



OTTAWA

PC NEWS

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MERRY CHRISTMAS

Passwords by Chris Taylor

Passwords are the bane of many users' computing experiences. It is easy to find advice to use long complex passwords, never reuse them, never write them down, change them all periodically, etc. Let me go through some password advice with comments.

Use long passwords that have mixed-case letters, numbers, and special characters

The latest advice is to go long rather than complex. Mathematically, length wins over complexity and complex passwords are harder to remember. Think *passphrase* rather than *password*. According to Steve Gibson's [How Big is Your Haystack](#) web site, the passphrase *fishfortroutwithlure*, would take 65,900 centuries to try all possible combinations of lower-case letters, assuming a "massive cracking array" capable of 100 trillion guesses per second. A shorter, complex password like *dr#x0-.sC* would take under 2 hours to try all possible combinations of letters, numbers and special characters.

SANS has a good article: [NIST Has Spoken - Death to Complexity, Long Live the Passphrase!](#)

Use a password vault

As the number of passwords we have seems to grow exponentially, it has become impractical to remember them all. A password vault stores your passwords encrypted in a single file protected with a very strong password. I wrote about my search for a password vault

last fall in [Protecting your passwords](#).

Don't use passwords that contain real words

This is a problem if your password consists of just one or two words, or a common phrase such as *APieceOfCake*, *MyPasswordIsSecret* or *WhereNoManHasGoneBefore*. Effective password cracking doesn't only try every possible combination of letters, numbers, and symbols. A dictionary attack using millions of common words and phrases is tried first. A long password with many words that don't form a common phrase will stand up to a dictionary attack. *TableTreesShed-Scales* would make a strong, yet easy to remember, and type, password.

Don't use the same password for multiple services

If your password is cracked at one site, attackers can try the same username/password at other sites. Use a unique password at every site so attackers can't instantly break into your multiple accounts.

Protect your email account more than others

Many sites allow you to reset your password by sending a new one to your email address. If an attacker compromises your email account, emails can give clues about other sites you use. They can request password resets at those sites and pick up the new pass-

word from your email. To prevent this, secure your email account with a strong password and protect it with multi-factor authentication.

Use nonsense answers to security questions

Many sites let you reset your password by answering security questions such as *Name of your first pet* or *Favourite author*. With a little online research, it may be easy for an attacker to learn the answers. If you use nonsense answers (e.g. *Favourite author: pizza*), store them in your password vault. Or use correct answers but add a secret word. If your secret word is *box*, the answer to *Name of your first pet* becomes *box-rover* rather than *rover*, and *Favourite author* becomes *boxasimov* rather than *asimov*. This way, it isn't necessary to record the answers. Just answer correctly and add your secret word.

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Next Meeting: **WEDNESDAY, December 11th, 2019**

End of OPCUG raffles

Starting in January, our monthly raffle will be replaced with a free, member-only door prize that has a higher value than those we have had in the past.

Stop by the name badge table and pick up both your name badge and a door-prize ticket. Be sure to drop off your name badge at the end of the evening.

In lieu of a raffle in December, we will have a live auction.
([see article next page](#))

Coming Up...

→Wednesday December 11th, 2019

Topic: The Ottawa Public Library in the digital age

Speaker: Kyle Christopher

How can the public library help me keep on top of the latest technology trends? How do I borrow or utilize something that I can't feel or touch? How does the Ottawa Public Library keep it real for Ottawa's diverse social needs, and what role do they play in digital literacy?

Ottawa Public Library's mission is to inspire learning, spark curiosity, and connect people. Systems Librarian Kyle Christopher will address your questions and present on how OPL works to achieve their mission by providing the community with informational resources and working to bridge the digital divide.

January 8th, 2020

Topic: Imagine Space at the Ottawa Public Library

Speaker: Vanessa Menor, OPL

February 12th, 2020

Topic: Computer programming; then and now

Speakers: Chris Taylor and Alan German, OPCUG

For meeting updates and additional details, visit <https://opcug.ca/regmtg.htm>.



November Prize Winners

Our raffle prize of the Glasswire Elite Edition Firewall software was won by **Bernard Lipski**.

Hog's Back Bridge closed for repairs

This is a reminder to our members west of the Rideau River that the Hog's Back Bridge is [closed for repairs](#) until May 2020. There are other bridges that cross the Rideau River such as the **Heron** and **Hunt Club** bridges north and south of the church and the **Vimy Memorial Bridge** further south.



