly important. Web URLs have gained widespread acceptance as citations in students' term papers, Ph. D. dissertations, scientific research publications, even court filings and opinions. A "404 - not found" error is a big deal in a legal document, and the Wayback Machine helps avoid such problems. The Wayback Machine can search for archived copies of a missing page given its now-errant URL.

To make finding a lost page even easier, a browser extension is available for [Chrome](#), and an addon for [Firefox](#). Once installed, it automatically searches the IA every time you run into one of the various "page not found" errors your browser may return when you try to fetch a web page. (In tech terms, that would be an error number 404, 408, 410, 451, 500, 502, 503, 504, 509, 520, 521, 523, 524, 525, or 526). If archived copies of the page are found, a notification window lets you choose whether to explore them.

But Wait, There's More!

The Internet Archive isn't just about Web pages, though. As part of its lofty goal "to provide Universal Access to All Knowledge," the folks at IA are busily scanning books into its databases, much like Google Books does. It also preserves copies of old video games (and the emulators needed to play an Atari game on a PC), software, music, movies, videos (including TV news broadcasts and live concerts), and even animated GIFs. The headquarters of Internet Archive are located in the former Fourth Church of Christ, Scientist, a neoclassic building with Greek columns on Funston Avenue, in Richmond District, San Francisco, California. As of May 2019, the IA held over 45 petabytes of data. A petabyte is one million gigabytes. Wow.

It's worth your time to browse the "Top Collections at the Archive," where you'll find curated collections related to a wide variety of interests including Old Time Radio, MS-DOS Games, old magazines, and dozens of esoteric topics. One thing that was new since my last visit was Electric Sheep, a collection of animated and evolving fractal flames that make great screensavers. Let me know what you find there!

###

LINUX SIG

You guessed it. The library is closed, so Carl sent out a link in April to try an online meeting, using Jitsi. You might not get the total hands on approach, but you can ask questions and share screens during the meeting. The Linux Workshop will take place, **third Saturday of each month**, from Noon-4PM. No, you can't bring your machine in, but you can describe your problem and Carl and the other Linux gurus will try and help you. This is a video conference, so dress appropriately.

If you are not on the Linux emailing list, you can request a link to the workshop by contacting Carl Schmidtman, at unixgeek@faultline.com.

Odds and Ends

History of Computers: A Brief Timeline

By [Kim Ann Zimmermann - Live Science Contributor](#)

1801: In France, Joseph Marie Jacquard invents a loom that uses punched wooden cards to automatically weave fabric designs. Early computers would use similar punch cards.

1822: English mathematician Charles Babbage conceives of a steam-driven calculating machine that would be able to compute tables of numbers. The project, funded by the English government, is a failure. More than a century later, however, the [world's first computer was actually built](#).

1890: Herman Hollerith designs a punch card system to calculate the 1880 census, accomplishing the task in just three years and saving the government \$5 million. He establishes a company that would ultimately become IBM.

1936: [Alan Turing](#) presents the notion of a universal machine, later called the Turing machine, capable of computing anything that is computable. The central concept of the modern computer was based on his ideas.

1937: J.V. Atanasoff, a professor of physics and mathematics at Iowa State University, attempts to build the first computer without gears, cams, belts or shafts.

1939: Hewlett-Packard is founded by David Packard and Bill Hewlett in a Palo Alto, California, garage, according to the [Computer History Museum](#).

* * * * * 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 in the web version of this newsletter.

Stanford researchers design a more efficient and affordable desalination process

By Michelle Horton

Desalination – the conversion of saltwater to freshwater – has been limited by high operational costs. A new device capable of turning desalination waste into commercially valuable chemicals could make the process cheaper and more environmentally friendly.

Taking a new approach to an old problem, Stanford researchers have created a device that could make converting seawater to freshwater profitable and environmentally benign. Their research, published in [ACS Sustainable Chemistry & Engineering](#), outlines an efficient method for transforming water with very high concentrations of salt and chemicals, known as brine, into commercially valuable chemicals as part of the desalination process. The approach avoids the need for disposing potentially hazardous chemicals in local ecosystems.

“Desalination could be a powerful tool to mitigate water scarcity around the world, but it is limited by energetic and monetary costs for treatment and brine management,” said study senior author [Will Tarpeh](#), an assistant professor of [chemical engineering](#) at Stanford. “By reimagining brine as a resource, we aim to incentivize its collection and treatment before discharge.”

Desalination plants around the world produce about 27 billion gallons of drinking water each day – more than the daily total used by all U.S. households. However, this drought-proof approach of converting brackish or saltwater to potable water is costly because it requires a lot of energy. It also produces about one and a half times more brine than potable water.

Continue reading at www.news.stanford.edu/2020/06/01/desalination-solution.

