



## ARTICLE

### Taking Control of My Smartphone (Rooting the Moto G3) *by Alan German*

In the previous articles in this series I outlined why I wanted to root my Android-based Motorola Moto G3 smartphone, and indicated the steps necessary to unlock the phone's bootloader. We received the assurance that the "Phone is successfully unlocked". We can confirm this by powering the phone down and rebooting it. Note that the initial boot after unlocking the bootloader takes a little time – but it will finally display the shiny, red-and-white, "Warning Bootloader Unlocked" message. Success!

We are now ready to continue the rooting process. However, before we actually root the phone, we are going to install custom recovery software that will allow us to backup the current operating system (so that we will be able to restore things should the rooting process go south!)

(1) Download TWRP Custom Recovery Software and SuperSU

First we need to download the TWRP custom recovery package (currently the file `twrp-osprey-3.1.1-r1.img`) from <https://dl.twrp.me/osprey/>. TWRP is the TeamWin Recovery Project, which provides an open-source software custom recovery image for Android devices. We will also need the SuperSU program (currently the file `BETA-SuperSU-v2.62-3-20151211162651.zip`) that allows advanced management of Super User rights for all the apps on an Android device that need root access. We download this file from: <http://www.supersu.com/>.

(2) Transfer the TWRP Custom Recovery Installation File to the Moto G3

Next, we need to transfer the TWRP and SuperSU packages onto the phone. Connect the Moto G3 to your computer using the USB cable. If the Moto G3 folder loads but displays "This folder is empty", then you need to activate the Media Transfer Protocol (MTP). On the phone, pull down the notifications panel and select the panel labelled "USB for charging". Select the radio button marked "Transfer files (MTP)". If you check the notification panel once more, the USB item will now say "USB for file transfer", and the MotoG3 folder on the PC should be displaying the "Internal storage" and "SD card" folders on the phone (assuming, of course, that your phone has an SD card installed). Select the SD card folder in the Moto G3 folder. Now, open a second File Explorer window, navigate to the storage location for TWRP and SuperSU on the computer and drag both of these files to the SD card folder on the phone.

(3) Install TWRP Custom Recovery on the Moto G3

Now, we need to power down the phone. Next, boot the phone into fastboot mode (hold down the volume-down key and the power button at the same time for several seconds then release the buttons).

On the PC, navigate to `C:\Program Files (x86)\Minimal ADB and Fastboot`. Bring up a command window linked to this folder. If you are using

the Creators Update version of Windows 10, press Shift-Right-Click and select "Open PowerShell window here". To install TWRP custom recovery, type: `.\fastboot boot twrp-osprey-3.1.1-r1.img`. When the process is complete, disconnect the USB cable from the phone.

The phone will display the teamwin splash screen and then TWRP's first page. Follow the instruction for the green-and-white arrows – "Swipe to Allow Modifications" – to bring up TWRP's main menu. The custom recovery software is now installed on the phone, but we need to reboot the phone into fastboot mode to make sure it stays there. TWRP's help file says: "Note many devices will replace your custom recovery automatically during first boot. Once TWRP is booted, TWRP will patch the stock ROM to prevent the stock ROM from replacing TWRP."

*(Continued on page 8)*

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## February Raffle Prize

This month's raffle prize is the **Case Logic LoDo Satchel**.

The thickly padded laptop compartment fits laptop with up to 15" screen size. Also includes a protective space for a 10" tablet. The unique wide-mouth opening provides easy access and visibility to gear. It has a cotton canvas exterior with leather-wrapped handles and zipper pulls and an adjustable shoulder strap. Two easy-access external accessory pockets have magnetic snap-closure. The removable shoulder strap adjusts for a custom fit. Two interior pockets keep your gear neat and there are two exterior water bottle pockets.



Ticket are \$1 for one, \$2 for three, and \$5 for ten.

## January Prize Winners

Who says it doesn't pay to be a presenter at an OPCUG meeting. This month our presenter, **Lynda Buske**, not only received a few thank you gifts for her interesting presentation, but she went and won our raffle prize of a pair of Bluetooth Headphones as well. Enjoy Lynda.

And signifying the end of an era, we bid goodbye to the last of our coveted OPCUG "Goup" mugs when **Richard Aylesworth** had the winning \$8 bid at our auction.