[Click image to view map](#)

2019 CALENDAR

Meetings	Date	Time and Venue
OPCUG General Meeting	Wednesday, December 11 th	7:30 p.m. at the Riverside United Church , 3191 Riverside Drive, Ottawa. Parking is free. OC Transpo bus #90 stops nearby. Visit https://opcug.ca/regmtg.htm for directions.
Q&A Session	Wednesday, December 11 th	Immediately following the OPCUG General Meeting.
Beer BOF (Wing SIG East)	Wednesday, December 11 th	10:00 p.m. (after the Q&A) at Moose McGuire's 3320 McCarthy Rd. Map: https://goo.gl/maps/zAtCx9ZcxRVPtSY68

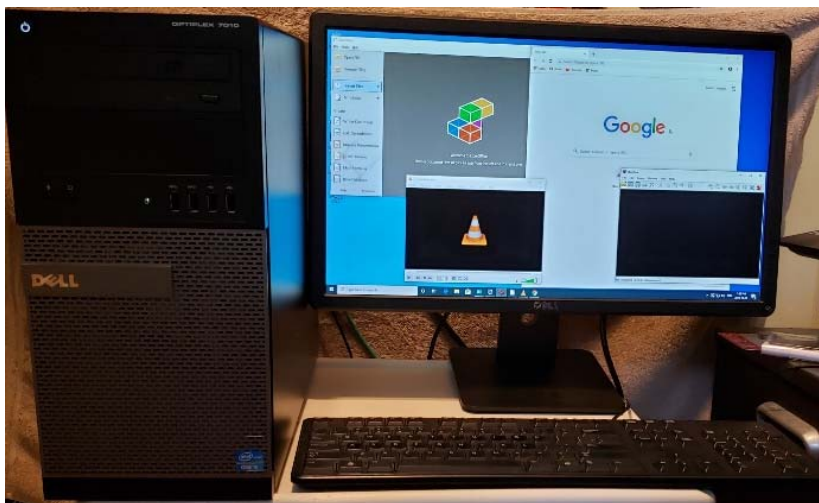
CLUB LIFE

December Auction

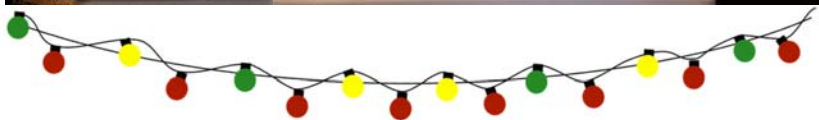
Due to a gracious gift, the OPCUG will auction a computer system useful for young or old for many years to come.

All proceeds will be donated to the Ottawa Food Bank.

The auction starts online at <https://www.32auctions.com/OPCUG2019>, and will continue at our December 11th 2019 meeting in a live auction. The live auction will commence with the highest bid posted to this online auction. The computer will go to the highest bidder at the meeting on December 11th. The winning bidder must be present and make the payment at this meeting.



- Dell OptiPlex 7010 desktop
- Processor: Intel Core i5-3570, 3.4 GHz, 4 Cores
- RAM: 8 GB (expandable to 16 GB)
- Hard disk drive: 500 GB, 7200 RPM
- Optical drive: DVD writer DVD+ -RW
- Graphics: Intel HD Graphics
- Networking: Gigabit Ethernet
- USB ports: 8 (four on front & back, with each side having two USB 2 & two USB 3 ports)
- Video ports: 2 Display Ports
- Monitor: Dell E2214HB LCD, 22", 1920x1080
- Mouse and keyboard (wired)
- Software: Windows 10 Pro, Google Chrome, LibreOffice, Irfanview, and VLC.



Good luck to all!

Nominations for OPCUG Board for 2020

Once a year, the OPCUG holds elections for the 9-member Board of Directors.

We are once again coming up to this annual event.

We encourage all members to consider running for a board position or getting involved in some other manner in the operations of the OPCUG.

If you want more information about what is involved, please talk to me or any current or past Board member. Names are listed in the [Newsletter](#) and on the [web site](#).

Nominations can be submitted to Bob Herres, Election Chair, in person at the October, November and December club meetings or by sending an email to nominations@opcug.ca.

Nominations must be received by midnight, December 31, 2019.

