



OTTAWA

PC NEWS

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ARTICLE

Homograph attacks

by Chris Taylor

Do you know the difference between **paypal.com** and **pay-pal.com**? Copy the previous sentence to the clipboard, paste it into a word processor, and set the typeface to Calibri. Then change the typeface to Courier New, Comic Sans, or Verdana. How about if I type them entirely in uppercase: **PAYPAL.COM** and **PAYPAI.COM**? Depending on the typeface being used, a lowercase “l” appears similar—or even identical—to an uppercase “i”. I don’t know who controls PAYPAI.COM, but I am sure they have malicious intent!

Homograph attacks—also known as homoglyph attacks—work by replacing characters in a URL to make you think you will be going to one site, while sending you elsewhere. Many characters can look similar: a capital letter “O” and the number zero, the lowercase letter “l” and the number “1”, etc. Into that mix, throw in Unicode foreign language characters. Because I can’t be sure how typefaces will be translated through the various layers this article will pass, here is a graphic of a lowercase Latin “a” and the Cyrillic equivalent (Unicode 0430). Both are using Calibri: the default typeface in Microsoft Word.



There *might* be visual differences between the two characters. I can’t see any. But a URL containing a Latin “a” is definitely not the same as a URL with the Cyrillic equivalent. Bad actors will take advantage of that to trick you into going to a lookalike website where they can attack your computer or try to get you to give up credentials to the legitimate site.

Can homograph attacks be prevented?

Browsers *could* block non-Latin characters in domain names. But non-Latin characters are permitted in domain names, so this would prevent you from accessing some legitimate sites. Registrars for top-level domains (such as .ca, .uk, and .music) *could* prevent registration of domain names using non-Latin characters, but that would prevent their customers from registering some valid domain names.

Modern browsers can, and do, employ techniques to help expose or block homograph attacks. For example, some will display Punycode (<https://en.wikipedia.org/wiki/Punycode>) when they encounter Unicode characters. While this exposes Unicode characters in domain names in the address bar of the browser, it won’t prevent you from going to the site. Few people examine the address bar when a site opens from a link.

Browsers can sometimes warn you if they suspect a homograph attack is being attempted. Probably not a perfect solution, but it certainly might help.

Browser extensions can also help. [No Homo Graphs](#) for Firefox looks for—among other things—domain names similar to well-known and often-abused domain names for sites such as PayPal, Western Union, Google, etc. But, as the author of this extension notes, “This add-on is not fool-proof.”

[PhishProtect](#) is an extension for Chromium-based browsers such as Google Chrome, Microsoft Edge, Opera, and Brave. It has not been updated since 2018, but that may not matter; it simply warns when there are Unicode characters in the URL.

(Continued on page 7)

Inside this issue:

Next Meeting / Coming Up / Calendar	2
Homograph attacks	1
Member survey results on meeting venue	3
The BOD and survey results	5
2022 OPCUG elections	5
Updating Windows Defender - Part 1	6
Contact Information	8

Next Meeting: **WEDNESDAY, October 13th, 2021**

Next Meeting

Wednesday, October 13

HISTORY OF THE DIGITAL REVOLUTION

Speaker: Bob Walker, OPCUG

We'll have a look at the development and evolution of personal computers, the internet, email, social media, smartphones, e-commerce, digital cameras and more.

Before he retired, Bob Walker was a Senior IT Project Manager at the Public Health Agency of Canada. Prior to that, he worked in many roles in the High-Tech industry for a variety of companies over the span of twenty-five years.

This meeting will be via Zoom video conference.

Join us at <https://tinyurl.com/opcug-meeting>. The Zoom link will be live at 7:15 pm. The meeting will begin at 7:30 pm.

The above link includes the meeting ID and password. However, if you are prompted for the information, use:

Meeting ID: **924 9556 0898**
Password: **opcug**



Coming Up...