## Coming Up...

→ Wednesday, February 14h, 2018

**Speakers:** Members of the OPCUG  
**Topic:** Members' Favourites

After the **Annual General Meeting**, a few members of the OPCUG will present some of their favourite apps:

1. Jeff Dubois with streaming and texting applications
2. Alan German with video editing
3. Bob Walker with small 2-in-1 laptop buyers' guide & other gadgets

Wednesday, March 14th, 2018

**Speaker:** Chris Taylor, OPCUG  
**Topic:** Windows Performance Tune-up

If your Windows computer is getting sluggish, you don't have to re-install Windows just to gain back lost performance.

Chris Taylor will demonstrate and explain how to safely use many native and 3rd party tools that can help speed up Windows. While a few techniques are exclusive to the latest version of Windows 10, most also apply to older versions of Windows.

Chris Taylor is the President of the Ottawa PC Users' Group and a Microsoft Windows Insider Most Valuable Professional.

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

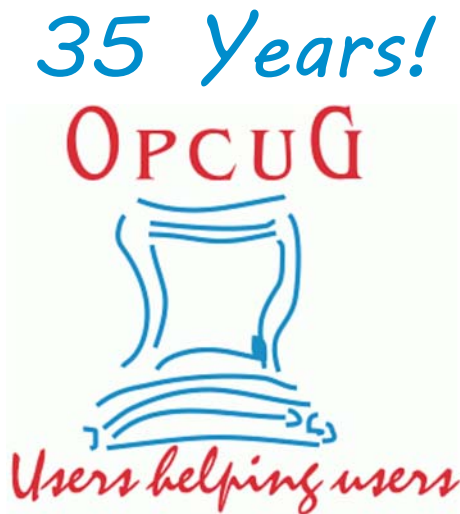
## 2018 CALENDAR

Meetings	Date	Time and Venue
OPCUG General Meeting	Wednesday, February 14 <sup>th</sup>	7:30 p.m. in the main <b>Mauril Bélanger Theatre</b> of the <b>Canada Aviation and Space Museum</b> , 11 Aviation Parkway. <a href="http://casmuseum.techno-science.ca/en/index.php">http://casmuseum.techno-science.ca/en/index.php</a>
Q&A Session	Wednesday, February 14 <sup>th</sup>	Immediately following the OPCUG General Meeting.
Beer BOF (Wing SIG East)	Wednesday, February 14 <sup>th</sup>	10:00 p.m. (after the Q&A) at Liam Maguire's, Southeast corner of St. Laurent Blvd. and Innes Rd.

# PRESIDENT'S REPORT FOR 2017

## 35 Years of *Users Helping Users* by Chris Taylor

Give yourself a round of applause – we have just wrapped up the 35<sup>th</sup> year of the Ottawa PC Users' Group. Over the 35 years of *Users Helping Users* we have helped each other use technology more effectively. We have had well over 350 presentations at our monthly meetings on an incredible variety of topics. Over a dozen Special Interest Groups delved deeply into specific topics and helped solve problems. Our many half-day and full-day workshops have been very popular.



We have done outreach into the community. For the last six years we have collected donations for the Ottawa Food Bank. Over the last ten years, we have given 437 presentations at 22 branches of the Ottawa Public Library. We have given presentations at the National Capital Freenet, Heartwood House, the Ontario Association of Library Technicians, Ottawa Lifelong Learning for Older Adults, and more. On occasion we have provided personalized assistance to those in need. We have kept electronics out of landfills with our annual eWaste events.

Thanks to all who are helping the OPCUG fulfill its objective “to promote unpaid, mutual learning and support in fields related to personal microcomputers.” The names of 107 members are on the *OPCUG Friends* page (<http://opcug.ca/public/friends.htm>) who have contributed directly to the operation of the OPCUG in some capacity; board member, financial reviewer, election chair, SIG coordinator, etc. Thanks to all the non-members who have given presentations to the OPCUG and thanks to those companies who have offered discounts on their products and services to our members. Finally, thanks to those who partake in the OPCUG as members; learning and sharing your knowledge. It would make for really boring meetings if you didn't show up!

## OPCUG's New Website Launched! by Brigitte Lord

In December, we announced a new look for our website to be launched early this year. Alan German came up with a winning design and after some tedious copying and pasting, we uploaded our new website earlier this month. We redesigned our website not only because it was looking tired and dated, but also to make it easier to view on mobile devices. Gone is the left frame with all the buttons that occupied valuable screen space and didn't step aside when you zoomed in. Gone is the clutter, resulting in pages that flow and present information more efficiently. Our new Home page now sports a synopsis of the upcoming meeting and a place to download the latest newsletter. And the Meetings page shows the upcoming meeting in a prominent place with future meetings and dates kept in a separate table below. To see the new website, visit <http://opcug.ca/public/home.htm> (and make sure to update your old bookmark or you will still see the left frame).

