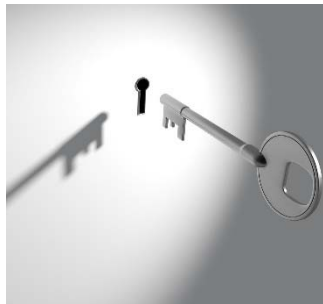




ARTICLE

Home wireless security by Chris Taylor

If you have a wireless router on your home network and you don't secure it, attackers could compromise connected devices such as computers, gaming consoles, smart TVs, thermostats, etc. As well, neighbours or people parked outside your home could use your Internet connection. Do you want to pay overage charges when your neighbour streams movies over your Internet connection? Do you want to explain to authorities that it wasn't you trying to hack the NSA when it is traced to your IP address?



In ancient times (maybe 10 years ago), most wireless routers defaulted to having no security turned on. In more modern times, they either default to security being enabled or walk you through the process of securing wireless on first use. However, I don't trust manufacturers. I always make sure wireless security is set up the way I want it.

The best way to get started is to download the complete manual from your

router manufacturer's web site. It will help you find the settings I talk about here.

Basic security

Basic wireless security controls what devices can connect to your wireless network and encrypts data so nobody sniffing the airwaves can see your information. There are usually four choices; none, WEP (Wired Equivalent Privacy), WPA (Wi-Fi Protected Access), and WPA2 (Wi-Fi Protected Access 2). Avoid none and WEP at all costs. WEP can be broken in seconds with free software. It might stop your neighbour. It probably won't stop your neighbour's kid.

Start with WPA2, which has the strongest security. A big advantage of WPA2 is that it requires the use of the Advanced Encryption Standard (AES) for encryption, which is much stronger than the Temporal Key Integrity Protocol (TKIP) in WPA. If any of your devices can't connect using WPA2, use WPA.

Passwords

With passwords, length wins over complexity. I use 30 characters or more for the password that allows devices to connect. You only have to set it once on each device, so typing it a few times shouldn't be a problem. Don't make

your life difficult with a password like 4j,k.%&@1-Q>2+'5. Think passphrase. Something like PaulWasOutOfStepOnTheAbbeyRoadAlbum is very strong but easy to remember and type.

The admin password allows you to configure the router. I go for short and simple. If someone can get to the logon screen on my router, they have either already broken my security and are connected to my WiFi, or they are in my house plugged into one of the ports on my router. In either case, I have a bigger problem to solve! I do want a password – I don't want one of my son's friends convincing him that changes will make games run faster and they undo all my security.

(Continued on page 4)

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# September Raffle

In tandem with Chris Taylor's talk on upgrading to a solid-state drive, the September raffle prize is a **Samsung T5 500GB portable SSD**. This tiny (74 x 57.3 x 10.5 mm), featherweight (51 grams), blazingly fast (USB 3.1 Gen2, 540 MB/s transfer rate), rugged (metal case) solid-state drive features AES 256-bit encryption, a 3 year warranty, and comes with both USB Type-C to C and USB Type-C to A cables for flexibility.



Speed up your computing with this nifty little SSD.

Tickets are just \$1 for one, \$2 for three, or \$5 for ten.

# Coming Up...

→ Wednesday September 11, 2019

**Speaker:** Chris Taylor, OPCUG  
**Topic:** My experiences upgrading to a Solid State Drive (SSD)

Have you ever wondered if it would be worth the trouble to upgrade from a hard disk drive to a solid-state drive? Have you ever asked, "How much does it cost?", "Will an SSD work in my computer?", "Will I break something if I try to do this myself?", "How do I transfer my operating system, programs, and data?", "Will I really ever notice a speed boost?", or "Are there any benefits to an SSD beyond speed?"

Well you are in luck! Chris Taylor, President of the OPCUG also asked himself those questions and more. And he actually found some answers too.

Come out to the September meeting to hear all the nitty-gritty details of what Chris went through when upgrading his main computer to an SSD.

Spoiler alert: Chris thinks you can - and should - do this.

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

## June Prize Winner

Our raffle winner, **Bob Walker**, took home a copy of Elite Edition Glasswire Firewall.

## 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**. There are other bridges that cross the Rideau River such as the **Heron** and **Hunt Club** road bridges north and south of the church and the **Vimy Memorial Bridge** further south.