Please get involved. Please help the OPCUG continue in its role of *Users Helping Users*!

*Bob Herres
Election Chair 2020*

ARTICLE

BitLocker To Go encryption by Chris Taylor

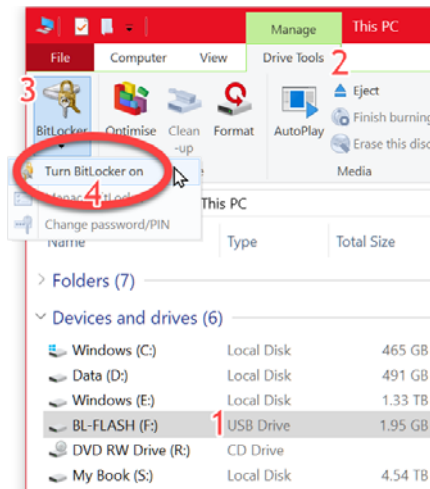
We have all read news stories about sensitive information that was stored on a lost flash drive. A feature that comes with Windows 10 Pro and Enterprise is *BitLocker To Go*, which allows you to encrypt removable media such as flash drives, external hard drives, and memory cards.

One of the neat things about BitLocker To Go is that it only requires Windows Pro or Enterprise to *initialize* the device. Once initialized, you can read and write to it with Windows 10 Home and any Windows version going back to Windows 7. You can even download [BitLocker To Go Reader](#) from Microsoft which will allow you read-only access to BitLocker-protected FAT-formatted drives on Windows XP and Vista. Not that I would recommend anyone use an unsupported operating system!

If you have access to a Windows 10 Pro or Enterprise computer, it is straight-forward to encrypt a flash drive using BitLocker To Go. In fact, it is so easy to do, it is hard to imagine a reason *not* to encrypt removable media if there is the slightest chance it will ever contain sensitive material.

For members only: If you have Windows Home, Chris can initialize BitLocker To Go for you. Just bring an empty flash drive to a Q&A session on a regular meeting night.

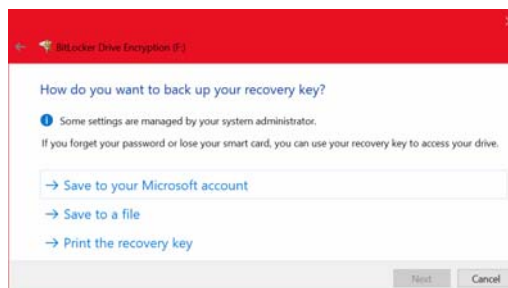
In File Explorer, select the flash drive you want to encrypt (1), click on the *Drive Tools* tab (2), then *BitLocker* on the toolbar (3), and finally *Turn BitLocker On* (4). (refer to diagram below)



Select the box *Use a password to unlock the drive* and enter the password to use.



Choose where you want your recovery key stored. You will need the recovery key in order to unlock the drive in the event that you forget your password. Keep it in a secure place!



You will be asked whether you want to encrypt the used space or the entire drive. Choosing the latter will take a long time; a 2GB flash drive took about 15 minutes. Files added later are encrypted regardless of your choice.



You are asked to select the method of encryption. If you want to be able to use the flash drive on Windows 7 and 8, choose *Compatible mode*.



Click on *Start encrypting*.



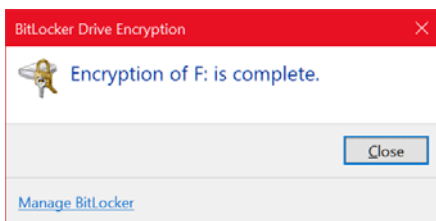
You can pause encryption before it is complete and the process will continue when you next plug the flash drive in. If you chose *Compatible mode* encryption, you can even complete the encryption on a Windows 7 or 8 computer.

(Continued on page 5)

BitLocker (Continued from page 4)



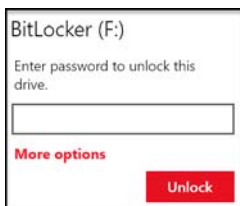
When complete, you will be notified.



After it is encrypted, whenever you plug in the flash drive you will get a toast notification you can click to unlock it.



If you miss this notification, when you try to access the drive you will get a pop-up *This drive seems to be locked by BitLocker! Unlock it?* Enter the password and you can access the drive normally.



More options in the dialog box will allow you to enter a recovery key if you forgot your password, or choose to *Automatically unlock on this PC*.