For those of you that like the convenience of the buttons anchored in the left frame, you can load the new site with the left frame using the old URL: <http://opcug.ca/public/index.htm>.

You can see our old website and reminisce (or maybe throw virtual darts at it!) by visiting: <http://opcug.ca/public/history/pictures/Pub/WebFrame.jpg>

Below are the old and new (respectively) Home pages. Click on each to see them in larger scale.



# TREASURER'S REPORT—2017

By Alan German

**A**s of the end of 2017, the overall financial picture for the club remains extremely healthy, despite the bottom line being a deficit of \$1,256.39 (see Figure 1). Individual income and expense items fluctuate considerably year over year, and 2017 has been no exception to this general rule. However, the size of the annual deficit essentially resulted from a need to purchase a new audio-video (A-V) presentation system at a total cost of \$1259.94.

This expenditure was necessitated by the Canadian Aviation and Space Museum requiring us to move out of the Bush Theatre, where our Facilities Coordinator was authorized to operate the available A-V system, and into the main auditorium. However, for us to be able to use the auditorium's A-V system, the museum was going to require us to hire their A-V technician for each meeting night. Given this situation, and the possibility that a similar requirement may be imposed when we move to the Museum of Science and Technology's new facility, the club's Board of Directors decided that a more cost-effective option would be to purchase our own equipment.

<b>Current Assets</b>		
1000	Cash Account (TDCT)	453.80
1100	Investment Account (ING)	19,338.98
1200	Membership Float	40.00
1210	Petty Cash Float	16.00
1300	Membership Account (PayPal)	0.00
	<b>Total Assets</b>	<b>19,848.78</b>
<b>Equity</b>		
	OPCUG, Capital December 31, 2016	21,105.17
	Total revenue	4,024.94
	Total expenses	5,281.33
	<b>Net income</b>	<b>-1,256.39</b>
	OPCUG, Capital December 31, 2017	19,848.78

**Figure 1. Balance Sheet**

A summary of the individual income and expense amounts for the current fiscal year is shown in Figure 2, with the equivalent figures for 2016, and the variances between the two years.

As can be seen, the major differences are in the associated income and expense accounts for both merchandise and miscellaneous transactions. The amounts for Merchandise Income and Merchandise Expenses were both reduced in 2017 over 2016, essentially due to the fact that no club merchandise was purchased or sold in the current fiscal year. Miscellaneous Income in 2017 was less than in 2016 primarily due to no special events (such as the 2016 Night at the Races) being held in this fiscal year. As noted above, the absolute amount in the Miscellaneous Expense category was high, mainly due to the one-time purchase of audio-visual equipment.

*(Continued on next page)*

# TREASURER'S REPORT—2017

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			2017	2016	Variance
<b>Revenue</b>					
2100	Bank Interest (ING)		81.05	93.61	-12.56
2200	Membership Income		2,200.00	2,295.00	-95.00
2300	Raffle Income		718.79	684.00	34.79
2400	Merchandise Income		0.00	291.00	-291.00
2500	Workshop Income		735.00	660.00	75.00
2900	Miscellaneous Income		90.10	646.87	-556.77
2910	Donation Income		200.00	122.00	78.00
	<b>Total Revenue</b>		<b>4,024.94</b>	<b>4,792.48</b>	
<b>Expenses</b>					
			<b>2017</b>	<b>2016</b>	<b>Variance</b>
3100	PUB II Expense		710.91	661.65	49.26
3200	Newsletter Expense		1,390.07	1,296.78	93.29
3300	Office Supplies Expense		89.38	80.53	8.85
3400	Bank Charges (IDCT)		59.40	59.40	0.00
3500	Barbecue Expense		810.82	779.16	31.66
3600	Meeting Expense		19.00	0.00	19.00
3700	Workshop Expense		446.10	273.95	172.15
3800	Merchandise Expense		0.00	312.43	-312.43
3900	Miscellaneous Expense		1,442.69	946.71	495.98
3910	Donation Expense		200.00	122.00	78.00
3920	Membership Expense		34.40	35.02	-0.62
3930	Raffle Expense		78.56	0.00	78.56
	<b>Total Operating Expenses</b>		<b>5,281.33</b>	<b>4,567.63</b>	

Members should note that Account No. 3600 has been renamed from Facility Rental to Meeting Expense. The rationale for this change was to capture additional meeting expenses, such as speaker parking fees, that now occur through the museum's change in parking policy. In addition, a new account, 3930 Raffle Expense, has been created. This reflects the fact that few raffle prizes are now being donated to the club and income from our monthly raffles (identified by 2300 Raffle Income) is offset by the expenses related to the purchase of raffle prizes.