November 10

Topic: Astronomy

Speaker: Tim Cole and Andrea Girones, Royal Astronomical Society

(topic details)

December 8

Topic: Security Layers

Speaker: Tom Trotter, OPCUG

There is no magic security bullet, no single protection against others trying to scam you, ransomware you, or steal your identity. What you can do is what people do in the winter: put on layers. [\[more...\]](#)

2022

January 12

Topic: Encryption 101

Speaker: Stephane Richard, OPCUG

If you are using a computer and the internet, you are using cryptography. This presentation provides a basic introduction to cryptography. It covers the definitions of the terms used in cryptography and basic cryptographic processes. [\[more...\]](#)

February 9

Topic: Genealogy

Speakers: Heather Oakley and Mike More, Ottawa branch of the Ontario Genealogical Society

(details to follow)

March 9

Topic: Microsoft Teams

Speaker: Lawrence Patterson, OPCUG

(details to follow)

All scheduled **regular monthly meetings** and **weekly Q&A sessions**, and a link to **OPCUG presentations at the OPL** are posted on our website at <https://opcug.ca/#upcoming>. All events are via video conference until further notice.

2021 CALENDAR

Meetings	Date	Time and Venue
Regular Monthly Meeting	Wednesday, October 13 th	7:30 pm via Zoom video conference: https://tinyurl.com/opcug-meeting To see all scheduled events, visit https://opcug.ca/#upcoming
Q&A Session	Wednesday, October 13 th	Immediately following the Regular Monthly Meeting. (approx. 9 pm) on the same video conference.
Beer BOF (Wing SIG East)	Wednesday, October 13 th	Enjoy a cold brew or other beverage in the comfort of your home during the video conference.

Results of the 2021 member survey on meeting venue

INTRODUCTION

On July 13, the OPCUG Board launched a short survey to solicit members' thoughts on returning to in-person meetings. The survey also addressed the factors influencing attendance at both in-person and virtual meetings.

METHODOLOGY

The survey was sent to 136 members but was also open to non-members who wished to participate, with the request that they indicate their status in the comment field. There were 95 responses for a **stellar response rate of almost 70%**. Results are considered to be accurate within $\pm 5\%$, 19 times out of 20. There were two follow-up emails and verbal reminders at Q&A sessions.

PRE-COVID

Almost three-quarters of respondents indicated that they attended the pre-covid in-person meetings at least once a year. For another 21%, the question did not apply to them, suggesting perhaps they were not members at that time. Fourteen percent did not attend in-person meetings.

DURING COVID

During the period of covid restrictions, **four out of five respondents attended at least one virtual Zoom monthly meeting between April 2020 and the time of the survey.** One in five respondents did not attend any of these virtual meetings. **Almost three-quarters of all respondents had attended at least one Q&A meeting since April 2020.** While there are no documented historic numbers on attendance at Q&A sessions, the Board agreed that there has definitely been greater attendance with the virtual Zoom sessions.

POST COVID – IN-PERSON MEETINGS

Arguably, the most important question of the survey was to determine the comfort level for in-person meetings once public health officials allow large indoor gatherings. The results were very definitive as seen in Figure 1. **Almost half of respondents would be likely to attend an in-person meeting if full vaccination and a mask were required and a further 22% were neutral.** Slightly more than one-quarter (28%) were unlikely to attend and some of those would be folk among the 15% who did not attend in-person meetings in the past. Good support was seen, as well, for full vaccination and optional mask. However, there was very little support for scenarios where vaccination (with or without mask) was not required.

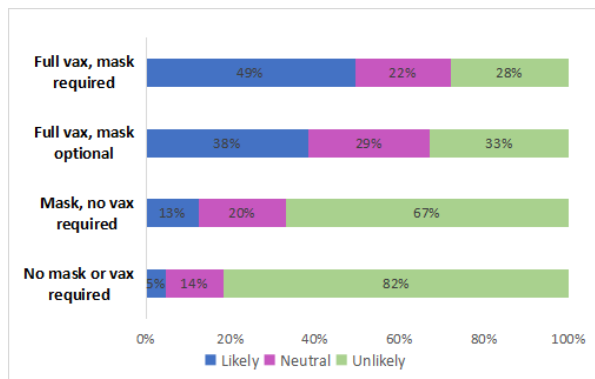


Figure 1: Likelihood of attendance of in-person meetings (if zoom always available)

Members of six or more years and males were more likely to attend in-person meetings if vaccination and a mask were required (58% and 51% respectively) compared to newer members (41%) and females (39%). It should be noted, however, that many of the newer members are females. They comprise 50% of those with a membership of 5 years or less compared to 16% for members of long standing.