On Windows Pro or Enterprise, you can easily undo the encryption later if you want. Right-click the drive in File Explorer and choose *Manage BitLocker*. For any drives that have BitLocker enabled, you can;

- Back up your recovery key
- Change password
- Remove password (after adding another unlocking method such as smart card)
- Add smart card
- Turn on auto-unlock
- Turn off BitLocker

If you choose *Turn off BitLocker*, it will remove the encryption and leave the files in place. On Windows Home or an earlier version of Windows, just copy the files off and reformat the flash drive. This is likely the fastest way to undo the encryption on *any* version of Windows.



Passwords (Continued from page 1)

Change passwords periodically

I am of two minds on this. If you use long passphrases, the likelihood of your password being discovered by brute-force is very much reduced.

But what if it gets compromised *somehow*? What if a hacked site stores passwords in plain text? If there are millions of accounts compromised, it may take some time for attackers to make use of such a treasure trove. The longer your password remains unchanged, the higher the likelihood that your account will eventually be compromised.

Know when a data breach affects you

Sign up at [Have I Been Pwned](#). You will be notified if your email address appears in a data breach. Go to breached sites and change your password. If they use security questions for password resets, change the answers.

Use Multi-factor authentication

Multi-factor authentication means you need more than something you *know* (username and password) to access a service. You also need something you *have* (such as a phone that can receive an authentication code or a fob such as the Yubikey) or something you *are* (such as a fingerprint scan or facial recognition).

With multi-factor authentication, attackers can't get into your accounts with just a username and password obtained through brute force or a data breach.

Problem of insecure password storage

When you log onto a site and accept a browser prompt to save the password, your password is easily retrieved. For example, in Firefox go to *Options | Privacy & Security | Logins & Passwords | Saved Logins...* | *Show Passwords*.

(Continued on page 8)



Excel Tables: Making the Pivot Magic happen (Part 3 of 3)

By Lawrence Patterson lawrence@opcug.ca

Now the exciting stuff happens! With your spending table created following parts 1 and 2, we are going to make your data stand on its head and by doing so allow you to quickly understand your habits. That said, once you've gotten bit by the PivotTable bug, you'll find that it'll be your go-to tool for quickly understanding many transactions within minutes.

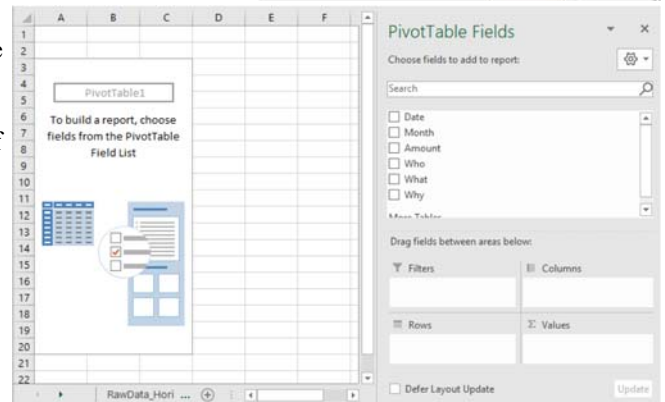
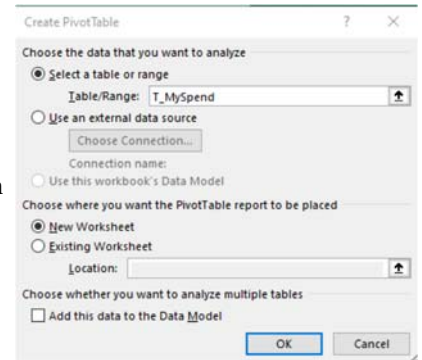
Fortunately setting up a PivotTable sheet (again, like tables, best to have each PivotTable on its own tab / sheet) is as easy as having your active cell within the previously created table and clicking on **INSERT** tab, then on **PivotTable**.

In most cases the "Create PivotTable" window will have selected the table (I've given my table a name to make it easy to reference), "New Worksheet" is selected and you hit **OK**.

