ARTICLE

Exploring Linux – Part 28: Three Ways to Try Linux – Live USB *by Alan German*

Those of us whose computers aren't supported by Windows 11, either because of an old CPU or the lack of a TPM chip (or perhaps both!), can still run Windows 10 until October 14, 2025. And, we can do so secure in the knowledge that patches to the OS will be provided on a regular basis until this end-of-life date. So, there is no need to panic; we have almost three years to consider our options.

Nevertheless, ultimately, the basic choices will be to purchase a new computer that is Windows 11 compatible, continue to run Windows 10 in an insecure manner (definitely not recommended), or switch to an alternative OS. In the latter case, it's Linux that comes instantly to (my) mind.

So, if you are in the same boat as me for 2025, and are considering upgrading 😊 to Linux, or if you just have an interest in seeing how Linux functions, let me share with you three ways to try Linux without losing any ability to run your current version of Windows.

The first option is the easiest but the most restrictive. Nevertheless, it will provide an excellent opportunity to try out Linux without making any changes to your Windows system. In addition, if you have a 4 GB (or larger) USB flash drive handy, it won't cost you a cent.

Essentially, we are going to download a Linux distro (distribution) and burn this to a USB flash drive to create a bootable, live-USB. [This assumes that your computer is capable of booting from a USB drive rather than only from a CD/DVD.] This will enable us to boot a live version of Linux that will run directly from the USB drive.

There are lots of Linux distros that we could use but, for me, a tried and tested option is Linux Mint. At the time of writing, the latest release is Version 21 (Vanessa). Most users will want the 64-bit distro which comes in three "flavours" (desktop environments). We will be using the default Cinnamon Edition as this is the desktop that perhaps most closely resembles Windows.

So, let's get started…

Our first task is to download the chosen distro as an ISO file. Point your browser to: https://linuxmint.com and follow the links to download the software. By default, you will be offered the 64-bit Cinnamon Edition. One choice to make is the software mirror from which to download the file. Scroll down the page and select the Manitoba Unix User Group which will allow you to download the 2.4 GB file *linuxmint-21-cinnamon-64bit.iso*.

Next, we need some software that will burn this ISO file to a flash drive. Our choice for this will be Rufus (https://rufus.ie/en/). Download *rufus-3.20.exe* to the hard drive. No installation is necessary. Just run the program which will bring up the window shown in the screenshot at right.

In the drop-down menu for *Device*, select the USB drive that is going to be the target for the Linux distro to become our bootable disk. Next, click on

the SELECT button and browse to the Linux distro file (*linuxmint-21-cinnamon-64bit.iso*).
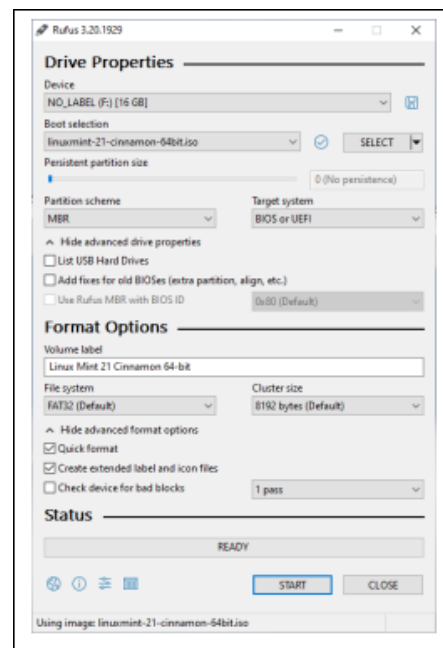
Inside this issue:

Next Meeting: WEDNESDAY, March 8th, 2023

Next Meeting

Wednesday, March 8, 2023

Topic: Tales from the workbench

Speakers: Maria & Paul Middleveen, The Trailing Edge

Maria and Paul from The Trailing Edge return with valuable information about when things go wrong. They will fill us in on the top things that bring customers in to their shop looking for hardware upgrades, fixes for broken components, malware removal and performance problems.

They will help us all by letting us know what the average user can do to prevent the necessity of dragging the computer in to have them fix it. And what we really should let the experts handle.

And we might just hear some funny anecdotes about computers they have seen brought in for repair.

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.

