



ARTICLE

Taking Control of My Smartphone (Installing a Custom ROM) *by Alan German*

Over the previous articles in the current series we have been working towards installing an updated version of the Android operating system on a Moto G3 smartphone. We have unlocked the bootloader, backed up the entire system, and have rooted the phone. Now, it's time to install a custom ROM and upgrade the OS to a "forbidden" version (i.e. a new version of Android that is not being supplied by Motorola as an update to the Moto G3). While this process ultimately proved to be quite straightforward, there were some important lessons to be learned (by me) along the way.

My first step was to make another system backup using the TWRP Custom Recovery software that had been installed earlier. This proved to be an extremely valuable resource. One can't have too many backups!

Recently, Google released Android 8.0 (Oreo), and developers soon produced a custom version of this OS that could be installed on the Moto G3. So, wanting to have the latest and – presumably – the best, I opted to download the "Unofficial LineageOS 15.0" package produced by Alberto97 and available on the XDA Developers forum.

Earlier, following the instructions in a YouTube video (<https://www.youtube.com/watch?v=DZDZt40IkKY>) produced by the Android Doctor, I had planned to install Android 7.0 (Nougat) using a custom ROM that had also been produced by Alberto97. In preparation for this, I

had downloaded both the Android 7.0 custom ROM file and the ARM 7.0 version of GApps (Google applications), and had transferred both files to my phone.

Now, I downloaded Android 8.0 (Oreo), as the LineageOS 15.0 custom ROM (lineage-15.0-20170912-UNOFFICIAL-osprey.zip), and transferred this file to my phone. Since I had no intentions of installing Google's applications (having recently disabled/uninstalled most of them from my rooted phone), I thought I would be able to just install the custom ROM and ignore GApps. First lesson – this is not so!

The process of installing the custom ROM is quite simple. Firstly, boot the phone into recovery mode. The easiest way to do this is to use the Quick Reboot app (<http://tinyurl.com/QuickReboot>). Otherwise, boot the phone manually into recovery mode by holding down the volume-down and power keys simultaneously.

Next, select the Wipe option and swipe the set of arrows at the bottom of the screen to the right (Swipe to Factory Reset). Finally, go back to the main menu and select the Install option. Navigate to the location of the custom ROM and select this zip file for installation. Now swipe the arrows once more (Swipe to confirm Flash) to start the installation process.

Once the installation has completed, the sequence of commands will be terminated by a "Done" message. You can now back out of the installation

menu and select the Reboot – System options to boot your new version of Android.

Well, that was the plan. But – Second lesson – the version of GApps has to match the version of Android being installed or the installation will fail!

This is what happened on my first attempt at installing a custom ROM. I was trying to install Android 8.0 along with Version 7.0 of GApps. The installer choked, basically leaving me with the option of rebooting the phone.

But, now things got interesting. Remember that I wiped the system before starting the installation routine? That means that there is no (real) system to boot to. The phone reboots into a bare-bones environment that seemingly allows emergency (911) calls to be made via the SIM card, but nothing else!

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March Raffle

The March raffle prize is an **Xtreme Audio Pod Bluetooth mini round speaker**.

It features:

- Built-in mic for hands-free call functionality
- Mini-Compact design with great audio quality
- Auxiliary input for non-Bluetooth enabled devices
- Micro SD Slot for playing MP3 files
- Full audio control through easy to press buttons
- Rechargeable LI-Ion battery



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

Coming Up...

→ **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.

February Prize Winner

The raffle prize of a Case Logic LoDo Satchel was won by **Art Hunter**.

Wednesday, April 11th, 2018

Speakers: Art Hunter, Stewart Dibbs
Topic: Ottawa Microgrid

Synopsis: This home microgrid generates and stores electrical energy, sells energy to the grid while storing and using geothermal energy. This presentation will briefly describe the project with emphasis on displays and energy flow control. Art Hunter will describe the project and what needs to be controlled and Stewart Dibbs will describe the control system, display, and the monitoring with links into Raspberry Pi3 platforms.

A live demonstration of the sensor and display technology and the controller is planned.

For meeting updates and additional details, visit <http://opcug.ca> and click on the **MEETINGS** button.

2018 CALENDAR

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

2018 Beginners' Workshop

Do you have bunch of friends and family for whom you provide technical support? Why not suggest that they attend our Beginners' Workshop? They may learn enough so that they no longer ask you those “dumb” questions. Or, they may get smart enough to help you! Either way, the day-long session is only \$20.00 and it's packed full of useful-to-know stuff!

