Lorain County Computer Users Group LCCUG.com (or) info@LCCUG.com Volume 33 Number 9 September 2022



Tuesday September 13, 2022



Using Zoom & In Room Meeting

Our links can be found at:

LCCUG.com/links, There you will find many interesting places to visit. Check them out and see what you can find interesting

NOTICE: THIS MEETING WILL BE A HYBRID MEETING

LCCUG Meetings will be happening on ZOOM & in Person

At a new time: from 10 am. - noon

Please Email: info@lccug.com if you have any questions or concerns!

September 2022 Interface

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A Word From Our President



At our **September meeting**, we will look at several features and apps that can be considered Accessibility features. We will look at how you can "dictate" a message in Gmail instead of typing it. It can also be used to verbally make notes or write a paper. We will also look at Microsoft Word's Voice Typing and how it is different.

Another tool for those with disabilities is Google's app called Lookout. My observation is that folks around our age can appreciate some of these tools.

In Word, the immersive reader can assist a reader who needs to improve their reading skills and is a very useful tool that can be used in Word or Word 365. This will also read a document to you.

We will also learn about a website to help you reach customer service on the phone.

Finally, there will be tips on using Google maps including how to look back on older "street views".

Reminder: a perk of membership is the option to attend our Problem Solving Workshop (Technology issues on-

ly). Recently the number of members taking advantage of this service has dwindled. Micky, Neil, and Sandee are glad to be of help to those who show up.

Change: We will now hold this Problem-Solving Workshop after our regular 2nd Tuesday meeting. So usually this will be at Noon and we will stay at least for a half hour. Please take advantage, but show up by 12:30PM!

Notice: If you can't attend in person, you can email your question to troubleshooting@lccug.com and we will do our best to answer you that way.

Our **October meeting** will be a look at apps for the smartphone and the smartwatch that are health-related. They can help you monitor your oxygen levels, your blood pressure, weight, and heart rhythm. Soon the watches will actually be able to measure your insulin level! We will discover whether these watches and phones are effective in fall detection. We will watch Dr. Ron Brown's recent recordings on this subject.

Reminders that our meetings are available in person at the LCCC Classrooms at 201 W. Erie St., Lorain or by ZOOM.

Let us know if you have questions!!

Sandra Ruth LCCUG President



LCCUG Officers For 2022

President	Sandee Ruth
	president@lccug.com
Vice President	Vacant vp-programs@lccug.com
Secretary	Don Hall secretary@lccug.com
Treasurer	Micky Knickman treasurer@lccug.com
Newsletter Editor	Pam Rihel newsletter@lccug.com
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Statutory Agent	Sandra Ruth statutory_agent@lccug.com
Director of Membership	Vacant membership@lccug.com
Director of Advertising	Richard Barnett advertising@lccug.com
Director of Education	Neil Higgins education@lccug.com

The Lorain County Chapter of OGS

is having its next meeting online:

Check our webpage for the next program. http://loraincoogs.org/events.html



We are having our meetings virtually using blaces jeans.com. To join the meeting on a computer or mobile phone:

https://bluejeans.com/5006724159?src=calendarLink Also a link will be sent to you before the meeting.

North Ridgeville Library, 35700 Bainbridge Rd. North Ridgeville, Ohio. Meetings are free and open to the public. Social time is at 6:30 PM and the program begins at 7:00 PM. Canceled Until further notice due to Covid-19

John Kolb secretary@loraincoogs.org

September 2022 | Interface



Tuesday

We will demonstrate several cool websites and apps that you will find very useful. We will look at some great websites that the Tech for Senior group have demonstrated recently.

- •Discover surprises using Google Maps demo of the Street View timeline-
- •How to use speech to text in Gmail?
- •Incredible accessibility tool that we might find useful in Google lookout even if we don't have a disability.
- •Discover Microsoft's "immersive reader" which has lots of features you'll be glad to have access to.
- •Find a company phone number and get right to a representative
- •5 fantastic google map features that are from Dotto Tech
- •Game changer let's look at Voice Typing.