Coming Up…

April 12

Computer – It is all about the bits!
Speaker: Stéphane Richard, OPCUG

May 10

Members' Favourites Night
(speakers to be determined)
If you want to give a presentation, send an email to: **SuggestionBox@opcug.ca**.

June 14

Annual Pizza Night
Registration will be required *(details to follow)*.

September 13

Directory Opus: the Ultimate Windows Explorer Replacement
Speaker: Serge-Érik Thériault (OPCUG)

October 11

Self-driving cars *(tentative)*
Speaker: Bob Walker

November 8

Celestial Shadows – Eclipses of the Sun and Moon
Speaker: Howard Simkover

All scheduled regular monthly meetings, 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.

2023 CALENDAR		
Meetings	**Date**	**Time and Venue**
Regular Monthly Meeting	Wednesday, March 8th	7:30 pm via Zoom video conference: **https://tinyurl.com/opcug-meeting** To see all scheduled events, visit https://opcug.ca/#upcoming
Next Q&A Session	Wednesday, February 22nd	Until further notice, Q&A sessions are no longer held after regular monthly meetings. Join us on all other Wednesdays for weekly Q&A.
Beer BOF (Wing SIG East)	Wednesday, March 8th	Enjoy a cold brew or other beverage in the comfort of your home during the video conference.

SECRETARY'S REPORT FOR 2022/2023

2022/23 Election

Bob Herres agreed to be Election Chair in August 2021. Calls for nominations were done in the newsletter and at meetings throughout the fall. Nine nominations were received by the due date of December 31, 2021. Since there were only nine nominations, no election was required.

Board Members

The Board of Directors for 2022/2023 was acclaimed on February 9, 2022 at the Annual General Meeting. The Board selected positions at their next meeting on February 14, 2022 resulting in the following slate of officers:

> Chris Taylor, President and Systems Administrator
> Jocelyn Doire, Special Events
> Gail Eagen, Secretary
> Alan German, Treasurer
> Wayne Houston, Privacy
> Brigitte Lord, Webmaster and Newsletter
> Lawrence Patterson, Program and Publicity
> Bob Walker, Facilities
> Karen Wallace-Graner, Board Member without Portfolio

Board Meetings

The Board met 11 times on Feb 14, Mar 14, April 18, May 16, Jun 13, Aug 13, Sep 19, Oct 17, Nov 14 and Dec 19 in 2022 and Jan 16 in 2023.

Most of the discussion at meetings related to creating the program for the meetings; ensuring articles for the newsletter; publicizing club meetings and events using Facebook, Twitter and press releases to targeted audiences; and monitoring the COVID situation in relation to resuming in-person meetings. With the pandemic still making meeting in-person impossible, the Board continued online video-conferencing of the Board and Monthly meetings using Zoom. Weekly Question and Answer sessions were continued through Zoom.

Major discussions, decisions made and actions taken:

- To publish a special edition of the April 2022 Newsletter with an old Banner and to publish historical articles each month in celebration of the OPCUG's the 40th Anniversary year

- To update the OPCUG logo to include "for over 40 years"

- To accept Richard Aylesworth's comments and recommendations on the review of the Treasurer's financial records for 2021

- To investigate and then move to cheaper banking plans while meeting club needs.

- To invest funds in the TD bank account into staggered GICs in the total amount of $13000

- To ensure provincial Business Registry records were up to date according to the latest Provincial guidelines

- To hold a Spring Workshop Series of 4 workshops

- To hold the June 2022 Pizza-Q outside at Vincent Massey Park, renting a covered location

- To require registration at future Pizza-Q's to determine the amount of food and drinks to be ordered

- To select an Election Chair to run the nomination and election process for 2023/24 (Bob Herres again agreed to be Election Chair.)

- To arrange for free access to Microsoft 365 for Board Members as offered by Microsoft to not for profits

- To ask Richard Aylesworth to review the Treasurer's financial records for 2022

- To extend free membership for one year to members of good standing as of March 31, 2023 and offer new memberships between January 1, 2023 and March 31, 2023 2 years for the price of one

Submitted by

> *Gail Eagen,*
> *Secretary, OPCUG*

ARTICLE

Building a NAS System – Part 3: Configuration   *by Alan German*

In the first two parts of this series we installed openmediavault (OMV) to create a network attached storage system (NAS) on a netbook computer and created a shared folder in Windows 10. Now it's time to refine the configuration of our NAS.