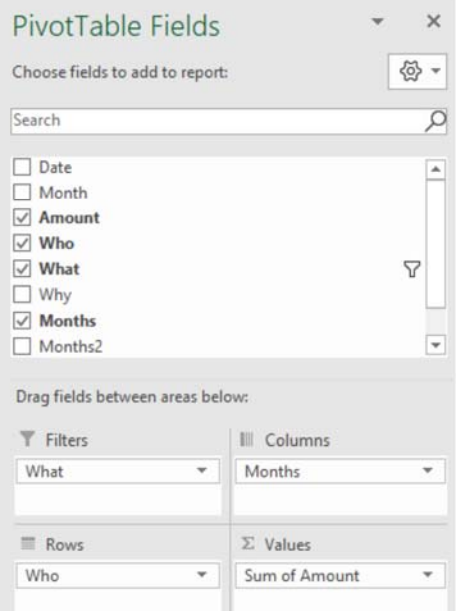
The first result is a somewhat formatted blank slate in a new worksheet that allows you to literally drag and drop your table fields in the areas called **FILTER** (which allows you to dynamically select the data you want to display), **COLUMNS** (top headings), **ROWS** (left side headings) and **VALUES** (whether it be a sum, average, count) of what you want to display.

There's an additional formatting setting with the **VALUES** called the **VALUE FIELD SETTINGS** in which you can apply a **NUMBER FORMAT** that displays the results using commas, currency and red for negative.

The results can be seen below:



	A	B	C	D	E	F	G	H	I
1									
2									
3	Sum of Amount	Column Labels							
4	Row Labels	1-Jul	1-Aug	1-Sep	1-Oct	1-Nov	1-Dec	Grand Total	
5	Auto Gas	176.00	254.00	176.00	176.00	176.00	176.00	1,134.00	
6	Auto Repairs	674.00	674.00	674.00	674.00	674.00	674.00	4,044.00	
7	Computers	748.00	585.28	63.87	156.08	287.54	348.25	2,189.02	
8	Dining	100.00	100.00	100.00	100.00	100.00	100.00	600.00	
9	Furniture	995.00	995.00	995.00	995.00	1,990.00	995.00	6,965.00	
10	Groceries	975.00	670.00	670.00	1,035.00	670.00	670.00	4,690.00	
11	Grand Total	3,668.00	3,278.28	2,678.87	3,136.08	3,897.54	2,963.25	19,622.02	
12									
13									
14	What	Dining							
15									
16	Sum of Amount	Column Labels							
17	Row Labels	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total	
18	McDonalds	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$144.00	
19	Swiss Chalet	\$65.00	\$65.00	\$65.00	\$65.00	\$65.00	\$65.00	\$390.00	
20	Tim Hortons	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$66.00	
21	Grand Total	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$600.00	
22									



In this case I broke the rule of one **PivotTable** per sheet (why, Excel will give you an Overlap error) to display how I've selected different **ROWS** selections to show that I can quickly change from looking at all costs for a given period (notice how my Months are in Date order, see Part 2 for how) to a **FILTERS** view selecting only Dining and seeing my unfortunate dietary habits.

In my professional life I'm constantly reviewing log entries and there are times when a quick conversion of thousands of rows / data into a **TABLE**, then inserting into a **PivotTable** will give me insight in minutes what decisions are required to establish perceived risk. By experimenting with your own data / needs you'll find how using the above techniques will quickly increase your productivity.

OPCUG Free Software Guide—Part 93

Compiled by Alan German,
Chris Taylor, and
Micheline Johnson

This guide features an annotated list of free computer programs. The software mentioned has not been reviewed (except where noted) nor have any tests necessarily been conducted. Consequently, no guarantees are provided that the individual programs will perform as described. Rather the list of available software is provided for the information of our members who may find one or more of the programs useful.

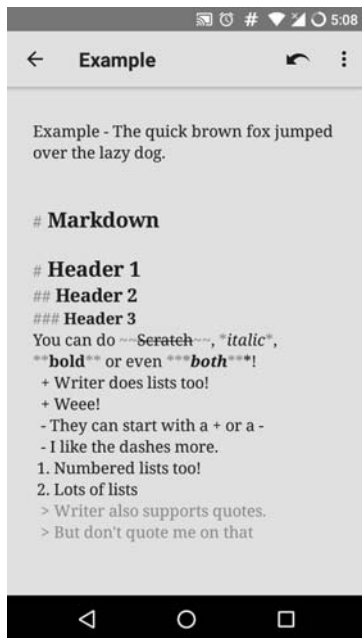
Writer Plus (Write On the Go)

Need to jot down a brief note on your Android phone? Writer Plus makes this an easy task. Simply click on the app's icon, hit the plus button and type. When you exit, Writer will save your file. The program supports basic

Markdown options so you can use headings, bold-faced or italic text, and create lists.