*Click image to view map*

## Future Meetings

October 9, 2019

**Topic:** Members' Favourites  
**Speakers:** Lawrence Patterson, Bob Walker (with Bob Herres), Alan German, Chris Taylor, OPCUG

November 13, 2019

**Topic:** Scam Awareness and Trust  
**Speaker:** Lawrence Patterson, OPCUG

**The November meeting will be held in Room 6**

## 2019 CALENDAR

Meetings	Date	Time and Venue
OPCUG General Meeting	Wednesday, September 11 <sup>th</sup>	7:30 p.m. at the Riverside United Church, 3191 Riverside Drive, Ottawa. Parking is free. OC Transpo bus #87 stops nearby. Visit <a href="https://opcug.ca/regmtg.htm">https://opcug.ca/regmtg.htm</a> for directions.
Q&A Session	Wednesday, September 11 <sup>th</sup>	Immediately following the OPCUG General Meeting.
Beer BOF (Wing SIG East)	Wednesday, September 11 <sup>th</sup>	10:00 p.m. (after the Q&A) at the Riverside Pub, 3673 Riverside Drive. Turn left onto Riverside Dr. from the Church.

## FALL WORKSHOP

# Troubleshooting Workshop

The Ottawa PC User's Group is partnering with CompuCorps (<http://compu corps.org>) to offer our members a hands-on workshop to provide a wide range of technical support for their personal computers. This will be a Q&A session on steroids! Individual club members will be able to bring their computers to CompuCorps' computer lab where OPCUG volunteers will do their best to troubleshoot them.



So, do you have a specific problem with your computer's hardware, or have trouble with a particular software package? Is your system in a real mess and really needs some tender loving care? Or, would you just like to make the organization of your machine a little more efficient? At this workshop, we will try our best to troubleshoot, tune-up, and/or provide technical tips for your system.

But, OPCUG's computer doctors don't do house calls. You will have to bring your system to the lab at CompuCorps' facility. You will also have to be willing to have us tinker with your machine. But, of course, you do make regular backups of everything -- don't you? And, thinking about it, this could be one of the ways in which we provide technical support, we can show you how to create a comprehensive backup system for your computer, and make your first master backup on the spot!

Alternatively, perhaps you have a more general issue with computer operation, organization, or usage of a specific piece of software (e.g. Gmail). It may well be possible for our experts to troubleshoot your issue with you using the computers in CompuCorps' computer lab.

And, if you need to replace a broken part, want to upgrade to a larger hard drive, or add memory, you may just find a refurbished bargain in CompuCorps' Techstore. OPCUG members can obtain a 20% discount on any purchases at the on-site store.

The workshop will be held on Saturday, October 26, 2019 from 10:00 am until 1:00 pm at CompuCorps' Support Centre, 1040 Somerset Street West, Ottawa, ON, K1Y 4L3.

**Pre-Registration – Due to limited space and the time available, pre-registration for the workshop is required.** Send an E-mail message to [workshop2019@opcug.ca](mailto:workshop2019@opcug.ca) to reserve your place at the workshop. In particular, provide specific details of your problem so that the organizers can determine how best to try to resolve the issue – and accommodate as many club members as possible at the workshop.

The workshop will be free for OPCUG members. Registration will initially be offered only to members. If space is subsequently available, non-members will be able to register for the workshop at a cost of \$20.00 which will include a one-year membership in OPCUG.

So, don't delay. We anticipate that this workshop will be a "hot-ticket" event! Send the E-mail describing your problem now – and ensure your place on the workbench! And, after a hard morning's work, everyone will probably be ready for lunch – and a beverage! So, if you would like to join the group at a local eatery following the workshop, let us know, and we'll also reserve a spot for you at that table also.

## Users needed to help users!

As noted above, OPCUG is holding a troubleshooting workshop on the morning of Saturday, October 26<sup>th</sup>. Participants are being asked to indicate the specific issue that they wish to fix and/or learn about. In order to provide the best-possible assistance to the greatest number of members, we need to have a number of experts, and a variety of expertise, available to help with the troubleshooting process. Do you have specific hardware and/or software skills that you would like to share with your fellow OPCUG members? Do you know how to clean up a disk drive, tune Windows, install hard drives, or dive deep into various software applications? If so, let us know how you can help and we will see how best to match your knowledge and abilities with the problems that are to be raised at the workshop. Send an E-mail indicating the items on which you might be able to assist to: [workshop2019@opcug.ca](mailto:workshop2019@opcug.ca)



## Wireless security *(Continued from page 1)*

### Other settings

Don't enable *remote administration* on your router. Doing so exposes the router's logon screen to the Internet and your router *will* be attacked.