The first thing we should do is to change the default password for logging into the NAS as the administrator (userid = *admin, password = openmediavault*). The *Settings* icon is the gear wheel in the top-right corner of OMV's window. So, click on this icon and select *Change Password*. A strong password should be used in order to prevent anyone who is unauthorized from accessing the NAS server. The administrator has complete control of the server so only trusted users – you! – should have the login credentials.

Next, when setting up the shared folder you may have found yourself logged out of OMV and so had to login a second time (or more!) Let's see if we can prevent this happening while we work on the system configuration. Navigate to *System – Workbench* and, from the drop-down menu for *Auto logout*, select 30 minutes (note that the default is only 5 minutes). That should give us enough time to make a few more changes.

So, let's customize the dashboard which is the window that we see when we first login to OMV. Click on the *Settings* icon and select *Dashboard*. The resulting menu of checkboxes, all of which are disabled by default, are widgets that can be activated to display on the dashboard. You might want to check them all which will load the dashboard with all of the available widgets.

You can also go back to *Settings – Dashboard* and disable any widgets that you think you don't need (these can always be reactivated). For my purposes I restricted the active widgets to CPU, CPU Utilization, File Systems (table), File Systems (grid), Memory, Network Interfaces (grid), and System Information. The resulting display is fairly clean and, at least in the first instance, seems to provide a range of useful information.
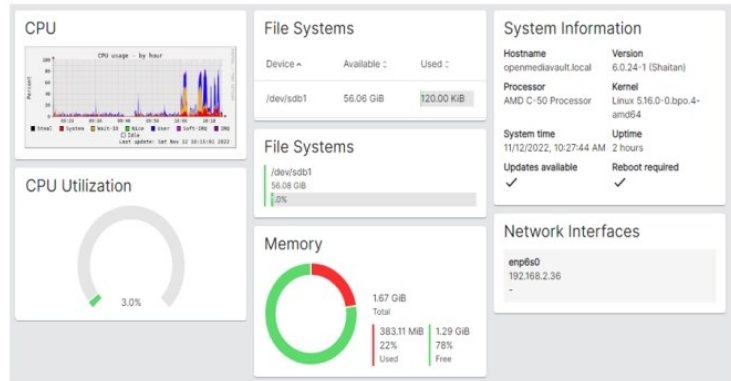
For example, we can see at a glance that the NAS at idle is using very little (3%) of the available CPU processing power, and only a moderate amount (22%) of the system memory. Only a single text file (120 KB) has been stored on the 64 GB flash drive so the storage disk utilization is less than 1%.

However, note also that in addition to System Information indicating that there are updates available it is also warning that a Reboot is required. We can achieve this by navigating to *Settings*, clicking on the *Power* icon in the top-right corner of the menu bar, selecting *Reboot*, and confirming that this is the desired action. The reboot takes place automatically and reloads the OMV splash screen.

Interestingly, the reboot has no effect on the ability to install the pending updates. However, now that we have a working and a somewhat up-to-date system, it's time to change it! Well, actually, we want to conduct an experiment with a particular OMV plugin. More on this in Part 4 of this series…

Bottom Line

openmediavault (Open source)
Volker Theile
Version 6.0.24
https://www.openmediavault.org

ARTICLE

Spring cleanup
by Chris Taylor

At last spring's Tech Talks, one session was *Ten tips to remove those digital cobwebs*. If you haven't stayed on top of things, it is time to revisit this important task.

Don't get compromised

Check that your operating system and programs have the latest security updates and all auto-update functions are working properly.

Review the settings in your anti-virus. Make sure it's updated to the latest program and signature files. Run a full on-demand scan of all storage devices on your computer. Double-check that your anti-virus is not missing anything by running a free on-demand scan from any number of major anti-virus vendors.

Get a vulnerability management program that can check all your installed programs for security patches.

Review your authentication to devices and services. Use unique, strong passwords for every service, multi-factor authentication, and a password manager. Review the answers to password-reset questions: use nonsensical answers and record them in your password manager. What, you are not using a password manager?! Start using one today!

Set the DNS on routers and other devices to use a DNS resolver such as Quad9 or OpenDNS that can block you from going to malicious sites.

Verify the security settings on your router and make sure it is running the latest firmware. Check to see that no rogue devices are connecting to your router.