Over half of all respondents indicated being very willing (23%) or somewhat willing (28%) to forgo in-person meetings if there were a few in-person social events held throughout the year. A further third were neutral. **Less than 10% were very or somewhat unwilling to give up in-person meetings** and only 4% indicated that it would depend on the events. Females at 69% and newer members at 62% were either very or somewhat willing to forgo the in-person meetings compared to 40% of males and 39% of those with memberships of 6 years or more.

Almost two-thirds of members indicated they were either neutral (17%) or more likely (48%) to attend an in-person event with an in-person speaker. About one in five said it would depend on the speaker. Perhaps an outside speaker would be a bigger draw than an OPCUG member.

One of the compelling reasons for attending an in-person meeting was the **ability to easily see and hear the presenter with over half (53%) indicating it as strong factor.** Over half as well said that the **sense of community and camaraderie** was also a strong factor (52%). This was followed very closely by the ability to converse one-on-one with fellow members with exactly half of all respondents identifying it as a strong factor. The top five factors are shown in Figure 2.

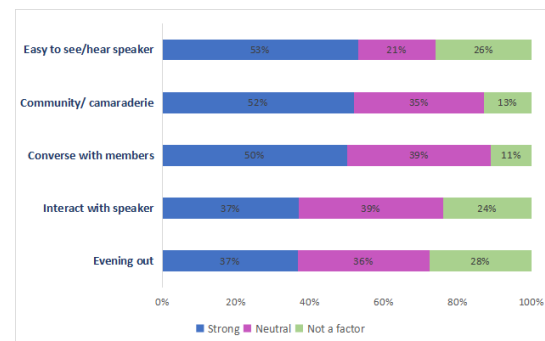


Figure 2: Top Five Factors influencing in-person meetings

POST-COVID VIRTUAL ZOOM MEETINGS

A solid majority of respondents (60%) indicated that weather was a strong factor in influencing their attendance at a virtual Zoom meeting. Almost four out of five female members (80%) said so, compared to half of the males.

(Continued on next page)

Survey results *(Continued from previous page)*

This factor was following closely by 59% who indicated that the **ability to listen to a replay of the meeting** was a strong influencer for zoom meetings. In this instance, new members (5 years or less) were more likely to indicate it as a strong factor (69%) than members of six years or more at 48%.

The ability to **see the speaker's slides** was a strong factor in favour of virtual meetings with over half (52%) indicating it as such on the survey. There was a marked difference between females at 69% and males at 43%.

"Illness or fatigue" was another factor where women considered it a strong factor (61%) more often than men did (40%). Overall, 45% of members said it was a strong factor.

The top five factors are shown in Figure 3.

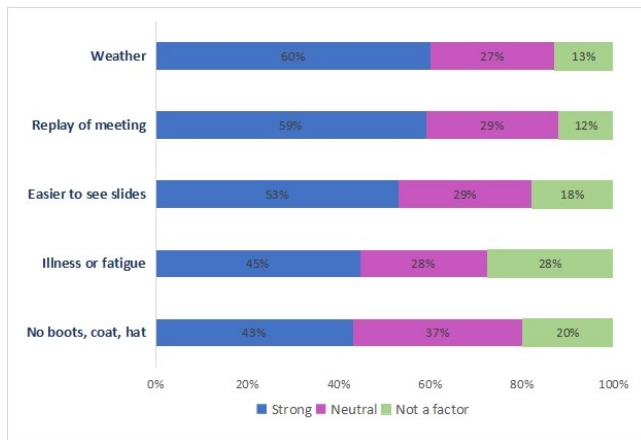


Figure 3: Top Five Factors influencing virtual Zoom meetings

POTENTIAL COST SAVINGS WITH VIRTUAL MEETINGS

Given the possibility of only virtual meetings in the future, the survey asked members how they would like to see any cost savings dispersed.

Over half (53%) agreed with increasing the honoraria for speakers and around half wanted to use savings to **fund technological education (50%)** or **keep it in reserve (48%)**. Females were much more likely to agree with paying for education at 72% compared to males at 37%.

COMMENTS

Comments from responders to what in-person meetings may entail included the notion of social distancing in addition to masks and vaccinations. One person pointed out that there are all sorts of reasons to protect yourself and others by wearing a mask, not just for covid-19. Some felt in-person meetings were important to the moral of the club but the suggestion was made to have only one or two per year. Another respondent was less easily distracted during an in-person event.