Change the default Service Set Identifier (SSID) – the name of your network. While not a security measure, you want to easily identify your own network. A good SSID is something simple like *Blue Sky* or *Mouse Button*. Or have fun with names such as *Mom use this one*, *Hey kid get off my LAN*, *(.)(.)*, or *It hurts when IP*. Avoid SSIDs that might attract unwanted connection attempts like *Free pornography*. In 2018, a Planet Fitness in Michigan was evacuated when a patron noticed an SSID of *Remote Detonator*.

Wi-Fi Protected Setup (WPS) has known vulnerabilities. Disable it. The one *possible* exception is if your router implements WPS through a button on the router that only enables WPS for a couple of minutes while you connect.

Make sure the firewall in your router is enabled. It provides a layer of protection for all devices on your network.

Visit your router manufacturer's web site periodically and apply any firmware updates, which may fix security vulnerabilities.

There are security issues around Universal Plug and Play (UPnP). For the most part, if the issues are able to bite you, you probably already have compromised devices on your network and you have much bigger problems to deal with than your wireless security. But, if you don't need UPnP, it is safest to disable it.

If you have absolutely no need for wireless, configure the security (in case it accidentally gets enabled in the future) and then disable wireless in the configuration.

### Myths

Hiding the broadcast of the SSID is a useless security measure. Attackers can easily get the SSID and hiding it just makes it more difficult to use your own network.

MAC address filtering is likewise useless for security. Attackers can easily detect and spoof MAC addresses and again, you just make it more difficult to use your own network.

Periodically changing the password on your router shouldn't be required, as long as you have a very long password. I would only change it if I suspected that my wireless had been hacked or if I had allowed a friend to connect their computer to my wireless and they are no longer my friend.



## Let the OPCUG keep in touch with you

Last summer, the OPCUG transitioned from our self-hosted server which included distribution lists for *Newsletter* and *Announcements*. Through these distribution lists, we could get valuable information to our members - *you!* The *Announcements* distribution list consisted of a single email a month that went out the weekend before the general meeting talking about the upcoming topic, raffle prize, and any other important information. This distribution list was also used sparingly at other times for urgent information such as meeting cancellations. The *Newsletter* distribution list consisted of a single message per month and contained a copy of the newsletter. No more remembering to visit the web site to check if the newsletter had been published yet!

Those avenues still exist - they are now run as Google Groups. The OPCUG board has been encouraging members to sign up for these distribution lists since last summer yet many members have not yet signed up. You can sign up yourself by following the instructions on our home page at <https://opcug.ca>. Click on the *Here's how to sign up* link found in the *Welcome* paragraph.

If you prefer, you can send an email to [chris.taylor@opcug.ca](mailto:chris.taylor@opcug.ca) and request that you be signed up for one or both of those groups and Chris will take care of it. It won't cost you a penny, is painless, and you can always unsubscribe later if you decide you are no longer interested. A link to unsubscribe is included at the bottom of every message that gets sent out.

Let the OPCUG keep in touch with you! Sign up, or request that Chris sign you up - **today!**



## ARTICLE

# Starting Programming in C by Alan German

In a number of prior articles we looked at some old-school computer programming languages – namely LibreOffice Basic and Free Pascal – but with up-to-date twists. Both software packages have hints of earlier programming languages (Basic and Turbo Pascal respectively) but are structured to run on modern computer platforms. Another language from around the same era (the 1970's) is C and it turns out that this is readily available for use on a Linux box since a C compiler forms part of almost every Linux distro. So, just how easy is it to create a working C program? The answer is that it's surprisingly easy – to create and run a simple program – but creating complex programs might be a little more challenging!

*Note for Windows Users – Various free C compilers are available for use with Windows; however, another option is to install a Linux Mint distro in a virtual machine (e.g. VirtualBox) and run the included gcc application as indicated in this article.*

My starting point (as I know almost nothing about C) was a series of YouTube video tutorials by Professor Jonathan Engelsma from Grand Valley State University, Michigan. The first module in the series, [Learning to Program in C \(Part 01\)](#), provides a brief history of C, notes some of its modern-day derivatives such as Java and PHP, and rapidly progresses to the syntax of the "Hello World!" program in C.

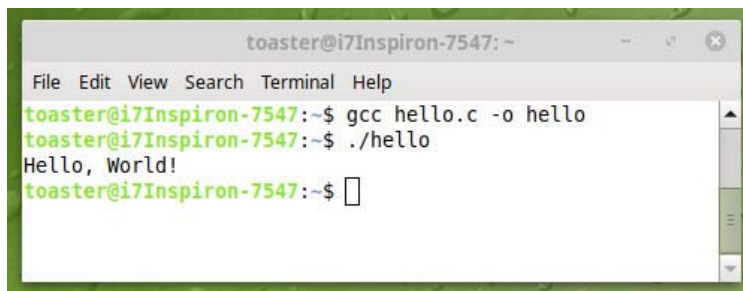
In particular, the program's code is given as:

```
#include <stdio.h>

int main(void)
{
    printf("Hello, World!\n");
    return 0;
}
```

In essence, these lines of code include the standard input-output module, define the main program as an integer function with void indicating that there are no arguments, prints the text Hello World! to the standard output device followed by a new line, and returns (the integer) zero to the system as the program completes.