Don't lose your important data

Backups are one of the most important factors in making sure data is safe and secure. Image, real-time, and offsite backups are all important to ensure you don't lose data. Near real-time backup can be achieved for free with Windows's built-in File History. For image backups, there are many free and paid programs. Be careful if choosing a cloud backup provider: the features, limitations and costs vary wildly!

Review your backup strategy to make sure all threats are covered. Test your backups: we don't back up for backup's sake, we back up so we can recover.

Make sure you have at least two accounts on your computer that have *Administrator*-level access to aid in recovery should your main account becomes corrupted.

Drop stuff you don't need

Check your password manager for sites and services you no longer use and delete your accounts from those services. If a service is compromised, it may provide a foothold to an attacker.

Use the Windows tools Disk Clean-up and Storage Sense to get rid of dross clogging your drive and making your backups bigger than they need to be. There are also 3rd party tools available that can help you clean up your storage.

Uninstall programs that you no longer use. Not only do they use up space, but they also represent potential vulnerabilities.

If you are getting rid of old computing devices, make sure to sanitize them by securely erasing all personal information. If you can't be sure data is unrecoverable, it might be best to destroy rather than discard.

Review all your online subscriptions. Get rid of those you don't need. It can not only reduce your email load, but in the case of paid subscriptions, you can save money with any that are set to auto-renew.

Other

Configure financial accounts so they send you alerts when a transaction is made or there is suspicious activity.

If you are a parent, review parental controls and settings on young'uns' devices and accounts.

Review privacy settings on social media accounts: don't share more than you need to.

Tidy up email. Review your email filters and contacts. Check at https://haveibeenpwned.com/ to see if your email address has shown up in data breaches.

Tweak system performance. Task Manager's Processes tab can help you track down programs hogging CPU cycles, memory, disk activity and Internet bandwidth. Use the Startup tab to disable auto-start for programs you really don't need running all the time.

Ensure your online accounts can be handled by someone in the event of your incapacity or death.

THROUGH THE LENS

A guide to digital photography for computer enthusiasts. After the click of your camera, you're only half done!

Don't miss the road shots!
by Lynda Buske

It's unfortunate that bus drivers, train conductors and pilots refuse to stop every time I see a photo op! Luckily, there are tricks for taking good photos while stuck inside a moving object.

The best positions in a car, of course, is riding shotgun since shooting from the driver's seat would likely get you a ticket. With a pre-cleaned windshield and a bright day, you should have no trouble getting a fast enough shutter speed to compensate for the moving car. You can also rest your camera (or phone) on the dashboard for greater stability. Don't avoid the actual pavement since it gives you a true sense of the "road ahead".
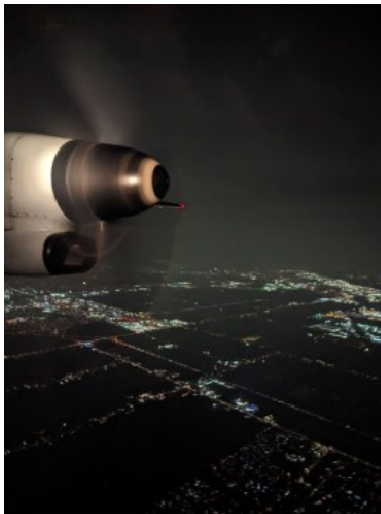
The trickiest shots are from inside a moving bus where perhaps you only have access to a side window (perhaps tinted). To prevent reflection and glare, you can put your camera/ phone right up against the glass since the actual glass lens is recessed.

If your camera has aperture-priority exposure control (usually A or Av on the dial) you can open the aperture wide (small number) and let in as much light as possible. It doesn't matter if the foreground blurs a bit with movement as long as the rest of the image is in focus. Try not to zoom too much as that just means you have to hold the camera even steadier. Crop later either with a photo editing software or right within your phone.

Tour buses have to slow down for villages and that is a golden opportunity to grab a shot with less movement. If you are lucky they will have to come to a full stop due to traffic or lights.

For shots from an airplane, I like to frame it with either a window or a propeller if that's available. Otherwise, shots (even clouds) look very far away and rather flat since you cannot build in foreground, middle ground and background as you could with on-land scene. I was able to take the night shot with my cell phone. Note how I had enough light for a fast shutter speed during the day to freeze the propeller blades. It was not a motor malfunction!