Should be fun and informative. Please join us!





Executive Board Meeting Minutes



General Meeting Minutes

AUGUST 2, 2022



Lccug

LCCUG is on Facebook

Come and visit our Facebook page for interesting facts and ideas. You can get a lot of computer information from our Facebook page. Have a question ask it on Facebook.

https://www.facebook.com/groups/lccug



Member of Association of Personal Computer Users Groups

Computer Club News

Don't Bring in Your Used Ink Cartridges LCCUG is not collecting them Anymore. Thank you to all who have supported us in collecting the ink cartridges.

AUGUST 9 2022

President Sandee Ruth called the hybrid meeting to order. A motion to accept the minutes as shown in the August issue of the *INTERFACE* was made by Micky and seconded by Pam. Motion passed by voice vote.

Sandee pointed out some of the articles in this months *INTERFACE*. She mentioned the September program will be Mutual Web Links on the Internet.

Sandee and Micky presented a program of valuable information on what is available on the internet since its founding in 2005.

Newsletter Editor: Pam Rihel using Microsoft Publisher, 2016

This Month's contributors: Micky Knickman, Sandra Ruth, Pam Rihel, Don Hall, Neil Higgins, Michael John Neill, Scambusters, Ask Leo, APCUG, Mark Presky, Steve Costello, Joe Callison, Jim Cherny, Google images, Microsoft Office art online,

> Newsletter is now Online at:

lccug.com/newsletters or lccug.com

MEMBERSHIP WITH LCCUG:

Yearly dues are now \$15.00 For 3 years. For more information contact:

LCCUG Director of Membership, membership@lccug.com.

Meeting Location: At a new time: from 10 am. - noon in a new location: LCCC facility at 201 W. Erie, Lorain

Our meeting space is on the first floor – easily accessible – larger – refreshments available! Please email info@lccug.com if you have any questions.

Lorain County Computer Users Group

2022 Calendar of Events

http://lccug.com email: info@lccug.com

Using Zoom & In Person

Meeting & program starts at 10 am

2nd Tuesday of each month. Changes are announced on the webpage and the newsletter. All meetings are open to the public

January 11, 2022 - Useful Websites and Utilities presented by our Board Members and Our members February 8, 2022 - Preserving Digital Photos By Mark Schulman March 8, 2022 - The Pro's and Con's of BACKUPS; introducing "Tech for Senior" April 12, 2022 - Geeks On Tour Presented by Google Lens May 10, 2022 - Cyber-Safety in the Digital Age Presented by Norbert "Bob" Gostischa, June 14, 2022 - Snapseed – Presented By Chris and Jim Gould July 12, 2022 - Bringing Up Baby starring Cary Grant and Katharine Hepburn August 09, 2022 - Discover more about using YouTube September 13, 2022 - Cool Websites & Apps October 11, 2022 - Health-related apps for the smartphone and the smartwatch November 8, 2022 - To Be Announced December 13, 2022 - Holiday Lunch

Please check our website LCCUG.com for more updates. If you have anything you would like to know about, PLEASE let up know. We would really like your input.



amazonsmile

You shop. Amazon gives.

Thinking of shopping with Amazon? Well you can now go to our **lccug.com** website and just click on the **amazonsmile** link and start shopping.

Our club gets rewarded for any items purchased from our website. So the more you buy the better it is for our club. SO START SHOPPING.

Genealogy Tip of the Day

michaeljohnneill, Rootdig.com mjnrootdig@gmail.com

The Right Hand Page of the 1840 Census *michaeljohnneill, 05 Sep 09:38 PM*

Don't forget on 1840 census enumerations to look at both the left hand page and the right hand page. The left hand page includes numbers of enslaved individuals, information on individuals engaged in various types of employment (categories only, no names), and names of Revolutionary War pensioners. There might be a big clue hiding on the right hand page of that census–don't forget to look, grandpa might be living with the family.