With respect to virtual meetings, a member said they missed some due to running low on their Internet data plan. It was noted that getting to and from the meetings is difficult by bus. The comment was made that much of what was discussed went over the member's head but with zoom they could pick and choose when to participate.

Overall comments included appreciation for the survey and for the OPCUG board members, especially Chris and Alan for their efforts on the monthly meetings and the weekly Q&A sessions.

Thank you to everyone who participated in the survey. Your opinion matters!

For an in-depth PowerPoint presentation on the survey results please use this link:

<https://opcug.ca/presentations/2021-09-MemberSurveyResults.pdf>

Lynda Buske, OPCUG

Quick tip 33: Resetting TeamViewer *by Chris Taylor*

TeamViewer is a nice cross-platform (Windows, macOS, Linux, Android, iOS, and Chrome OS) way to connect to remote computers with full mouse and keyboard control.

TeamViewer is free ... for "*private, non-commercial use*". That restriction can bite you. If the company suspects you are using it as part of a business, TeamViewer will stop working. Exactly how they determine this is pretty murky. The bottom line is, at some point you may find that you are blocked from using the program. Sometimes the error you receive is not clear. I received the following error a couple of seconds into a remote session.



If you are blocked from using TeamViewer, you can request a reset on your TeamViewer ID. Browse to www.teamviewer.com/reset/. Click the *Connect with TeamViewer* button to start the process. You may have to download a declaration form, sign it, scan it, and upload it to the site. You should hear back within 2 business days. It worked for me.

CLUB LIFE

The Board of Directors and the 2021 Survey on meeting venue

At the September General meeting, Lynda Buske presented the findings from the 2021 survey on meeting venue. As well, her findings are in this issue of the newsletter. The board has been considering the findings and is committed to keeping the membership up-to-date on its thinking.

The question most frequently asked is “When/will we be meeting again in person?” Broadly, at this point:

- A considerable portion of the membership is interested in attending in-person meetings;
- Strong support for continuing with Zoom is clear, regardless of whether we return to in-person meetings;
- The church where we meet is still determining a date for when they will allow gatherings to resume;
- The board is planning for – at the very earliest – a January 2022 return to in-person meetings; and
- Given the high number of members who stated that winter-related barriers and temporary illness/fatigue are strong reasons for preferring Zoom meetings, the board is considering having meetings solely by Zoom for December through February.

As always, we welcome your further comments and suggestions. You can send an email to info@opcug.ca.

Nominations for OPCUG Board for 2022

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 on the back page of this newsletter and on the web site at <https://opcug.ca/executives/>.

Nominations can be submitted by sending an email to nominations@opcug.ca.

Nominations must be received by midnight, December 31, 2021.

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

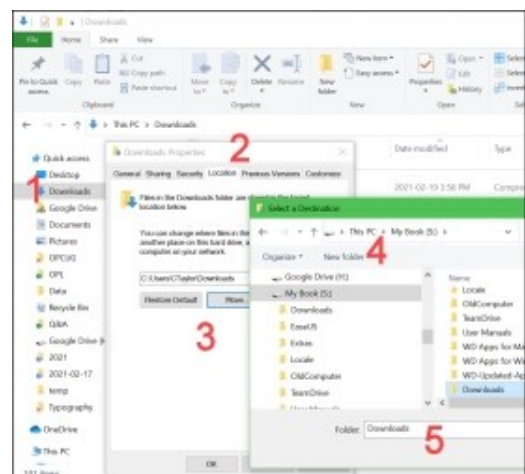
*Bob Herres
Election Chair, 2022*



Quick tip 34: Moving Windows default data folders by Chris Taylor

If your computer has a relatively small solid-state drive (SSD) where Windows is installed and a large spinning hard disk drive (HDD), you might prefer that the default save location for things like *Downloads*, *Documents*, *Pictures*, *Videos*, etc. be on the HDD rather than the SSD.

Open File Explorer. In the navigation pane on the left expand *This PC*, right-click on the item you want to move, e.g. *Downloads* (1) and choose *Properties*. Click the *Location* tab (2), and click *Move...* (3). Navigate to your HDD, click *New folder* (4), and give it a name. From then on, when things get saved to your *Downloads* folder, they will go to the HDD rather than the SSD.