♦♦♦

Linux *(Continued from page 1)*

Click on the *START* button and select the option to *Write in ISO mode*. Note that you will have to accept the warning that all data on the target USB drive will be destroyed. The *START* button is now greyed out and a green progress bar is displayed. Creating the bootable drive will take several minutes. Once the process is complete, the progress bar changes to *READY*. You can now click on the *CLOSE* button.

Before closing down the computer make sure that you know how to boot the machine using the USB flash drive. You may have to go into the computer's setup utility in order to change the boot order of the available devices. The User Manual for your computer will indicate how this is done, or just search on-line for a relevant how-to tutorial. On my Dell laptop, I can simply press the F12 key as the machine is powered on. This brings up a menu of boot options from which I can select the bootable flash drive.

You may see a few lines of text flashing by as the computer boots but these can be ignored. The *lm* (for Linux Mint) logo will be displayed as the boot process continues. After several seconds the desktop screen will be displayed.
You may also notice a text box briefly displayed in the top-right corner of the screen and indicating that a Wi-Fi connection is available. Don't worry that the message disappears. We will make the Wi-Fi connection shortly.
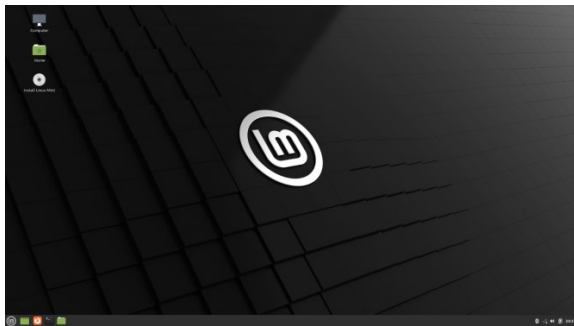
Note that the layout of the Linux desktop is similar to that of Windows 10. There are three icons initially on the desktop. Two of these, i.e. *Computer* and *Home*, load the file manager pointing to areas of the computer's disk, while the third is for installation of our Linux distro on the hard drive. We will leave the latter option for later as, at present, we simply wish to explore what Linux has to offer in the live environment.

The other main feature of the desktop is the taskbar along the bottom. Linux refers to this as the panel but the function is precisely the same as the Windows' taskbar. Note that it is in two sections. The icons on the left side of the panel are (L-R): Menu, Show desktop, Firefox (browser), Terminal (command window), and Files (Nemo file manager). On the right-side of the panel the icons are (L-R): Bluetooth, Removable drives, Networking, Volume, and Date/Time (showing the current time).

Before we explore the Linux system in any great detail, let's establish the connection to our Wi-Fi network, the availability

of which was indicated on boot-up. Left-click on the networking icon in the panel. This will bring up a menu with a list of available network connections. Click on your Wi-Fi network and enter your Wi-Fi password in the pop-up dialogue box. Click on the *Connect* button and a new pop-up box will indicate that the connection has been established. We can now load Firefox, type opcug.ca in the browser's address bar, and check that the club's web site is displayed.

Now, let's turn our attention to the on-screen icons. Double-clicking on the *Computer* icon loads the Nemo file manager with a list of icons showing the available disk drives. One of these icons may include Windows 10 in its label. This is your C: drive and if you double-click on the icon you will see some familiar folders such as Program Files, Users, and Windows. However, note that Linux doesn't use drive letters so, rather than seeing Drive C: as a label, you may find your drive displayed as just Windows 10.

Double-clicking on the *Home* icon once again loads Nemo, this time showing the folders in the Home directory of our Linux drive. This is similar to the personal folder in C:\Users that is associated with your Windows username. Note that some of the folders on the Linux system disk have familiar names and purposes, e.g. Documents, Pictures, and Videos.

I indicated at the outset that using a live-USB was a restrictive method of using Linux. The reason for this is that we have no capability to store files in, for example, the Linux Documents folder for later retrieval since when we shut down the live Linux session the entire folder structure will be lost. (However, note that we can "cheat" and save such files to a real folder such as Windows 10\Users\<username>\Documents.)