Identify and Preserve Photos Now!

This is your periodic reminder to work on photo identification and preservation-particularly of those items of which your original copy is the only one.

The 1860 census will be there in a week. Life happens. Your uncopied, unpreserved, undigitized, unshared copy of that photograph of great-grandma may not.



NEED HELP? CALL FOR HELP!



Here's Who to Contact:

Neil Higgins

440-985-8507 - higgins.neil@gmail.com Evenings 6 p.m. -10 p.m. + Weekends Hardware, Linux & Windows Operating Systems,

Chromebooks, Tweaking your system

Micky Knickman

440-967-3118 - micky@knickman.com Daily 5:00 am to 3:00 pm. Leave message if no answer.

General Software Configuration, Hardware Installation, Basic to Advanced Windows

Richard Barnett

440-365-9442 - Richard216@aol.com Evenings & Weekends General Software Configuration, Hardware Installation, Basic to Advanced Windows & Web Page Design

Sandee Ruth

440-984-2692 - sandee29@gmail.com Basic Word Processing, Windows, & Web Design Advanced Internet

Pam Casper Rihel 440-277-6076 or 440-308-8196 6:00 p.m. to 9:00 pm Monday thru Thursday Genealogy help

prihel1947@gmail.com

Denny Smith Unavailable at this time 440-355-6218 - dennis.smith@windstream.net Microsoft EXCEL Leave message on machine if no answer

If any of our members are interested in helping other users with what programs you are adept at, please contact any of our officers with you name, what program or programs you would be willing to give help with, you email address and or phone number and when you would like to have them call you. Thanks



LCCUG ONGOING WORKSHOPS

ALL ARE FREE AND SOME ARE OPEN TO THE PUBLIC

Problem Solving Workshop

Date: Tuesday- September 13, 2022 Time: 12PM –Please show up by 12:30 Instructor: Micky Knickman, Neil Higgins, Richard Barnett Place: LCCC @ 201 W. Erie Ave., Lorain, OH

Learn how to repair or update your computer by changing hard drives, memory, CD ROMs, etc.

This workshop is limited to LCCUG members in good standing.

The Problem Solving Workshop is being held at our new building, LCCC, 201 W. Erie Ave. Lorain, Ohio

You are asked to bring in your computer, laptop and other electronics that you need help with unless the problem/question can be replicated on any device.

Learning About Electronics

Date: Tuesday - September 13, 2022 Time: 12PM –Please show up by 12:30 **Instructor: Sandee Ruth** Place: LCCC @ 201 W. Erie Ave., Lorain, OH Learn how use you electronic devices.

Members are encouraged to bring their tablets, iPod, kindles, etc. for assistance from Sandee and any other knowledgeable members. The public is welcome to sit in on these sessions.

LCCUG WORKSHOP Class Ideas?

Neil may be starting up his workshop soon and he would like some ideas on what type of projects you are interested in learning about. Contact:

Neil Higgins Education@lccug.com.

ScamBusters.org

MASTERCARD SECURITY ALERT

Editor's note: This article is from 2005, but has good prevention information; Mastercard was not recently breached.

7 SPECIFIC THINGS YOU CAN DO TO PRO-TECT YOURSELF FROM MASTERCARD AND OTHER CREDIT CARD FRAUD AND IDENTITY THEFT: INTERNET SCAM-BUSTERS™ #132

Today's issue, not surprisingly, is on the MasterCard security alert that occurred late last week, in which a security breach placed up to 40 million credit card numbers at risk for fraud.

We decided to devote today's issue to giving you specific steps you can take to protect yourself from security breaches such as this MasterCard security alert. Let's get started...

MASTERCARD SECURITY ALERT: SPECIFIC THINGS YOU CAN DO TO PROTECT YOUR-SELF FROM CREDIT CARD FRAUD AND IDENTITY THEFT

The largest security breach to date occurred late last week when 14 million MasterCard and 22 million Visa credit card numbers were hacked. Up to 40 million credit card users may now be at risk of fraud from their MasterCard, Visa and other credit cards.