ARTICLE

Updating Windows Defender revisited - Part 1 by Chris Taylor

Windows Defender uses Windows Update to check for new antivirus signature files. Windows Update only runs once a day—specifically 24 hours after the last time it ran. But Microsoft releases new signature files much more frequently. I tested and, over a 2-week period, Microsoft updated its signature files an average of 9 times a day. Why wouldn't you want your signature files updated more frequently than once a day?

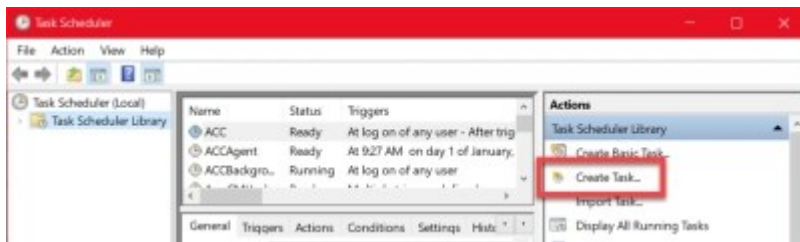
I wrote an article in 2010 (opcug.ca/Articles/1005.pdf) showing how to use Windows task scheduler to check for anti-virus signature files and updated it in 2015 (opcug.ca/Articles/1510.pdf). Some user interface updates and a couple of additional options means it's time for another update!

Microsoft provides a command-line interface to Windows Defender: *MpCmdRun.exe*. One of the options in *MpCmdRun* is to check for updates to antivirus signature files. As a command-line utility, it can be scripted and scheduled. In other words, it can be automated for hands-off operation.

Click the Start button, type;

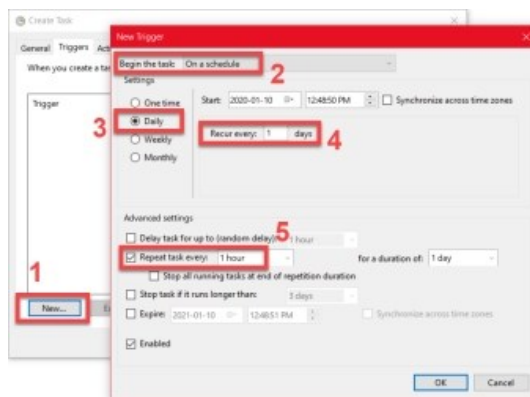
task scheduler

and hit Enter. In the *Actions* section, click on *Create Task...*



On the *General* tab, give it a name, such as **Defender Update** and select *Windows 10* in the *Configure for:* section. Click the *Triggers* tab.

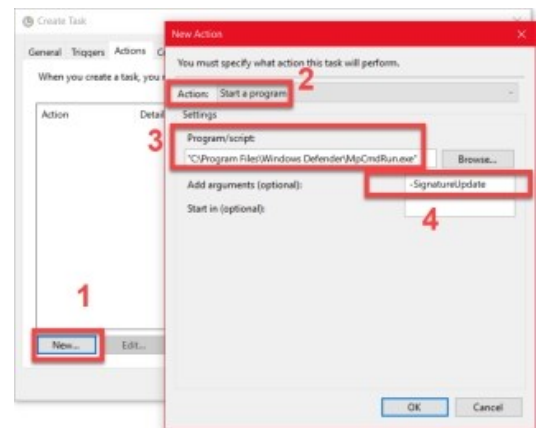
1. Click the *New...* button
2. Set *Begin the task:* to *On a schedule*
3. In *Settings*, choose *Daily*
4. Set *Recur every:* to *1 days*
5. In *Advanced settings*, select *Repeat task every:* and set it to *1 hour* (or whatever you prefer)



Click the OK button.

On the *Actions* tab;

1. Click the *New...* button
2. In the *Action:* section, select *Start a program*
3. In *Program/script:* use the *Browse...* button to select **C:\Program Files\Windows Defender\MpCmdRun.exe**
4. In *Add arguments (optional):* enter -**SignatureUpdate**



Click the *OK* button.

