



OTTAWA

PC NEWS

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ARTICLE

Recycling or Reusing that Old Computer – Part 1 *by Alan German*

In this two-part article we look at a method for securely deleting the hard disk on an old computer before recycling it through an E-waste programme, but we also consider a way to reuse the old hardware and give it a new lease on its computing life.

Lots of people these days have old computers and aren't sure what to do with them. Some machines were running Windows XP, which reached end-of-life status on April 8, 2014. And, in the not-too-distant future, Windows Vista will achieve the same dubious status on April 11, 2017.

Microsoft's web site states: "There will be no more security updates or technical support for the Windows XP operating system. It is very important that customers and partners migrate to a modern operating system such as Windows10." No doubt a similar situation will apply to Vista.

So, where do users of these operating systems go from here – does it have to be Windows 10 – or is there a different solution? [*Members who have been following my previous ramblings in the newsletter will have a rough idea where this is going!*]

A friend and I both have this problem. We have laptops that are several years old, which are running Windows Vista, and with batteries that no longer hold a charge, although the machines work perfectly fine when plugged in.

Is there any market for such old laptops? Probably not. Replacing the battery would likely cost \$50-100 and the machine would still remain several generations behind the curve. And, older

machines generally sell for less than \$100, so there is clearly no fortune to be gained. So, do we shell out \$150.00 for a full copy of Windows 10 – remember that there is no upgrade path from Vista to Windows 10 – and just keep on trucking? Or, do we buy a whole new computer?

My friend opted to purchase a new machine – which came with Windows 10 – so, problem solved. Well, it's solved in terms of future computing with the new laptop, but what does she do with the old one?

My situation is a little different. My Vista laptop has been running in dual-boot mode with Linux for several years. And, the machine works perfectly fine with the latest release of Linux Mint (Version 18.1 – Serena). So, I would argue that I already have a "modern operating system" and hence have no need to pay Redmond for one. My preferred option, therefore, is to simply wipe the Vista partition from the machine and use it as a pure Linux box.

So, there are basically two alternatives to "upgrading" an old computer to Windows 10 – recycle it through the E-waste programme, or reuse the machine by converting it into a Linux box. Both options are very easy to achieve, but each needs a little pre-processing. Firstly, let's consider how to prepare our machine for recycling.

Many people are reluctant to dispose of their old computer because they are concerned about personal information that may reside on the machine's hard drive. This is easily fixed by using free software to completely "wipe" the disk so removing all of the stored information.

I undertook this process for my friend's laptop. Firstly, I downloaded Darik's Boot and Nuke (DBAN) from SourceForge (<https://sourceforge.net/projects/dban/>). I then burned the resulting ISO file to a CD using Ashampoo Burning Studio FREE (<http://tinyurl.com/zrjwru4>) by placing a blank CD in the burner and using the menu sequence: Disc Image – Burn Image – Browse for the ISO file – Write CD.

Now I fired up the laptop computer using the newly-created bootable DBAN disk. The first screen (Figure 1) provides an ominous warning to the effect that all of the data is going to be destroyed and irrecoverable. However, that's precisely the result I wish to achieve. I simply have to point Boot and Nuke at the laptop's hard drive and let it securely erase the complete contents of the disk. There is only one menu option that is important for my purpose. So, I press the Enter key to "...start DBAN in interactive mode."

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Next Meeting: **WEDNESDAY, March 8th, 2017**

March Raffle

Do you need huge amounts of portable disk storage? If so, we have just the thing – a 128 GB flash drive. March's raffle prize will be a 128GB **Lexar S75 USB 3.0 JumpDrive**. Tons of storage, and fast data transfer, in a small-format package.



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

February Prize Winners

The Bluetooth speaker raffle prize was won by **Tim Hillock** while the doorprizes (those coveted "Goup" mugs) went home with **Gail Eagen** and **Glen I.**

Coming Up...