The security breach took place at CardSystems Solutions, a third-party transaction processor for merchants and financial institutions.

It appears that the breach was caused by a hacker who gained access to CardSystems' database and then installed a virus-like script that captured customer data. The F.B.I. is investigating the security breach.

According to MasterCard, names, credit card numbers, expirations dates and the three or four-digit credit card security codes were stolen. Social Security numbers, birth dates or other highly sensitive personal data were not part of the security breach. million MasterCard holders were at "a higher level of risk."

MasterCard, as well as some other credit card providers, have zero-liability policies, so consumers who find unauthorized charges made on their credit cards will not be responsible for paying for the charges.

This security breach is simply the latest, albeit the largest, in a long line of breaches reported this year. Security breaches or lost computer tapes have been reported this year by Choice-Point, LexisNexis, Citigroup, Bank of America, Stanford University, United Parcel Service, and many others.

Since there has been a relentless string of security breaches -- both online and offline -- this year, we offer 7 specific suggestions of things you can do to help protect yourself from credit card fraud and identity theft:

1. Check all your credit card and bank statements very carefully. If you have access online to your credit card charges and/or bank accounts, we recommend you check your statements frequently so you can spot problems as early as possible.

2. If you find any unauthorized charges on any of your credit cards, notify your card issuer immediately.

3. If you discover a problem, follow the advice in our article: "What to Do if Your Credit Card or Wallet is Stolen."

4. Consider using one-time use credit card numbers, called "controlled payment numbers" or "virtual account numbers," for your online purchases. Controlled payment numbers help protect your privacy and your security. They are substitute numbers that let you shop online without using your real credit card number. Typically, controlled payment numbers expire after one use (although their use can be extended for repeating monthly bills). These substitute numbers link back to your credit card

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MasterCard said that only 68,000 of the 13.9

(Continued from page 7) MasterCard Security Alert...

number without you ever having to reveal your actual credit card number when you shop. The benefit is that if the substitute credit card number is stolen, such as in this case of the 40 million MasterCard and other credit card numbers, the substitute number would be worthless and your real credit card number would not be compromised. Currently, we know of two credit card issuers who offer this service: Citibank and Discover Financial Services. MBNA Corp. and others may also offer this service (however, we could not find a public link). For more info, visit:

Citibank (Virtual Account Numbers) Discover Card (Discover Desk shop). Editor's Note: Discover no longer offers Virtual Account Numbers.

5. Consider purchasing a credit monitoring service. These services typically offer periodic copies to your credit reports so you can monitor your credit file, email alert notifications of key changes in your credit reports, identity theft insurance, and personal customer service help. All three major credit reporting companies offer these services. They are not inexpensive. The service we now personally use is Equifax Credit Watch Gold. (Please note that this is an affiliate link, so ScamBusters does earn a commission if you purchase this service by clicking on this link. This means you are helping to financially support Internet ScamBusters with your order.) Note: Some people have very strong negative feelings about these services.

They believe these services should be free to everyone, and that having to pay for them is completely unfair. We respect that opinion. Our belief is that regardless of whether or not these services *should* be free, the fact is that they aren't. So, we believe the more practical question now is whether or not these services provide sufficient value to you to be worth the not inconsequential cost.

Personally for us, because of all the security breaches this year -- both online and offline -- the answer is now that it is worth it to us. It may or may not be for you.

6. Consider putting a 'fraud alert' on your credit file with the major credit card bureaus as a precautionary measure. A fraud alert is an alert that the three major credit reporting companies attach to your credit file that alerts creditors that your private financial information has been, or may be, compromised. This free service alerts creditors to use additional steps to verify your identity before opening new accounts in your name. When you place a fraud alert with one of the three major credit reporting companies, they will automatically notify the other two companies on your behalf, so you don't need to place the alert with all three. In addition to flagging your account with a fraud alert, your name will also be removed from pre-screened offers for credit cards and loans. And, you may well be able to receive free copies of your credit report from all three major credit monitoring companies. Placing a fraud alert does not damage your credit. You can remove the alert by calling the number on the credit reports you receive.