On a Linux system, the above-noted lines of code are entered into a text editor and saved as the file hello.c. One should then be able to type the Terminal command: gcc hello.c -o hello in order to invoke the GNU C Compiler to compile and link the source code from file hello.c and output the executable file hello.



```
toaster@i7Inspiron-7547: ~
File Edit View Search Terminal Help
toaster@i7Inspiron-7547:~$ gcc hello.c -o hello
toaster@i7Inspiron-7547:~$ ./hello
Hello, World!
toaster@i7Inspiron-7547:~$ █
```

On my Linux Mint 19 box, the above-noted command initially failed with “fatal error: stdio.h: No such file or directory” being displayed. A little research on Google indicated that the build-essential module needed to be installed using the command: sudo apt-get install build-essential. Once this module was available, gcc responded correctly (giving no output other than a new command line!) to the compile command. The executable version of the Hello World program could then be run using the command ./hello resulting in the famous text string being displayed in the Terminal window. Success!

There are only a handful of lines of code in our sample program yet the concepts included in the syntax are not familiar and need explanation. This suggests that obtaining a somewhat greater depth of knowledge of C will require some considerable effort, an idea that seems to be reinforced by the fact that there are a further eight videos in Professor Engelsma's series of tutorials!



## WORD TABLES Does Math

By Lawrence Patterson [lawrence@opcug.ca](mailto:lawrence@opcug.ca)

**T**hanks to Micheline's email to the OPCUG's Member Forum on July 6, 2019 on "Doing Math in Word" as it drove my curiosity on the practicality of this capability. As an example preparing a Quotation with the formulas built in to keep track of the totals (how many times have you thrown together an invoice or quote in Word and forget to update the totals column). Keep in mind "Just because you can, doesn't mean you should" as Word is not a spreadsheet.

In a nutshell, Word uses the always interesting "Field" feature to calculate a formula based on the row / column addressing within a table. And any changes made to the numbers have to be updated by selecting the Formula Fields and hitting F9.

Before you start you need to understand Word's row / column addressing. The first table shows a sample setup, and the second table is the row / column addressing. Note how Word assigns addressing for merged cells (see A2 and B4). I purposely kept my headings for the 1<sup>st</sup> table outside of the Table element, as that would result in my addressing / formulas starting from Row 2.

Numbers	Numbers	Numbers	Formulas	Results
15	1	5	=A1+B1	16
25		10	=SUM(B:B)	16 (note B2's location)
30	2	15	=C1+B2+C3	30
50	3	20	=(A4+C4)/B4	23.33 (decimal format)
60		25	=A5+B4+C5	88.00 (decimal format)

A1	B1	C1	D1	E1
A2		B2	C2	D2
A3	B3	C3	D3	E3
A4	B4	C4	D4	E4
A5		C5	D5	E5

### Steps to create a formula

- Create your table and input the numbers you wish to calculate, understanding the cells you're using;
- Have your cursor in the table / cell you wish the answer to displayed at;
- In your toolbar, you'll have the "Layout" tool bar available (if not, you most likely don't have your cursor in the table), go to the Data group and click on Formula;
- Enter your formula (the "Paste Function" provides a list of functions);
- Click OK.

**REMEMBER;** To update a formula after updating a figure, you select the Field (you need to double click to select the field), then hit F9 (Function key 9). By selecting the column and hitting F9, will have the same effect.

For further details check this starter page: <https://www.officetooltips.com/word/formula/tips/1.html>.

Take care.

# OPCUG Free Software Guide—Part 90

Compiled by Alan German  
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.

## PDF-XChange Viewer

This PDF viewer provides a wide range of controls using colourful icons and a regular File-Edit-View type menu. Pages can be displayed to fit the window, by page width, or at various zoom levels. Features include multiple tabs, easy navigation by scrolling, and text searches.