→ Wednesday, March 8th, 2017

Speakers: Chris Taylor, Alan German, Jeff Dubois, Jocelyn Doire
Topic: Members' Favourites

Speaker: Chris Taylor

Topic: *ON1 Photo RAW 2017

While many free photo editors can do a great job of improving your photos, sometimes going with an inexpensive commercial offering makes the job a whole lot easier. Chris Taylor will give a demo of *ON1 Photo RAW 2017*, highlighting its capabilities in making local adjustments to photographs.

Speaker: Alan German

Topic: Integrated Development Environment

Do you want to make your fortune by developing apps for Android smartphones and tablets? Alan German will take a look at a free Integrated Development Environment (IDE) for Android and see how easy - or not - it is to build an app.

Speaker: Jeff Dubois

Topic: QR Codes

What are those barcode-like images of black and white squares you're frequently exposed to? What are they used for? How do I access and/or create them? What are their pros and cons? Jeff Dubois will take a look at QR Codes and attempt to answer some of these questions.

Speaker: Jocelyn Doire

Topic: (TBA)

Wednesday, April 12th, 2017

Speaker: Terry Billingsley, CEO AppYourWay

Topic: With the evolution of Apps, is the web dead?

The US and European businesses were quick to embrace the value of apps, Terry offers some interesting insights into accessing the Canadian marketplace.

Terry will also discuss his own evolution towards app development, examine some global app development statistics and place them in context of his own experience both in Canada and the world. He will expand on his iResident project, and the non-technical obstacles faced in helping those that otherwise cannot access these technologies.

Wednesday, May 10th, 2017

Speaker: Malcolm Townsend, Information Technology Research Analyst, Technology Analysis Branch, Office of the Privacy Commissioner

Topic: Privacy in a Digital World, in a world of big data, meta-data and social media

Wednesday, June 14th, 2017

Speaker: Nick Quain of CellWand

Topic: (TBA)

eWaste Event (*see article next page*)

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

2017 CALENDAR

Meetings	Date	Time and Venue
OPCUG General Meeting	Wednesday, March 8 th	7:30 p.m. Bush Theatre of the Canada Aviation and Space Museum , 11 Aviation Parkway. http://casmuseum.techno-science.ca/en/index.php
Q&A Session	Wednesday, March 8 th	Immediately following the OPCUG General Meeting.
Beer BOF (Wing SIG East)	Wednesday, March 8 th	10:00 p.m. (after the Q&A) at Liam Maguire's, St. Laurent Blvd. at Innes Rd.

CLUB LIFE

APRIL WORKSHOP

Understanding E-mail 2017

This spring, we will repeat last year's very successful *Understanding E-mail* workshop. If you, your friends, or relatives, need to know some of the basics about how E-mail systems work, or wish to make your system more efficient, this half-day workshop will provide all the answers.

Topics for discussion will include webmail and mail clients, POP and IMAP, E-mail security, folders and filters, transferring address books and messages, and portable E-mail addresses. All this in a concentrated half-day session with a registration fee of only \$10 !

The workshop will be held on Saturday, April 29, 2017 (12:30 pm to 4:30 pm) at the Carlingwood Branch of the Ottawa Public Library. Full details are posted on the club's web site at http://www.opcug.ca/public/workshops/email_2017.



Image courtesy of <https://clipartfest.com/>



eWaste Event 2017

Once again, the OPCUG will have its annual eWaste collection in June. If you have electronic items that you no longer need, please bring them to the tent in front of the museum; they be taken to a processing plant and properly disposed of safely and responsibly with respect to OES guidelines. The eWaste event will be from 5:30pm to 7pm near the tent beside the Canada Aviation and Space Museum, 11 Aviation Parkway. For more information about our meeting please visit <http://opcug.ca> and check our MEETINGS and CALENDAR web pages.