There are certainly drawbacks to placing a fraud alert, including that getting new credit cards and other credit may be more difficult. For example, a fraud alert may limit your ability to get instant credit for in-store purchases.

Creditors are asked to call you at a designated phone number before opening new accounts, and you may be required to show additional identification when opening new accounts.

Another drawback is that a fraud alert may not prevent a scammer from opening a new account in your name. Creditors are asked to call and verify all credit applications made in your name before they open any new credit account or grant any new credit. However, creditors are not required by law to contact you. In other words, fraud alerts can legally be ignored by creditors.

Placing a fraud report is done by an automated system -- it is almost impossible to speak to a human being. Here are the three agencies and

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their phone numbers:

Equifax: 1-800-525-6285

Experian (formerly TRW): 1-888-397-3742

Trans Union: 1-800-680-7289

For more information, visit the **FTC** website.

7. Reread our article called "Credit Card Fraud: 21 Tips to Protect Yourself," and follow the advice. We highly recommend that you seriously consider each of these items involving your MasterCard and other credit cards, and take action on all that make sense for you to protect yourself from credit card fraud and identity theft.

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http//www.scambusters.org

Genealogy Tip of the Day

michaeljohnneill, Rootdig.com mjnrootdig@gmail.com

Your Second Cousin michaeljohnneill, 03 Sep 09:19 AM

Technically speaking, your second cousin is one with whom you share a set of great-grandparents. Another way of looking at is that if two individuals are first cousins then their children are second cousins.

Often people just think that their second cousin is simply their relationship to the child of their first cousin. That's technically a first cousin once removed.

A chart on the National Genealogical Society website explains the relationships.

Personally instead of saying "Susan and I are second cousins" it is more clear to say that "my Grandma Ufkes and her Grandma Habben were sisters," perhaps naming the grandmas as well. People are more concerned how you are related than what that relationship is called and explaining it is certainly more clear than only saying what the relationship is.



Are Automatic Updates a Good Thing?

Automatic is good, but so is having some say in the matter.

by Leo A. Notenboom

Unless you're willing to pay a lot of attention on a very regular basis, automatic updates are an important part of keeping your machine safe.

What are your thoughts on automatic updates? Windows updates, but also automatic updates for my security programs. I have several and I have automatic updates turned on all. Could this lead to problems by leaving my computer open to the net?

This one's easy: I love automatic updates.

Let me explain why, and how to make sure your automatic updates are safe and doing what you think they are.

I'll also explore one area where things have gotten worse instead of better over the years.

Automatic updates

Automatic updates are most definitely a good thing, and should be enabled whenever possible. However, automatic update features should allow for user control, including delays and even skipping certain updates if necessary. Security software is most important, and should get automated regular updates.

Security software: absolutely

I *strongly* believe automatic updates for security software is an *absolute must*. There are simply so many changes — literally every day, sometimes multiple times a day — that keeping them up to date is essential. Doing it automatically is by far the easiest and most reliable way.

The issue with anti-malware tools is what I call "the race". Those who create malware do so constantly. Anti-malware tool vendors are always playing catch-up. They're constantly updating either their tools or the databases of malware information so they can catch even (Continued from page 9) Ask Leo

the most recent threats.

Making sure your anti-malware tools have not only the most recent versions of software but also the most up-to-date versions of the malware database is critical to staying safe and secure.

Doing so automatically is by far the best approach for your security.

Applications: yes, but ask first, please

I treat updates to specific software applications somewhat differently. I want automatic *notification* of updates and new versions. This means:

• The update notification should be a true notification, not an every-so-often "Do you want to check for updates now?" Automatically check it for me, and bother me only if there is something I should know.