The workshop will be held on Saturday, April 21, 2018 (10:15 am to 4:45 pm) at the Orleans branch of the Ottawa Public Library. We have four speakers covering a range of topics that will be especially useful to beginners. And, questions are encouraged. Our panel can probably answer all the dumb questions, and maybe even a few of the not-so-dumb questions!

The four technical sessions will be:

Computer Basics – Things You Should Know – Jeff Dubois will discuss the basics of the computer file structure and how a user can effectively manage their files and folders.

Free and Open-Source Software – Alan German, a long-time advocate of free and open-source software, will discuss some of the available programs that will allow you to do everything necessary for a great computing experience - and they don't cost a dime.

Creating Documents with LibreOffice – Jocelyn Doire will demonstrate how to use the basic functions of this office suite to create a range of documents and spreadsheets.

Protecting your Computer – Does the thought of a hacker breaking into your computer keep you awake at night? Worry no more – Chris Taylor will outline the threats, and provide the solutions!

Registration for the workshop is just \$20.00 (**\$15 Early Bird Special until February 28th**). However, be aware that registration is limited due to the room size that we have available. So, don't be disappointed, register – or have your friends register – to attend this workshop today.

Full details at: <http://opcug.ca/workshop>



Taking Control of My Smartphone *(Continued from page 1)*

Here is where that backup becomes extremely important. The fix for the current dilemma is to reboot the phone into recovery mode, select the Restore option, choose the backup package to be restored, and “Swipe to Restore”. The installation process works flawlessly and, once completed, the phone can be rebooted to its prior state.

Once the phone was working normally, it was a simple matter to download GApps ARM 8.0 (as the file `open_gapps-arm-8.0-stock-20171012.zip`) and transfer this to the phone. Now, the installation of the LineageOS 15.0 custom ROM could be completed successfully and – without flashing the associated GApps file – my phone then booted into Android 8.0!

Third lesson – Android 8.0 will run without GApps, but the Play Store isn't loaded and so isn't available for downloading all the useful apps that one

needs. The fix is simple. Boot the phone into recovery mode, select the Install option, and install the GApps package.

Fourth lesson – There is a confusing (to me) choice between Google Now Launcher and Pixel Launcher. Firstly, I'm not sure what these launchers actually do and, secondly, I don't know which I should choose. They seem to determine the layout of the home screen and, for me, the appropriate option appeared to be the Google Now Launcher.

Fifth lesson – Beta versions of custom ROMs are beta for a reason. With GApps installed, my attempt to load the Play Store was met with pop-up messages indicating that “Unfortunately Google Play Services has stopped”. I couldn't find a solution to this issue. Well, that's to say that I couldn't find a workaround for the Android 8.0 beta. My “solution” was to back up a step

and install a custom ROM for Android 7.1!

Alberto97 now has an “official” version of LineageOS 14.1, and the downloads link for this package points to a web page of nightly builds. I chose to install the most recent build (at the time of installation) and, of course, I also obtained the corresponding version of GApps!

So, I installed Android 7.1 using the files:

- lineage-14.1-20171012-nightly-osprey-signed.zip
- open_gapps-arm-7.1-stock-20171012.zip

The phone now boots into the newer version of Android – and Play Store is available so I can re-install my favourite apps!

[Read Part 5 of this series next month.]

SECRETARY'S REPORT FOR 2017/2018

Board Members

The Board of Directors for 2017/18 was announced on February 8, 2017 at the Annual General Meeting. The Board selected positions resulting in the following slate of officers:

Chris Taylor, President and Systems Administrator
Jocelyn Doire, Special Events Coordinator
Jeff Dubois, Publicity Coordinator
Gail Eagen, Secretary
Alan German, Treasurer
Wayne Houston, Privacy
Brigitte Lord, Webmaster and Newsletter
Nick Patterson, Meeting Co-ordinator
Bob Walker, Facilities

Nick Patterson resigned from the Board in the fall due to work responsibilities.

Board Meetings

The Board met 11 times on

(2017) Feb 13, Mar 13, Apr 17, May 15, Jun 14, Aug 14, Sep 18, Oct 16, Nov 13, Dec 18 and (2018) Jan 15

Minutes of these meetings were posted on the PUB.

Most of the discussion at meetings related to creating the program, choosing speaker gifts, ensuring raffle and door prizes for the meetings, ensuring articles for the Newsletter, and planning the closing June Pizza-Q and associated e-waste event. This year, the Board also planned a Spring Workshop on Email attended by 18 participants and a Fall Workshop focused on Digital Photography attended by 11 participants. The Board discussed publicity of events and ways to improve membership. Many discussions took place on the Meeting location.