Current Release: Version 1.48

Web Site: <https://tinyurl.com/y2prwhge>



SharpKeys

This Windows registry hack makes certain keys on a keyboard act like other keys. For example, if you frequently hit Caps Lock by mistake, you could use this utility to map Caps Lock to a shift key, or even turn it off completely. Up to 104 key mappings are supported. The utility requires .NET Framework 4.0.

Current Release: Version 3.9

Web Site: <https://www.randyrants.com/category/sharpkeys/>

WinSCP

A popular SFTP client and FTP client for Microsoft Windows. Copy files between a local computer and remote servers using FTP, FTPS, SCP, SFTP, WebDAV or S3 file transfer protocols.

Current Release: Version 5.15.3

Web Site: <https://winscp.net>



Search All Tabs

This Chrome extension provides a powerful indexing and searching tool. You can use this extension, with Boolean operators, to search through both titles and content to find the relevant tab when many tabs are open.

Web Site: <https://tinyurl.com/y2yscso6>

WinCDEmu

This open-source CD/DVD/BD emulator will allow you to mount an optical disc image simply by clicking on it in Windows Explorer. If you have downloaded an ISO image, and want to use it without burning it to a blank disc, WinCDEmu is the easiest way to do it. And, the utility supports an unlimited number of virtual drives.

Web Site: <http://wincdemu.sysprogs.org>

darktable

An open-source photography workflow application and raw developer that provides a virtual light table and darkroom. It manages your digital negatives in a database, lets you view them through a zoomable light table, and edits your images non-destructively all the way through its pipeline. Your original image is never modified! darktable is created for photographers, by photographers.

Web Site: <https://www.darktable.org>



Hearthstone

Welcome to Hearthstone, the strategy card game that's easy to learn but impossible to put down! Play as a clever rogue, a powerful mage, or any other of the game's nine hero classes. Practice your skills in casual play, climb the ranks in ranked mode, shake things up with crazy tavern brawls, test your luck in the arena, play solo adventures against fiendishly clever computer opponents, and much more. Whether you're a seasoned card game veteran or a brand new player eager to learn, there is a place at the hearth for everyone.

Web Site: <https://playhearthstone.com/en-us/>

OTTAWA PC NEWS

Ottawa PC News is the newsletter of the Ottawa PC Users' Group (OPCUG), and is published monthly except in July and August. The opinions expressed in this newsletter may not necessarily represent the views of the club or its members.

Member participation is encouraged. If you would like to contribute an article to Ottawa PC News, please submit it to the newsletter editor (contact info below). Deadline for submissions is three Sundays before the next General Meeting.

Group Meetings

OPCUG meets on the second Wednesday in the month, except July and August, at the Riverside United Church, 3191 Riverside Drive, Ottawa. Parking is free at the church. OC Transpo bus #90 stops nearby. Details at <https://opcug.ca/regmtg.htm>.

Meetings are 7:30–9:00 p.m. followed by a Q&A Session until 10 p.m.

OPCUG Membership Fees: \$20 per year
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Passwords *(Continued from page 5)*

When you connect a Windows 10 laptop to a WiFi network and check the box *Connect automatically*, the WiFi password can be retrieved by any administrator account; *Control Panel | Network and Sharing Center |* click link for your connection *| Wireless Properties | Security tab | Show characters*.

Ideally, don't use options to save passwords. If you do, and you leave your computer logged in and unattended, anyone can get your saved passwords. Have a strong password on your operating system and always log off or lock the system when not in front of it.

Don't let passwords die with you

If you want someone to be able to access your services on your behalf in the event of death or incapacity, plan ahead. Consider giving a trusted person, such as someone you have granted power of attorney, access to your passwords or your password vault. Or keep them in a safe deposit box, where the person granted power of attorney will find them.



Reduce, Reuse, Recycle



Bring your old computer books, software, hardware, and paraphernalia you want to GIVE AWAY to the General Meetings, and leave them at the table near the auditorium's entrance. Please limit magazines to publication dates under two years.

You may TAKE AWAY any items of use to you.

Any items left over at the end of the meeting have to be taken back home by those who brought them in.