• The update notification should tell me what it is and what it's going to do for me, including how important the update might be, in terms I can understand.

• I should be able to choose to delay the update and be reminded to install it later. Updates can interfere with work in progress or have other adverse impacts, so allowing me to choose when they happen is important.

• I should also be able to choose not to install the update at all, at least until the next new update becomes available.

There are some software packages that offer everything I've described, and I really appreciate them. Sadly, most offer incomplete mixtures of those features.

Most often, I do accept the updates.

I also believe that's what the average user should do. You should not be required to understand what each individual update is about. In most cases, "just take 'em" is my general recommendation.

Windows: Oh, Windows....

Updates to the Windows operating system are

a special case, and unfortunately not a good one. Windows update is a case of things getting worse rather than better.

If you scan that list of functionality around updates that I want from applications, you'll note that the most recent versions of Windows fail miserably.

• There's no notification that updates are available, only that it's time to reboot after Windows has already installed them.

• There's almost no information about what the updates include, and certainly not in language the average user can understand.

• The ability to delay an update has been severely crippled.

• The ability to avoid an update has been removed.

Windows has gone to the other extreme: you will take all updates as they're made available. Period.

At best, you can delay taking updates for perhaps up to a month.

What's frustrating is that *in an ideal world, that would actually work*. Windows would update itself transparently and would just get better and better.

But Windows has proven time and time again that we don't live in an ideal world. Updates can cause problems. Updates can happen at inopportune times. Updates can absolutely feel forced on you because ultimately, they are.

Automatic updates are a good thing when they work and work reliably. Windows has yet to achieve that bar.

Automatic updates and security

As for your concern about security, I'm not terribly worried.

Most automatic updates are handled through the same mechanisms your web browser uses to visit websites. The result is that, for most instances, you're not "opening up" any additional vulnerabilities by enabling automatic updates. As long as you're dealing with reputable vendors, the chances of "automatically" download-

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ing malware is next to zero.

You're at much greater risk if you're not behind a firewall, visit a malicious website, or mistakenly click on an emailed attachment.

Or if you don't take updates.

Sadly, Windows itself represents the biggest risk today, forcing you to take updates whether or not you're ready and having a track record that makes that unfortunately risky. All I can recommend to protect yourself here is to make sure you're backing up regularly.

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A Common Computer Problem and How to Fix It

By Mark Presky, Director, Los Angeles Computer Society User Friendly, January 2022 issue

https://www.lacspc.org/ leahjc@sbcglobal.net

Over the years, computer hard drives have gotten larger and larger. But programs and the other files we load onto our computers have also gotten larger and more numerous. Eventually, this often becomes a problem when one's computer starts running slower or informs you that it just cannot hold anymore.

One way to deal with this problem is to free up space on the hard drive or SSD (solid-state drive). Use the built-in Disk Cleanup tool in Windows 10. Click on the Start menu. Choose All Programs—select Accessories, then System Tools. Click on Disk Cleanup. Under the Files to delete heading, choose which file types you want to remove. If you're unsure which file types to get rid of, select each one in turn and read its description. When you've selected the file types to delete, click OK.

Another method to free up space is to manually

go through your files and delete the many of them that you don't need or want. Image (photos), audio (music), and video (audio and image) files can take up vast amounts of file space. How many photos of little Tommy or Grandma from your last birthday celebration do you need? I'll bet you have many duplicates of virtually every shot. Delete the copies, at the least. Have music files on your computer that you never listen to? Again, delete 'em. Now repeat this process with your vacation photos. Lots of old photos of your ex? Remember that song from the movie "South Pacific?" Wash those files right out of your computer.

Another trick here is to reduce the file size of those photos. Most cameras produced in the last several years take photos over two megabytes (MB) in size. Unless you plan to print those large file-size photos, you might think about reducing each image to between 200 and 400 kilobytes (KB). The reduced file size photos won't look any different when you view them on your computer. One can even reduce the photo file sizes en masse. If taken on your iPhone, the phone will ask you what size you want the file to be when you send them, via email, to your computer. I use IrfanView, but several other programs do this.