Finally, as usual, and donning my fiscally conservative cap, I feel obliged to point out that the club's major recurring expense is associated with printing and mailing hard copies of the newsletter. In particular, this amount is almost double that of any other regular expense item. Members who are still receiving hard-copy newsletters could reduce this financial burden on the club by simply switching to the PDF version which is delivered by electronic mail. If you fall into this category, please give the PDF newsletter a try. Simply download it from the club's web site (<http://opcug.ca/newsletter>). Subscribe to the PDF version, and contact Mark ([mark.cayer@opcug.ca](mailto:mark.cayer@opcug.ca)) to cancel hard-copy delivery. You will receive the newsletter faster, have fabulously-coloured text and graphics, with live hyperlinks, and save us all money. What a deal!



# BLAST FROM THE PAST

In celebration of our 35 years, I will be including vintage material from past newsletters throughout the year. Below is the cover page from the oldest newsletter in our [archives](#)—November 1984. A lot has changed—from our location to the club's name. (Phone numbers and addresses of individuals have been redacted to protect their privacy.) —*Brigitte Lord, Newsletter Editor*

OTTAWA IBM PC USERS' GROUP

NEWSLETTER

November 16th, 1984 - Issue 84(2)

## EXECUTIVE

<u>Position</u>	<u>Name</u>	<u>Res. Phone</u>	<u>Bus. Phone</u>
President	Mike Luckham		
Treasurer	Anne Moxley		
Software Librarian	Mike Schupan		
Editor	Gord Hopkins		
Meeting Facilities	Stu Moxley		

Welcome to all our new members! It is nice to see our club growing and becoming more and more organized. For those new to the club, this is the second issue of the club newsletter, at least in this format, so you haven't missed much. In the months ahead we look forward to all your "new blood" stimulating additional club activities, so please feel free to speak up and offer your services in helping to set up special interest groups (SIGs), in providing tutorial experience to other members seeking assistance, or in providing other services or facilities that you feel may benefit the rest of the club.

I have been quite lucky in obtaining articles for this newsletter, but many of them had to come from outside sources. For upcoming issues, I would really appreciate hearing from all you "budding journalists". Relevant topics for submission include programming tips, tutorials on selected BASIC and/or DOS commands, technical discoveries, computer gossip, and finally, but not least, computer humour. If you can't think of anything, get your spouse, covivant, boy/girlfriend to share their perceptions about your "new love". I will accept submissions in either hard-copy or electronic form. For hard-copy, please send your items to:

Gordon Hopkins

or bring them to the next meeting. If possible, I would prefer to receive your articles in electronic form. They can be formatted either as a WordStar document file or as a straight ASCII file (printable from DOS using the TYPE command). Those of you who wish to contribute in this manner should contact me (Gord Hopkins) at (evenings) to arrange copying of your files.

NEXT MEETING DATE IS: Wednesday, November 28th at 8:00 p.m.

MEETING LOCATION IS: CAMSELL HALL, Booth & Carling

## UPCOMING EVENTS

For those interested, there is a large Computer Show coming up in Toronto, running from Monday, November 19th to Thursday, November 22. It is being held at the International Centre, out by the Toronto International Airport. The show is sponsored by the Canadian Information Processing Society (CIPS) and the keynote speaker at this event will be Dr. David Suzuki. It should be an excellent opportunity to see what is new on the market and to play with all the toys you dream of someday owning.

# OPCUG Free Software Guide—Part 78

Compiled by Alan German  
and Wayne Houston

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.

## Patch My PC Updater

Patch My PC Updater is a free, easy-to-use program that keeps over 165 apps up-to-date on your computer. It is an easy way to update or install any of these programs on to your computer.