Major discussions and decisions made:

- To provide complimentary memberships for one year to incoming Board members, Mark Cayer for Membership and Newsletter mailings, to Bert Schopf for providing office space for Board meetings and to Richard Aylesworth for his financial review.
- To accept Richard Aylesworth's comments and recommendations on the review of the financial records for 2016.
- To stop distribution of the Newsletter by mail for new members.
- To continue giving presentations at various branches of the Ottawa Public Library
- To give presentations on request from other organizations such as National Capital Freenet
- To run a Spring 2017 workshop on Understanding Email (18 participants)
- To celebrate OPCUG's 35th Anniversary with a cake at the Pizza-Q
- To run a Fall Workshop on Digital Photography
- To permit Board members to attend Workshops free of charge since they usually assist with the Workshops
- To purchase a projector and sound system for presentations
- To dispose of the old sound system and donate proceeds to the Canadian Cancer Society
- To train Alan German to provide back-up system administrator duties
- To submit a nomination for the June Callwood Award
- To facilitate donations to the Ottawa Food bank at the December 2017 meeting
- To update the web site with content corrections and a new look and feel
- To continue to provide a budget to the Publicity Coordinator
- To continue publicity through Facebook, Twitter and community papers
- To rent Heron Road Community Centre from September to December as a possible future meeting location and to offer Q&A Tech Talks on the second Tuesday of the month
- To ask Richard Aylesworth to review the Treasurer's financial records for 2017
- To plan a Spring 2018 Beginners Workshop

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SECRETARY'S REPORT FOR 2017/2018

(Continued from page 4)

Election

Bob Herres agreed for an eighth consecutive year to be Election Chair. Calls for nominations were done in the Newsletter and at meetings through the fall. Eight nominations were received by the due date of December 31, 2016. Since there were only eight nominations, Board members were acclaimed and no election was required.

Annual General Meeting

The Annual General Meeting was held on February 14, 2018. Minutes were taken by Secretary, Gail Eagen. The meeting was called to order at 7:38.

1. **Election Results** - Chris Taylor, President, announced that they were eight nominations received by the deadline of December 31, 2018 and thus the Board was acclaimed. The newly elected Board for 2018/19 was announced as follows:

Jocelyn Doire
 Jeff Dubois
 Gail Eagen
 Alan German
 Wayne Houston
 Brigitte Lord
 Chris Taylor
 Bob Walker

Chris said the Board would need to appoint a ninth Board member and asked anyone interested in joining the Board to talk to anyone on the Board. He thanked the outgoing Board for their contributions and thanked them for agreeing to continue. Chris also thanked Bob Herres for once again carrying out the duties of Election Chair.

2. Chris said that his **President's Report** was published in the February Newsletter.
3. The **Treasurer's Report** for the calendar year 2017 was prepared and presented by Alan German.

Chris stated that the Treasurer's Report was published in the February 2017 newsletter.

Alan reported that the OPCUG was in good financial shape finishing fiscal year 2017. While expenses exceeded revenue by \$1256.39, the total for the financial assets carried forward into 2018 was \$19,848.78. He reported that the major differences on the income side were less revenue from OPCUG clothing and less revenue from events such as the Night at the Races held in 2016. On the expenses side, he highlighted the net increase in miscellaneous expenses. These were for a new projector and sound system needed in the Bush Theater at the CASM and potentially at CSTM in the future since both places charge for use of their audio-visual equipment. The Board decided that the OPCUG needed its own equipment.

Chris asked if there were any questions.

One member asked if the financial assets would be used for rental of a facility for OPCUG meetings and Alan responded in the affirmative.

The same member asked if new equipment was needed for the PUB. Chris responded that the OPCUG had purchased new hardware but Chris had not implemented it yet since the existing PUB was running smoothly.

Another member asked about the venue and if the OPCUG would be returning to the CSTM. See below for details on the response.

Chris thanked Alan for his efforts.

4. Chris said the **Secretary's Report** including a report on this AGM would be published in an upcoming Newsletter.

5. Meeting Location

Chris said that Bob Walker had been trying without success to reach CSTM to determine their availability and cost. In the meantime, the Board had decided to stay at CASM. He added that the Heron Road Community Centre had been looked as an alternative location. That would require a change of meeting night to Tuesday. Bob Walker added that parking was limited at Heron Road. Chris noted that, in the survey of membership done by Jeff Dubois in 2016, members had shown willingness to change the meeting night so that option was not off the table if CSTM was not feasible.