Correction

Due to rounding errors in calculated amounts entered into the accounts for 2016, some of the figures published in the Treasurer's Report in the February newsletter were under- or over-stated by \$0.01. The correct values are as follows:

Income Statement

3800 Merchandise Expense	\$ 312.43
Total Operating Expenses	4,567.63
Net Income	224.85

Balance Sheet

1000 Cash Account (TDCT)	1,774.77
Total Assets	21,105.17

Alan German
OPCUG Treasurer



SECRETARY'S REPORT FOR 2016/2017

Board Members

The Board of Directors for 2016/17 was announced on February 15, 2016 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, Meeting Co-ordinator and Publicity Coordinator
Gail Eagen, Secretary
Alan German, Treasurer
Wayne Houston, Privacy
Brigitte Lord, Webmaster and Newsletter
Mike Pereira, Assistance to Meeting Co-ordinator
Bob Walker, Facilities

Mike Periera resigned from the Board in the spring to spend more time with his new family. The Board welcomed Nick Patterson to the Board in May and he was named Meeting Co-Coordinator leaving Jeff who had been doing double duty to focus on Publicity.

Board Meetings

The Board met 11 times on:

(2016) Feb 15, Mar 14, Apr 18, May 16, Jun 13, Aug 15, Sep 19, Oct 17, Nov 14, Dec 12 and (2017) Jan 16

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 eWaste event. This year, the Board also planned a Spring Workshop on Email attended by 36 participants and a Fall Workshop focused on Security attended by 15 participants. The Board discussed publicity of events and ways to improve membership. Many discussions took place on the Meeting location and a survey was sent out to obtain membership views of the location and day of the week.

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 2015.

To continue giving presentations at various branches of the Ottawa Public Library

To celebrate the 300th presentation at the Ottawa Public Library

To give presentations on request from other organizations such as National Capital Freenet

To offer the purchase of t-shirts commemorating the 35th Anniversary of the OPCUG

To organize a "Night at the Races" at Rideau Carleton Raceway for the benefit of interested members

To run a Change of Location survey of the membership

To plan a Spring 2017 workshop

To continue to provide a budget to the Publicity Coordinator

To continue publicity through Facebook, Twitter and community papers

To ask Richard Aylesworth to review the Treasurer's financial records for 2016.

Election

Bob Herres agreed for a seventh year to be Election Chair. Calls for nominations were done in the Newsletter and at meetings through the fall. Nine nominations were received by the due date of December 31, 2016. Since there were only nine nominations, no election was required.

Annual General Meeting

The Annual General Meeting was held on February 8, 2017. Minutes were taken by Secretary, Gail Eagen.

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SECRETARY'S REPORT FOR 2016/2017

(Continued from page 4)

1. **Election Results** - Chris Taylor, President, announced that they were exactly nine nominations and thus the Board was acclaimed. The newly elected Board was announced. Board Members for 2017/18 were:

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

Chris 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 2016 was prepared and presented Alan German.

Chris stated that the Treasurer's Report was published in the February 2016 newsletter.

Alan reported that the OPCUG was in good financial shape finishing fiscal year 2016 with expenses exceeding revenue by \$224.85 and total assets carried forward into 2017 of \$21,105.17. He pointed out that Membership income was down by \$730 from 2015 but said this was largely due to the attribution of part of the 2015 Fall Workshop income to membership since the workshop fee included one year's membership. This was perhaps misleading especially since it appeared that none of the members renewed. Donation income was reduced because there was no Silent Auction in December 2016. The totals for merchandise and miscellaneous income were both elevated, largely due to the sale of 35th anniversary t-shirts and registration fees for the Night at the Races, which were both mostly flow through income offset by expenses. Regarding Expenses, the cost for the Newsletter was reduced by \$370 but still represented 30% of OPCUG expenses. Alan encouraged members to switch from the paper to the electronic version of the Newsletter.

Chris asked if there were any questions. One member asked what the Club assets were. Alan responded that the assets were money in the bank. Chris explained that the Club did not put an asset value on such things as the PUB server. 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 asked Jeff, as main organizer, to speak to the meeting location survey sent out by the Board. He mentioned that the results were in the February Newsletter. Jeff explained that the survey was to give the Board direction and that no decisions had yet been taken. He said that the OPCUG was still hoping to go back to the Canadian Museum of Science and Technology but that its availability, facilities and costs were still unknown. The Heron Road location was a possible alternative but was not available on Wednesdays. He said that the Board had sent out a survey asking for day of the week and location. In summarizing the results, Jeff reported that the largest group, roughly 45% of respondents, expressed an interest in holding meetings on Tuesday night at Heron Road. However, when he combined that group with those who also preferred moving to Heron Road with no preference over Tuesday or Thursday, the results were an overall preference of 68% to move to Heron Road on Tuesday nights. He said there was still an application process for Heron Road. He said decisions would not be taken until summer or until there was news about the Canadian Museum of Science and Technology.