Linux distros come bundled with lots of useful software and Mint is no exception. All of the available applications can be accessed through the main menu. So, clicking on the menu icon brings up the on-screen menu which is similar to the Start Menu in Windows.
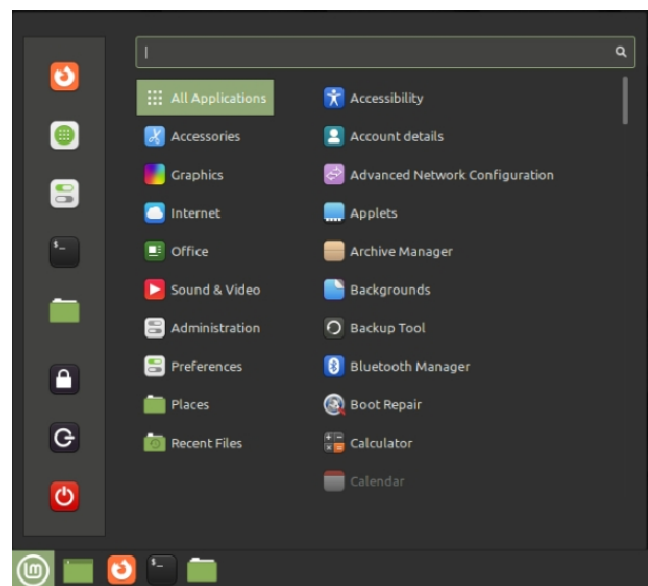
(Continued on next page)

Linux *(Continued from previous page)*

The available programs are arranged in categories. For example, a single click to select Office will change the right side of the menu to list the Calendar, Library (recent documents and favourites), and the modules in LibreOffice (including Writer, Calc, and Impress – similar to Word, Excel, and PowerPoint).

The icons down the left side of the menu include Firefox, Software Manager, System Settings and, at the bottom, Quit (the red "power" icon). Once again, any changes we make, such as installing new software, will not be maintained through a reboot; however, all of the features of the Mint distro are available to us for testing. So, think about what you would normally do when you boot into Windows and explore how to do the same (or similar) things in Linux!

To shut the live session down, navigate to *Menu – Quit* and select *Shut Down*. A message will ask you to remove the bootable USB drive. Once you have done this, press *Enter* and the computer will power down.

We are now ready for our second expedition into the world of Linux. But that will have to wait until Part 2 of the series.

Bottom Line

Linux Mint (Open source)
Cinnamon Edition
Version 21
https://linuxmint.com

Review of the 2022 OPCUG Financial Records

I have completed my review of the 2022 OPCUG Financial records as given to me by the Treasurer. There were a few omissions in documenting the transactions, but no errors in the financial accounting itself. These have been corrected to my satisfaction by the Treasurer. I have submitted copies of my report to the Treasurer and the Secretary.

Richard Aylesworth

Spring Cleanup *(Continued from page 5)*

Over to you

If you have additional suggestions for spring cleaning your computing environment, please share your thoughts at Q&A.

Related newsletter articles just from this decade

Cleaning up your disk (October 2022)
https://opcug.ca/Articles/2210NEWS.pdf
Removing duplicate photos (June 2022)
https://opcug.ca/Articles/2206NEWS.pdf
Password strength (May 2022)
https://opcug.ca/Articles/2205NEWS.pdf
Non-technical safeguards (March 2022)
https://opcug.ca/Articles/2203NEWS.pdf
Another file explorer for Android (December 2021)
https://opcug.ca/Articles/2112NEWS.pdf
Updating Windows Defender revisited (October, November 2021)
https://opcug.ca/Articles/2110NEWS.pdf
https://opcug.ca/Articles/2111NEWS.pdf
Setting up a new computer parts 2 & 3 (June, September 2021)
https://opcug.ca/Articles/2106NEWS.pdf
https://opcug.ca/Articles/2109NEWS.pdf
Reducing the attack surface (April 2021)
https://opcug.ca/Articles/2104NEWS.pdf
Creating a rescue account (March 2021)
https://opcug.ca/Articles/2103NEWS.pdf
Controlled folder access update (March 2021)
https://opcug.ca/Articles/2103NEWS.pdf
Creating a hard disk partition (January 2021)
https://opcug.ca/Articles/2101NEWS.pdf
Removing duplicates in LibreOffice Calc (January 2021)
https://opcug.ca/Articles/2101NEWS.pdf
WiFi parts 2-3 (November, December 2020)
https://opcug.ca/Articles/2011NEWS.pdf
https://opcug.ca/Articles/2012NEWS.pdf
An awesome duplicate photo finder (October 2020)
https://opcug.ca/Articles/2010NEWS.pdf
A deep dive into disk space recovery (June 2020)
https://opcug.ca/Articles/2006NEWS.pdf
File History (March 2020)
https://opcug.ca/Articles/2003NEWS.pdf
Managing email addresses (January 2020)
https://opcug.ca/Articles/2001NEWS.pdf
Renaming photo files (January 2020)
https://opcug.ca/Articles/2001NEWS.pdf