Going through those extra, unneeded files can be laborious and time-consuming, but that might beat having to buy another computer, having a larger hard drive installed and having all the files transferred, or having your computer crash.

Interesting Internet Finds

By Steve Costello scostello@sefcug.com

Seven Cord-Cutting Misconceptions Cleared Up

https://www.techhive.com/article/3633649/ seven-cord-cutting-misconceptions-clearedup.html

Just like with COVID, there are a lot of misconceptions about cord-cutting floating around on the Internet. Check out this post for clarification before deciding what you want to do.

Geek Fee Understanding Internet Speed

By Joe Callison, Author, GEEK FREE & FOR~GO (For Geeks Only) blogs; Convener, Senior Techies SIG Seniors Computer Club of Greater Kansas City https://kcsenior.net/ sencommember00@gmail.com

How fast is my internet connection? Am I getting what I am paying for? These are typical concerns for consumers, especially if they think their internet connection is too slow. We will look at this from the top-down, starting with the service from the internet provider to the residence or business, then the modem/router that provides the local network over wire and Wi-Fi, and finally the adapters in the computing devices connected to the local network.

Internet service is provided under language like "speeds up to" many megabits per second (Mbps). This is the maximum speed that will be delivered with the lightest load on the providers' distribution system. Suppose many consumers happen to be streaming movies simultaneously on the same network branch that you are connected to. In that case, you may only experience 80 or 90 percent of the maximum speed. This possibility should be considered before you decide on what speed of service you need. Do you know what speed you need? I doubt that most people do. Let's look at some of the requirements.

Netflix recommends 3 Mbps for standard guality video (SD), 5 Mbps for high-definition video (HD), and 25 Mbps for ultra high definition video (UHD). Hulu recommends 3 Mbps for content from their streaming library, 8 Mbps for live streaming, and 16 Mbps for 4K content. Remember that if you have two people in the household or business who may be streaming videos simultaneously, these requirements will double, and four people would quadruple. To ensure that you always receive at least these speeds from your provider, you should increase the total simultaneous requirements by 25%. Suppose you don't stream high-definition movies (or games) over the internet at all. In that case, you can use a rule of thumb of 5

Mbps for each simultaneous connection to the internet, which is plenty adequate for email, internet browsing, standard quality video or video conferencing, and such.

The modem/router which may be leased from your internet service provider or provided by you must be capable of handling the total simultaneous network requirements, in addition to providing each connected device with its needed speed. Old "G" routers (802.11g) generally have either 10 or 100 Mbps for each wired connection and a maximum of 54 Mbps for Wi-Fi connections. The Wi-Fi speed will drop off dramatically as the distance from the router increases.

The "N" routers may have a single 2.4 GHz radio like the "G" routers or may have both a 2.4 GHz and a 5 GHz radio (dual band). The single band generally provides up to 300 Mbps, and the dual band up to 600 Mbps (total for both bands). The wired connections maybe 100 or 1000 Mbps. Newer "AC" routers are all dualband and are often identified by a total combined Wi-Fi speed such as AC1200 for one with a 300 Mbps 2.4 GHz radio and 900 Mbps for a 5 GHz radio, or AC1900 for one with a 600 Mbps 2.4 GHz radio and 1300 Mbps for a 5 GHz radio. Wired ports are generally rated for 1000 Mbps.

A modem and or router may have a total bandwidth limitation that is less than the sum of the ratings of all individual connections. In other words, a router with four wired ports rated 1000 Mbps each may only be capable of delivering a fraction of that if all ports are active simultaneously. Unfortunately, the bandwidth rating is often a very difficult specification number to find.