Chris informed members that any update on meeting location would be in the Announcements email, on the web site and in the Newsletter. He expected that the March meeting would be at CASM.

A member asked what the rent was currently. Bob and Chris responded that the OPCUG had been paying \$180 for 10 meetings for the year, but in the last two years, there had been no charge. It was unknown what the rent at CSTM would be but communications to date had indicated that the rent would be in the same ballpark.

6. Questions and Comments

Chris opened the floor to general questions or comments. A member asked if there was a difficulty to find speakers and if the Board wanted suggestions from members. Chris responded that suggestions from members for speakers or topics were always welcome. Jeff responded that he had been reluctant to book speakers from outside the club since the future meeting location and meeting night. No other questions or comments were received.

7. Notes of thanks - Chris thanked Mark Cayer for his membership work, Richard Aylesworth for performing the financial audit and Bert Schopf for providing the Board with meeting space for many years until June 2017. He again thanked the Board and the membership for their support.

The Meeting was adjourned at 7:50 PM.

Submitted by
 Gail Eagen,
 Secretary, OPCUG

BLAST FROM THE PAST—35 YEARS OF OPCUG

OPCUG History pages celebrate 15 years this month

[The following article was written in 2003 after 20 years of OPCUG.]

OPCUG History Page *by Jocelyn Doire*

After months of work going through 20 years worth of documents, I'm happy to say that I finally completed the OPCUG's history page. To view it, please go to the OPCUG web page at <http://opcug.ca>, and click on the "History" button in the left frame.

The Group can be proud of its history; created soon after the release of the PC by IBM, it has seen the evolution of the computer, operating systems, modems, the internet, and so many other things.

If you go through the history page you will see how those changes affected the Group.

The need to communicate resulted in the rental of a Bulletin Board System (BBS), but with the reduction of the cost of computer and software, we decided to invest about \$8000 to setup our own BBS in 1988. It grew rapidly over the years and at one point had 6 dial-in lines attached. In 1997 we went one step further and became part of the internet.

In the early years, before the internet, members were craving software and the software library was the answer that the club provided; during the year 1987 we sold \$9255 worth of disks containing freeware and shareware, surpassing the membership revenues of \$6400 (Jan 1988). Gradually, though, with the introduction of the larger BBS and the internet, members started to look elsewhere.

The club was not always well though; in Feb 1997 after a gradual and serious decline of the membership, the club seriously questioned its future, and decided to form an "OPCUG Core Strategy Development Committee" to study what should be done to improve the situation and what direction it should take in the future. A few months later, in Oct 1997, the committee released a report that recommended, among other things, the creation of a web site, an email system including a mailing list, use of the PUB as a file and bulletin repository and the establishment of a permanent connection to the internet. A survey indicated that 90% of the member had access to the Internet, but the committee recommended maintaining the dial-up access at the same time. This questioning injected a new life into the Group and many improvements.

The club had also some crisis. For example in Dec 1989, the elections were contested; this resulted in hotly debated proposed constitution in Jun 1990 and finally an adoption in Sep 1990.

There have been a lot of people that helped as directors in the everyday activities, over a hundred in fact, and I have tried to list them all in the history page, under the BOD link. There are also many other people and organisations that contributed in one way or another, and the names of many of them can be found on the "Friends" and "Honour Roll" web pages of the Group.

The Group has seen some big events also, for example the release of DOS 6 that attracted the largest crowd ever in Mar 1993.

Many clubs in the area have come and gone, but the OPCUG is still there and strong with over 150 members, meetings from a wide variety of presenters 10 months of the year, and a very active board of directors.

But, the history page is not perfect, I'm sure it has errors, omission, missing actors, grammar and spelling errors, and so on. Not being there for most of the events, often I had to guess the meaning of what I read, sometime I had to choose between conflicting description, other times I had to cross correlate partial info to try to find out what happened, and on top of all of that, I added my own bias. It's not perfect, and that's where all the actors of the club during those 20 years are invited to help me to improve the history page. We have a copy of almost all the newsletters, but there are some missing Board of Director meeting minutes, so if you happen to have copies of any of the missing ones, I would be interested in obtaining copies. You can find the minutes in **Area 59 - Text - OPCUG - BOD Minutes**, or at <http://opcug.ca/code/html-list+files?frames=n&area=59>.