Questions from members included what week of the month the meeting would be held on at Heron Road to which Jeff responded that no decisions had been taken and if Heron Road was served by bus transportation to which Jeff responded in the affirmative (2 buses).

6. Questions and Comments - Chris opened the floor to general questions or comments. No other questions or comments were received.

7. Chris thanked the membership for their support. The Meeting was adjourned at 7:46 PM.

Submitted by
 Gail Eagen,
 Secretary, OPCUG

Recycling or Reusing that Old Computer *(Continued from page 1)*

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Darik's Boot and Nuke

Warning: This software irrecoverably destroys data.

This software is provided without any warranty; without even the implied
warranty of merchantability or fitness for a particular purpose. In no event
shall the software authors or contributors be liable for any damages arising
from the use of this software. This software is provided "as is".

http://www.dban.org/

* Press the F2 key to learn about DBAN.
* Press the F3 key for a list of quick commands.
* Press the F4 key to read the RAID disclaimer.
* Press the ENTER key to start DBAN in interactive mode.
* Enter autonuke at this prompt to start DBAN in automatic mode.

boot: _

```

Figure 1. Initial menu screen for Darik's Boot and Nuke

```

Darik's Boot and Nuke 2.3.0
-----
Options                               Statistics
Entropy: Linux Kernel (urandom)       Runtime:
PRNG: Mersenne Twister (mt19937ar-cok) Remaining:
Method: DoD Short                      Load Averages:
Verify: Last Pass                     Throughput:
Rounds: 1                              Errors:

-----
Disks and Partitions
-----
▶ [wipe] ATA Disk UBOX HARDDISK 1.0 8GiB (8589MB) UB3e099622-b6c6ed9e