The wired Ethernet adapter or Wi-Fi adapter in your computer or other internet-connected devices may also be a G, N, or AC capable type with its own specifications for speed. For the last several years, computers have included wired adapters rated 1000 Mbps. The ratings for Wi-Fi adapters vary greatly, as does their antenna's capability to send and receive signals over distance. For example, the 5 GHz adapter in the laptop I am using connects to the

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Continued from page 12) Understanding Internet Speed

router at 390 Mbps at a distance of about 20 feet. An external USB 3.0 Wi-Fi adapter I recently tested connects at over 700 Mbps from the same distance. For those with 1000 Mbps internet service, the Ethernet cable used for wired connections can limit achievable speeds. It will generally be necessary for cables over a few feet in length to use CAT 5e or CAT 6 cables to obtain maximum speeds.

Ultimately, the most interesting number is the speed we can actually get at our computer or device. The speedtest.net site is often used to test the speed between your device and a selected server on the internet. For the most accurate test, other background tasks that could be connecting to the internet should be temporarily halted. Also, note that the site recommends using their app for testing connections rated 100 Mbps or more instead of the browser version. I have tested both ways on my 1000 Mbps capable internet service, and the browser version showed 394 Mbps compared to over 900 Mbps with the app. Real-world connections can be much slower than the test speeds because of the load on the servers for a particular website you are connecting to. Using a VPN service also generally results in slower speeds.

Tech Terms You Need to Know



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One big challenge of technology is simply knowing what people are talking about. Words and acronyms are always trying to keep up with the latest tech advances. Let's take a look at a few terms YOU need to know –

Digital Navigators – People who help others use the internet and technology. This "title" refers mainly to those who help others use the internet to fill out forms, submit applications, and otherwise take advantage of the internet. There are still many people who do not have a computer or internet access. A Digital Navigator would step a person through the use of a computer app or technology to help them apply for a job, get some needed benefits, or submit an application.

AI or Artificial Intelligence – The ability of a computer to

learn on its own. This can be a little frightening because you cannot predict what the computer will be interested in learning, and you only hope you can shut it down before it learns more than it should. For example, suppose an AI computer decides to learn all it can about transportation and safety. Then, with all the computers connected to the internet, it will take only seconds to know that it should shut down all transportation to save lives from accidents, etc. Can you think of other catastrophic results of AI?

The Cloud – This term has been around for a few years now, but it is important. The "cloud" uses computer memory and apps that exist on the internet and are not stored on your computer. Google Drive is just one example – you can store any data you wish and use a spreadsheet or word processor app for free without having that data or app on your computer. The big advantage of the "cloud" is that you can do your work and access data from any device in the world that is connected to the internet and share it with anyone.

Optical Character Recognition (OCR) – an app that can take a scanned document and "translate" the image of the characters it sees to actual characters, words, and text that you can edit in a word processor. For example, you found a printed article that you wish to convert into a Word document. You SCAN the article (many printers have a scanner) and use an app to convert that image (or photo) of text into actual text characters as if you entered them from the keyboard. Not all printers/scanners have this capability, but if yours does, you have a great time saver for getting printed text into a word processor document you can edit.

Upload and Download – When you "upload" a file, you send it from your computer device UP to the cloud. When you "download," you are copying a file from the cloud DOWN to your computer. Downloaded files usually (in Windows) appear in your "Downloads" folder on your C drive.

Shutdown – Doing this completely turns off your device so that it no longer has an active display or is monitoring the internet. After a "shutdown," your device battery is not being used (although it still could slowly lose a charge just from sitting doing nothing). Usually, when you "turn off" your device, it may still use a little power to keep connected to the internet or cellular network, so it is not entirely off.

Well, I think knowing the above terms will help you. I don't think they will ever stop coming up with new terms and acronyms with technology. And some old tech terms are just not used anymore. Do you remember some of these terms?: Dial a number, light the pilot light, coal bin, getting steam up, butter churn, lead pipe, inkwell, and dunce cap! Well, I still wear my dunce cap a lot with new technology!