Current Release: Version 3.2.5.1

Web Site: <https://patchmypc.net/download>



## Rainlendar Lite

This customizable calendar application supports events and tasks which are kept in separate lists. This helps you to keep your life better organized, and makes it easier to see the upcoming things you need to do.

Current Release: Version 2.13.1

Web Site: <http://www.rainlendar.net>

## Double Driver

This simple tool allows you to view, backup, and print information about all of the drivers installed on your system. Double Driver analyzes your system and lists the most important driver details such as version, date, and provider. All drivers can easily be backed up and subsequently restored to order.

Current Release: Version 4.1

Web Site: <http://www.boozet.org/dd.htm>

## AirDroid



Control your Android smartphone or tablet from your computer. Transfer files between devices, use your phone's apps on the computer, mirror text messages and notifications to the computer's screen, and more.

Web Site: <http://tinyurl.com/86gfzx7>

## PotPlayer

A powerful multi-media player that supports a variety of different video codecs and formats.

Current Release: Version 1.7.4353

Web Site: <https://potplayer.daum.net/>

## ScionPC

This free, portable, fully-featured, genealogy software has a modern, easy-to-use interface that is ideal for both the novice and the experienced genealogist. Databases from other family tree programs can be imported. And, ScionPC will run happily from a USB flash drive as a "portable" application so you can take the program and your database with you wherever you go.

Current Release: Version 8.3

Web Site: <http://homepages.paradise.net.nz/scionpc/>



## Windows Repair Free

An all-in-one repair tool to help fix a large majority of known Windows problems including registry errors and file permissions as well as issues with Internet Explorer, Windows Update, Windows Firewall and more. Malware and installed programs can modify your default settings. Windows Repair can restore Windows' original settings.

Current Release: Version 4.0.7

Web Site: <https://tinyurl.com/3zlhczqz>

## WildBit Viewer

A compact and fast digital image viewer which supports all major graphic formats. The program has a built-in editor and a file-comparison feature. Create custom slide shows with many different transition effects and multi-monitor support.

Current Release: Version 6.3

Web Site: <http://www.wildbit-soft.fi/index.html>



# 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, in the main **Mauril Bélanger Theatre** of the **Canada Aviation and Space Museum**, 11 Aviation Parkway, Ottawa. <http://casmuseum.techno-science.ca/en/index.php>  
Meetings are 7:30–9:00 p.m. followed by a Q&A Session until 10 p.m.

Parking is available at the museum for a flat fee of \$4 after 5pm.  
Details at <http://opcug.ca/public/regmtg.htm>

**OPCUG Membership Fees:** \$25 per year  
**Mailing Address:** 3 Thatcher St., Nepean, Ontario, K2G 1S6  
**Web address:** <http://opcug.ca>  
**Bulletin board**—The PUB (BBS) <http://opcug.ca/default.htm>  
**Follow us on Facebook:** <https://www.facebook.com/opcug>  
**Follow us on Twitter:** <https://www.twitter.com/opcug>

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## Rooting... *(Continued from page 1)*

### (4) Create a System Backup

Having rebooted into fastboot mode, we can once again run TWRP. However, before we actually root the phone, let's make a system backup. As noted earlier, this will allow us to recover the phone's current state should anything untoward happen during the rooting process. From TWRP's menu, select the Backup button. Now select the system components that are to be included in the backup (or simply leave the settings at the defaults), and the storage location that is to be used (e.g. the SD card probably has lots of storage capacity for this purpose). Finally, "Swipe to Backup" to start the backup process.

### (5) Install SuperSU and Root the Phone

Once the system backup is complete, return to TWRP's main menu and select the Install button. Navigate to the folder where the SuperSU software has been stored (e.g. the phone's SD card). From the list of files, select BETA-SuperSU-v2.62-3-20151211162651.zip and "Swipe to confirm Flash". This will install the SuperSU program. When the process is complete, press the "Reboot System" button at the bottom of the screen. The phone will reboot "normally", i.e. the "Warning Bootloader Unlocked" message will be displayed and the phone will boot into the home page.

Let's check if our phone is indeed rooted. Run Google's Play Store app and search for Root Checker. The first hit is likely to be the package developed by joeykrim. Install this app on your phone. Run the app and select "Verify Root Status". A second screen will display a "Superuser request". You need to press "GRANT" to give Root Checker permission to access the phone's operating system. Root Checker will now scan the system and, if everything went well, will respond with "Congratulations! Root access is properly installed on this device!"

As the message says – Congratulations! – you finally have root access on your phone.