P=PRNG M=Method U=Verify R=Rounds, J=Up K=Down Space=Select, F10=Start

```

Figure 2. Main menu for Darik's Boot and Nuke

The second screen displays Boot and Nuke's main menu. Once booted, the program scans the available hard drives and lists them for possible processing. In the case of the laptop, a single entry for the hard drive for this machine is displayed (similar to Figure 2). Pressing the space bar selects the drive for secure deletion, "wipe" then being displayed next to the drive's description.

Note that a number of optional processes are listed across the bottom of the program window. I could change the "Method", i.e. the algorithm which is to be used to overwrite the disk's contents. Similarly, I could specify the number of "Rounds" or the

number of times the over-writing algorithm is to be run. For my purposes (since I am not completely paranoid!), I will simply go along with the defaults – DoD Short and one round.

DoD Short is more formally known as DoD 5220.22-M. The basic operation takes three passes, firstly to overwrite each bit on the disk with a 0, then with a 1, and finally with a random character. Note that, while DoD stands for (the U.S.) Department of Defense; this "standard" method of data destruction is no longer permitted for use by DoD (or several other U.S. government agencies – such as the CIA.) Nevertheless, it should be apparent that three passes of overwriting all the data on a disk may well be sufficient for mere mortals. Similarly, a single round of such overwriting is likely to be perfectly adequate. I can certainly live with this – especially since the next step in the disposal process is going to be running the drive through the E-waste operator's shredder!

So, the final step is to press the F10 key to start the overwriting process. On the laptop, the disk wiping procedure took six hours; however, this was a completely unattended process and – as expected – the end result was a machine with a completely blank hard drive. Now, the computer was ready for secure disposal.

But wait! Before throwing the machine away, why not see if it is suitable to run Linux? One of the great features about the "other" operating system is that it is free to try before you "buy". Furthermore, there is nothing to buy! Download a Linux distro (distribution) and you will have the complete operating system and a whole host of useful applications bundled together in a single ISO file and ready to install.

Booting into Linux from a CD or USB drive is quite straightforward, and installing Linux to the hard disk is relatively simple; however, there are a few things that the new Linux user should know. These will require a little explanation, but the details will have to wait for Part 2 of this article...



OPCUG Free Software Guide—Part 70

Compiled by Alan German
and Chris Taylor

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.

VidCutter

Want a simple way to modify video files? VidCutter is a cross-platform (Windows, Linux, OSX, and Android) utility for video trimming, splitting, merging and joining to provide simple and quick edits.

Web Site: <http://vidcutter.ozmartians.com/>



Ultimate Boot CD

Would you like to consolidate a large number of diagnostic tools on a bootable CD. Download the ISO file for the Ultimate Boot CD and simply burn the disk you need.

Current Release: Version 5.3.6

Web Site: <http://www.ultimatebootcd.com/>

AutoSizer

Automatically resize your programs on the screen to the exact size at which you wish to use them. AutoSizer works with most programs, and supports systems with multiple monitors. Use the always-on-top system tray menu to quickly position specific programs above all others.

Current Release: Version 1.7.1

Web Site: <http://www.southbaypc.com/autosizer/>

PrinterShare

Print documents and photos through the Internet, on other people's printers as easily as on the one connected to your machine. No special technical knowledge is required. The program just works!

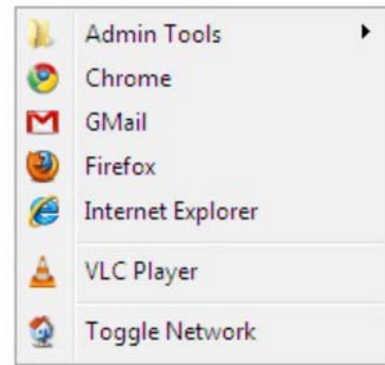
Web Site: <http://www.printershare.com/>

MenuApp

This utility will display the contents of a folder as a custom

menu letting you launch your favourite programs, music files, documents, and web sites. It's small, efficient, easy to set up and use. It doesn't create extra files on your system nor does it use the registry.

Web Site: <http://www.desktopapps.co.uk/menuApp.php>



Input Director

Control multiple networked Windows computers using the keyboard and mouse attached to one of the machines. Switch control between systems with a hotkey, or by moving the cursor off the edge of the screen on one computer for it to appear on the next one. Use a shared clipboard to copy information from one computer, then switch control, and paste the information to another machine.

Current Release: Version 1.4

Web Site: <https://www.inputdirector.com/>

RemoveDrive

Do you have a USB device that resists a "Safely Remove..." command? If you are not afraid of the Windows' command line, try this utility. Multiple switches are available to handle a wide variety of issues.

Current Version: 2.8.0

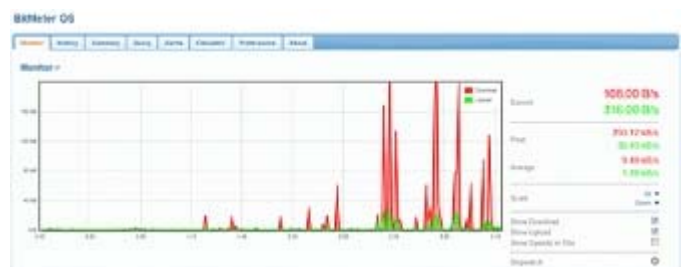
Web Site: http://www.uwe-sieber.de/drivetools_e.html

BitMeter OS

This small utility monitors the amount of broadband traffic being sent and received by your computer while causing no disruption to normal usage. Information about your data usage is updated in real time in your web browser. The open-source program works with Windows, Linux and Mac OSX.

Current Release: Version 0.7.6

Web Site: <https://codebox.net/pages/bitmeteros>



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 **Bush 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 \$3 after 5pm.

Details at <http://opcug.ca/public/regmtg.htm>

OPCUG Membership Fees: \$25 per year
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Within a couple of minutes you will receive a confirmation message from the listserver.

“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.