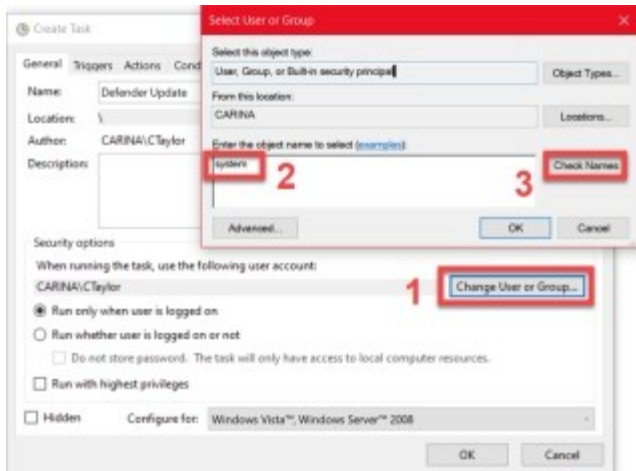
Task Scheduler will then check for Windows Defender antivirus signature updates every hour. However, there are two things I don't like. First, a distracting black window opens when the task runs. Second, the task only runs when you are logged onto Windows.

Both drawbacks can be eliminated. In Task Scheduler, double-click your task to edit it. On the *General* tab for the task (see graphic next page);

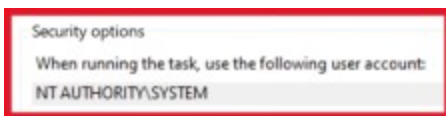
1. Click the *Change User or Group...* button
2. Type in **system**
3. Click *Check Names* and click the *OK* button.

(Continued on next page)

Windows Defender *(Continued from previous page)*



The section *When running the task, use the following account:* will read `NT AUTHORITY\SYSTEM`.



Click the OK button and close Task Scheduler.

Next month, I will show an additional two methods for keeping Windows Defender's antivirus signature files up-to-date. Each has their advantages and disadvantages.



Homograph attacks *(Continued from page 1)*



Protection measures that only look for Unicode characters in the URL won't provide protection from homograph attacks that replace Latin characters with look-alike Latin characters.

Because domains engaged in homograph attacks are almost certainly malicious, DNS services designed to prevent you from going to dangerous sites, such as [Quad9](#), [OpenDNS](#), and [CIRA Canadian Shield](#) may know about some of these sites and block you from going there. For more information on alternate DNS resolvers, see the article I wrote for the [October 2018 newsletter](#).

A good defence against homograph attacks is to not click on links you receive in emails. When you receive an email saying FedEx could not deliver your package or your bank wants you to visit their web site for a new interest rate promotion, load your browser and visit the site by manually going to the site or using a trusted bookmark.

Good computer security must be layered and nuanced. Never forget that your knowledge and behaviour are important security layers.



Quick tip 35: Pulsedive threat intelligence *by Chris Taylor*

If you ever wondered if a given domain name, IP address, or URL might be malicious, check out Pulsedive at <https://pulsedive.com/>. They have a free service that gathers threat intelligence.

There is even a browser extension for Chrome and Firefox. With a single click, you can get Pulsedive's analysis for the site you are on. Even better, if you see a link to another site, you can highlight the link and Pulsedive will immediately pop up and do its thing *before* you actually go to the site.

Pulsedive can get pretty geeky with information on open ports, protocols, DNS records, and more. But even a beginner can appreciate green happy faces and check marks indicating that all is well.

They have paid accounts that can dig deeper, but the free services are terrific.



View from browser extension

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.

To receive the monthly newsletter by email, send an email to:

opcug-newsletter+subscribe@googlegroups.com (leave subject and body fields blank)

You do **not** need to create a Gmail or Google Groups account.

To subscribe to other OPCUG Google Groups member services, go to:

<https://opcug.ca/google-groups-how-to/>

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. OCTranspo bus #90 stops nearby. Details at <https://opcug.ca/venue/>.

(NOTE: Due to COVID-19 safety guidelines, all our events are via video conference until further notice. Details at <https://opcug.ca/venue/>)

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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Q&A HAS GONE ON-LINE! WEEKLY!

Because of the pandemic, the OPCUG is holding weekly Q&A sessions in Zoom video-conferences.

Join us every Wednesday (except on regular monthly meeting nights) at 7:30 pm to discuss computer issues. Questions (and answers) on any computer-related issue are welcome. Or, do you have a favourite computer program or topic that you would like to share with the group? Send your questions, answers, or the details of what you would like to share to: SuggestionBox@opcug.ca

Everyone is welcome to attend Q&A sessions and to ask questions about their specific computer-related problems. Join us at: <https://tinyurl.com/opcug-meeting> (if you use the Zoom client, the meeting ID is 924 9556 0898 and the password is **opcug**).