BLAST FROM THE PAST

This article from September 2019 is our last **Blast from the Past** entry. We hope that you enjoyed reading them in celebration of the club's 40th anniversary in April 2022. I would like to thank Lawrence Patterson for choosing the articles and Bob Walker for his retrospective view on each of them. *Brigitte Lord*

WORD TABLES Does Math

MS Office Tool Tips — By Lawrence Patterson *lawrence@opcug.ca*

Thanks 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 1st 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

i. Create your table and input the numbers you wish to calculate, understanding the cells you're using;
ii. Have your cursor in the table / cell you wish the answer to displayed at;
iii. 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;
iv. Enter your formula (the "Paste Function" provides a list of functions);
v. 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.

2019 HISTORY

Retrospective: WORD TABLES Does Math
by Bob Walker

In the September 2019 issue of the OPCUG Newsletter (Volume 36, No. 7), there was an article by OPCUG's own Lawrence Patterson titled "WORD TABLES Does Math". On July 6, 2019 Micheline Johnson sent an email to the OPCUG Member Forum on "Doing Math in Word" about doing spreadsheet functions in Microsoft Word. This drove Lawrence's curiosity on the practicality of this capability. As an example, he prepared a quotation with the formulas built in to keep track of the totals. After doing so, he gave a warning to remember to update the totals column when you are finished. His conclusion was that "Just because you can, doesn't mean you should" because Word is not a spreadsheet.

In my own experience, using the Tables functions in Word can be practical if you have a set table that you use regularly to do things like prepare invoices, but it is usually more practical to do spreadsheet functions in an actual spreadsheet like Microsoft Excel and import the table into Word, but either way can work.

Club History - 2019 *(taken from https://opcug.ca/history/)*

Nov 2019

The OPCUG holds a Troubleshooting Workshop on October 26, 2019 at CompuCorps' Support Centre. Participants brought their laptops to the workshop and a number of OPCUG's Board of Directors helped to troubleshoot a range of issues.


Quick Tip 51: Optimizing graphics performance
by Chris Taylor

Many laptop computers have two video adapters (Graphics Processing Units or GPUs): an integrated GPU that saves power, and a discrete GPU that provides better performance (for programs designed to use it) at a cost of increased battery consumption. You can fine-tune Windows so it uses the appropriate adapter for your needs on an app-by-app basis.

Go to *Settings* > *System* > *Display* > *Graphics settings*. Under *Choose an app to set preference*, choose *Desktop app* or *Microsoft Store* app. For *Desktop app*, click the *Browse* button and find the executable for the program you want to tweak and click *Add*. For *Microsoft Store apps*, click the *Select an app* button and choose from the list.

In the lower section, click the app you added and then *Options*.
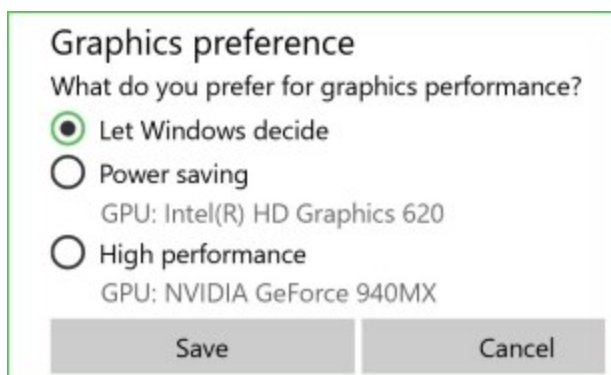
Let Windows decide will select the integrated GPU for 2D apps and the discrete GPU for 3D apps. You can over-ride this by choosing either the *Power saving* or *High performance* option.

Note that, due to a complex series of issues, there is a chance that choosing an option here will not actually force the particular GPU to be used. But in most cases, it should work and help you achieve either best battery savings or highest performance.

♦♦♦

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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Follow us on Facebook:	**https://www.facebook.com/opcug**
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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**).

OPCUG

Users helping users
for over 40 years