Carnegie Mellon tool automatically turns math into pictures

Visualizations poised to enrich teaching, scientific communication

Carnegie Mellon University, News Release, June 2, 2020

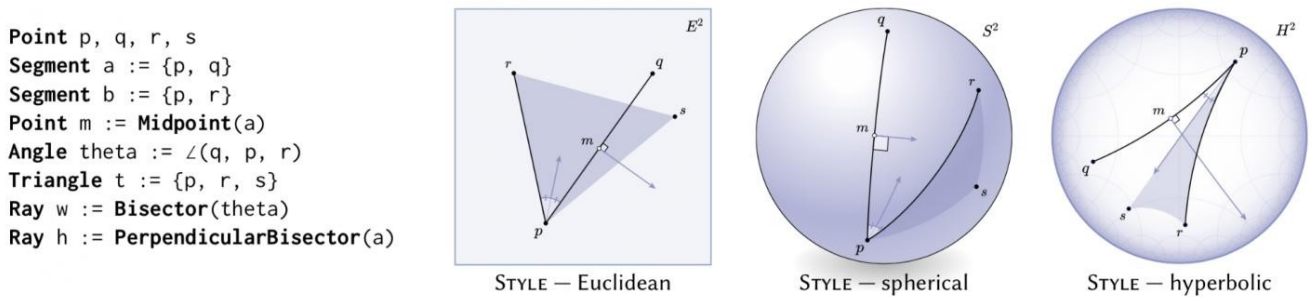
IMAGE: A new software tool from Carnegie Mellon University turns abstract mathematical expressions into pictures than can be more easily understood. [view more](#). *Note: image is on next page.*

Credit: Carnegie Mellon University

PITTSBURGH-- Some people look at an equation and see a bunch of numbers and symbols; others see beauty. Thanks to a new tool created at Carnegie Mellon University, anyone can now translate the abstractions of mathematics into beautiful and instructive illustrations.

The tool enables users to create diagrams simply by typing an ordinary mathematical expression and letting the software do the drawing. Unlike a graphing calculator, these expressions aren't limited to basic functions, but can be complex relationships from any area of mathematics.

The researchers named it Penrose after the noted mathematician and physicist Roger Penrose, who is famous for using diagrams and other drawings to communicate complicated mathematical and scientific ideas.



Continue this article at www.eurekalert.org/pub_releases/2020-06/cmu-cmt060120.php.

These Smart Contact Lenses Overlay Info Without Obscuring Your View

By [David Cardinal](#) on June 2, 2020

Maybe our eyes really need head-up displays. For a company that until recently was in stealth mode, high-powered Mojo Vision hasn't been shy about advertising its radical vision for the way we interact with computers. Skipping past all those bulky wearable designs and right into a science-fiction-worthy future it calls "invisible computing," the company is developing smart contact lenses that can overlay information without obscuring your view of the world.



After five years and over \$150 million raised, Mojo Vision is finally willing to talk a bit about how it is accomplishing that. No doubt it feels it has

earned some running room, with over 100 patents issued or filed by its 85 employees. Their creation, the Mojo Lens, enables the projection of information directly into your retina. That means what you see in the real world can be augmented with overlays of various kinds. An image sensor, some built-in image processing, and a companion wearable will allow apps to provide a wide variety of augmented reality experiences.

Display Magic Is at the Heart of the Mojo Lens

The lenses use a tiny projector to send information to your retinas. The one the company demonstrated last year had a stunning 14,000 pixel-per-inch resolution and measured a total of .5 mm across. Individual pixels were slightly larger (1.8 microns) than those in the image sensor in a smartphone for comparison. It has to be that small because it's in front of your eye. The company says it only blocks a small fraction of the light entering your pupil, on the order of 10 percent, so that it doesn't impact your normal vision more than a typical pair of glasses.

Continue reading at www.extremetech.com/extreme/311066-mojo-vision-smart-contact-lenses.

APCUG

APCUG is pleased to announce that we the summer and fall.



will be having online workshops during

Getting to Know Windows from An

Insider's Point of View

The second Wednesday of the month at: 9 am PT, 10 am MT, 11 am CT, 12 pm ET
July 8, 2020 August 12, 2020

Moderator: Bill James, APCUG Advisor, Region 8

The four 2-hour workshops will be on how to get the best out of Windows 10. There will be how-tos, hands-on demos, and discussion with ample time for Q&A.

Week 3 - File Explorer **Week 4** - Edge

We will use the same Zoom password encrypted meeting URL for each workshop. You will receive the URL after you have registered by [completing this form](#).

Judy will be the contact point for these workshops and will be available to assist you in connecting to the Zoom sessions. The registration list will be used to identify everyone in the Waiting Room before being admitted to the session.

The next series of workshops will be on Home Automation for Seniors – same time, same place on:

September 9, 2020 October 14, 2020 November 11, 2020 December 9, 2020

Week 1 - Why do I need it? **Week 2** - Where do I start? **Week 3** - Lights, doorbells, locks, and cameras
Week 4 - Doing It Myself vs Having It Done

We will begin by explaining why home automation is important to seniors. What products are on the market, costs, security, and some real-world testimonials. In the second week, we will talk about how to go about planning your home automation project and best practices. In the third week, we will talk about applications using lights, doorbells, locks, and cameras. Lastly, we will talk about the benefits of making it a DIY project or having a professional install.

RCSI

No, we haven't closed. Our usual meeting place has closed to outsiders, but **we are practicing 'social distancing' online**. We have used Zoom for two of our planning meetings, as a trial run. These meetings are held the first Tuesday of each month, at 7:00 pm and are open to any member. A link will be emailed to members, before our next planning meeting. **ANY CLUB MEMBER MAY ATTEND** and voice their opinions about club operations.

We have already completed our first two general online meetings, with a few hiccups while showing videos. The third online presentation will have been presented before this newsletter is sent out. So, we are working out the bugs.

**** Because of COVID-19, all club meetings and the
** Linux sig are currently being held online. ****

Our Usual Meeting Place
St John's Meadows at
Johnsarbor Drive, is on the left,
past Clinton Avenue, when going
West on Elmwood Avenue. 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.
Our meeting place can change.
Please check our website before
each meeting. **www.rcsi.org**