My main source of information for the history page were the minutes of the Board of Director meetings, but there is so much more that the actors could tell us, please don't hesitate to tell us your stories by posting them into the "History" conference area of the PUB or emailing them to history@opcug.ca (after subscribing once with **subscribe history** in the body of a message to listserve@opcug.ca).

I hope you will enjoy the OPCUG's history page.

Happy 20th anniversary and long life to the OPCUG!

Truly yours,
Jocelyn Doire.

OPCUG Free Software Guide—Part 79

Compiled by Alan German and Jeff Dubois

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.

outSSIDer

Use this tool to identify Wi-Fi hotspots. The program will attempt to connect to any nearby open access point. The connection is then verified against pay and restricted networks by trying to fetch the Google web site icon. Versions of this utility are available for both Windows and Android.

Web Site: <http://quicklz.com/outssider/>



Sysinternals Suite

Access the whole range of system utilities developed by Mark Russinovich (Sysinternals). This single file contains all of the individual troubleshooting tools and help files for working on disks, files and folders, enhancing computer security, providing system information, and much more.

Current Release: 06/14/2017

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

Snapseed



A complete, professional digital image editor for Android, developed by Google. There are 25 different tools and filters. Adjust the colour and exposure of your photos. Crop, rotate and straighten them. Easily add text with 38 pre-

defined styles. Use a vignette; add a lens blur, or a glamour-glow effect. The possibilities are almost endless.

Web Site: <http://tinyurl.com/b8a3xa9>

DAEMON Tools Lite

Back up your CD, DVD, and Blu-ray disks as disk images and store them on your hard drive. Mount an image as a virtual drive and it will appear to your operating system as if it were the physical disk. No more searching for that CD, or waiting for the disk to load.

Current Release: Version 10.0

Web Site: <https://www.daemon-tools.cc>

Notepadqq



A Linux text editor, like Notepad++ for Windows. It features syntax highlighting for more than 100 different languages, the ability to search using the power of regular expressions, side-by-side document organization, and much more.

Current Release: Version 0.50.6

Web Site: <http://notepadqq.altevista.org/wp/>

ProduKey

This utility can be useful if you have lost the product key of Microsoft Windows or Office software. ProduKey will display the ProductID and the CD-Key of a number of Microsoft products installed on your computer.

Current Release: Version 1.90

Web Site: <https://tinyurl.com/9d3v4>

Axence nVision Free

This free version of Axence's flagship IT infrastructure management program includes mapping/monitoring of an unlimited number of devices, some basic user monitoring features, plus hardware and software inventory taking.

Current Release: Version 8.2.1.20202

Web Site: <http://axence.net/en/axence-nvision-free/>

LINE

Send free one-on-one and group texts to your friends anytime, anywhere! LINE is available for a variety of smartphone devices (iPhone, Android, Windows Phone, BlackBerry, and Nokia) and even for your PC.

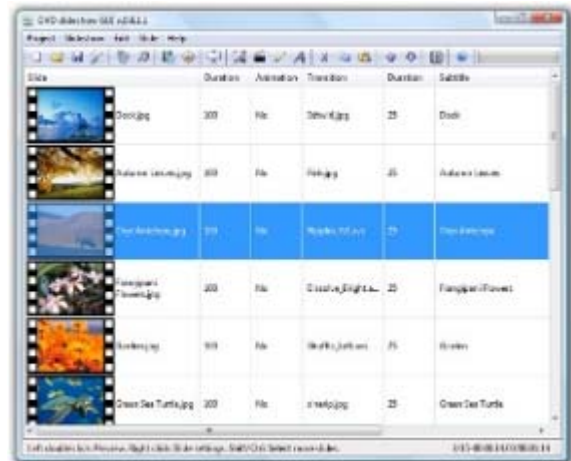
Web Site: <http://line.me/en/>

DVD slideshow GUI

Make slideshows from your digital photographs, videos, or PowerPoint presentations and export them to YouTube, DVD or Blu-Ray. Use any of 245 slide transitions and 100 effects, and add music with optional fade in/out.

Current Release: Version 0.9.5.4

Web Site: <http://download.videohelp.com/tin2tin/>



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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To subscribe to the Announcements List, e-mail listserv@opcug.ca. Leave the subject blank and in the body of the message type: **subscribe announcements**

Within a couple of minutes you will receive a confirmation message from the listserv.

“Announcements” is a low volume list that the Board of Directors uses to get in touch with the membership. Subscribers can expect at least one message per month – the meeting reminder that goes out a few days in advance of the general meeting. Other than that, the only time it is used is when the Board feels there is some important news that should be brought to the attention of all members.