Previously reviewed:

Another View of PDF Files; Alan German;

<https://www.opcug.ca/Reviews/PDFXchangeViewer.htm>

PDF-XChange Viewer, a further review; Micheline Johnson;  
[https://www.opcug.ca/Reviews/PDFXCV\\_Further\\_Part1.htm](https://www.opcug.ca/Reviews/PDFXCV_Further_Part1.htm)  
[https://www.opcug.ca/Reviews/PDFXCV\\_Further\\_Part2.htm](https://www.opcug.ca/Reviews/PDFXCV_Further_Part2.htm)

Current Release: Version 2.5.322.10

Web Site: <https://tinyurl.com/zzyr68d>



## Dave's Telnet

dtelnet is a free Telnet client for 16/32/64-bit Windows. It emulates many terminal types including xterm-256color, konsole-256color, vt100, vt320, vt420, and has IPV6 support. Many customization options are available, including function key sequences, answerback message and local printing.

Current Release: Version 1.39

Web Site: <https://sourceforge.net/projects/dtelnet/>

## ANGRYsearch

A Python-based utility for Linux that searches the entire file system and returns results extremely quickly. The developer indicates that ANGRYsearch attempts to emulate the performance of Everything for Windows.

Web Site: <https://github.com/DoTheEvo/ANGRYsearch>



## BeFunky

This on-line photo editor provides hundreds of photo effects that you can't find anywhere else. You can add extra flair to your photos with one-of-a-kind, hand-drawn graphics, and text using tons of fonts. Fun is literally Be-FUN-ky's middle name! Taking pictures is fun – shouldn't your photo editor be fun, too?

Web Site: <https://www.befunky.com/features/photo-editor/>



## BluetoothView

This small utility runs in the background, and monitors the activity of Bluetooth devices around you. It displays information for each detected device, including Bluetooth name and address, device type, and detection time. It can also notify you when a new Bluetooth device is detected.

Current Release: Version 1.66

Web Site: [https://www.nirsoft.net/utils/bluetooth\\_viewer.html](https://www.nirsoft.net/utils/bluetooth_viewer.html)

## Sophos Virus Removal Tool

Infected with a virus but unsure whether your existing anti-virus software has detected and removed it? Sophos Virus Removal Tool can help. Using cutting edge technology, this powerful tool detects all types of malicious software on your computer, including viruses, spyware, rootkits and Conficker ransomware, and returns your machine to a working state.

Current Release: Version 2.7.0

Web Site: <https://tinyurl.com/o7esyjt>

## GanttProject

Familiar with Gantt charts but need help managing a small project? Use this software to create tasks and milestones, organize tasks in a work-breakdown structure, draw dependency constraints, and create baselines to compare current project state with previous plans.

Current Release: Version 2.8.9

Web Site: <https://www.ganttproject.biz>



# 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 #87 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  
**Mailing Address:** 3 Thatcher St., Nepean, Ontario, K2G 1S6  
**Web address:** <https://opcug.ca>  
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Newsletter	<b>Brigitte Lord</b> (editor/layout/e-distribution)	<a href="mailto:brigitte lord@opcug.ca">brigitte lord@opcug.ca</a>	
Public Relations	<b>Lawrence Patterson</b>	<a href="mailto:PR@opcug.ca">PR@opcug.ca</a>	
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Webmaster	<b>Brigitte Lord</b>	<a href="mailto:webmaster3@opcug.ca">webmaster3@opcug.ca</a>	
Privacy Director	<b>Wayne Houston</b>	<a href="mailto:privacy2@opcug.ca">privacy2@opcug.ca</a>	
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## How to get the OTTAWA PC NEWS by e-mail



**H**ere's how to get the OPCUG newsletter by email:

### Create a Google Account

Any valid email address can be used as a Google Account. Pick an email address you want to use and browse to <https://accounts.google.com>. Click *Create account* and follow the instructions.

Make sure your new Google Account is functioning properly by going to <https://accounts.google.com> and signing in.

### Sign up for the OPCUG Google Groups

Browse to <https://groups.google.com>. If you are not signed into your Google Account, click the *Sign in* button at the top.

1. In *Search for groups or messages*, type *OPCUG*. The top of the search results will show Groups matching OPCUG. Click on *See all 3*.

2. Click on *OPCUG-Newsletter*, then click the *Join group* button. In the resulting dialog box, you can opt to change some preferences, such as;

- If *My display name* shows as your email address you can change this to something like *firstname lastname*
- Email preferences can be changed to only send daily summaries or not email you at all when new postings are made (meaning you must manually check at the web site to see if there are any new postings)

3. Click the *Join this group* button.

4. You will then see the list of postings that have been made to the group. Click on any entry to see the actual posting.

More detailed instructions on how to join this and other OPCUG Google Groups are found here:

<https://opcug.ca/GoogleGroups.html>

There are no issues of the newsletter published in July or August.