



OTTAWA

PC NEWS

Volume 33, Number 5

May 2016

ARTICLE

Wipe Out Old Data by Alan German

The club's monthly meeting in June will feature our annual E-waste event, providing all members with the opportunity to dispose of any unwanted electronic equipment in an environmentally-friendly manner. Perhaps you, a friend, or a relative have an old computer that is no longer useful and you would like to send it for recycling. However, maybe you are hesitating because the hard drive contains files with personal information.

The recycler will physically shred the hardware, including the hard drive, which will render the data irrecoverable. But, perhaps you have lingering doubts that someone will be able to access your sensitive files before the disk is destroyed. If so, you need to securely erase the files or the entire hard drive before you hand over the computer for recycling. This can readily be achieved through the use of appropriate software. But, before we delve into some suitable programs, let's take a simplified look at how files are stored on a hard disk, and how we can make sure that they are completely erased.

A conventional hard disk has one or more magnetic platters on which data are stored. The disk manufacturer performs a low-level format which splits the storage area into many circular bands or tracks, each of which is further broken up into individual disk sectors. Depending on its size, a specific file may be stored in a single disk sector, or may occupy several disk sectors. The Windows operating system keeps track of the location(s) of each file using file pointers. Older versions of

Windows typically use the FAT file system in which the file information is stored in a File Allocation Table. FAT systems are still in use, primarily for devices such as USB memory sticks. More recent versions of Windows use the New Technology File System (NTFS) and store file information in a Master File Table.

When you delete a file in Windows, it isn't actually erased. First, the file is moved to the Recycle Bin and the operating system updates the file pointers to reflect the file's changed location. If you delete the file from the Recycle Bin, it still isn't erased. The operating system merely marks the space allocated to the file as being available for future use in storing other files. The Recycle Bin acts as a sort of fail-safe mechanism whereby you can easily restore a "deleted" file in a situation where the deletion was unintended. But, even if the file is removed from the Recycle Bin, because it is only "marked" for deletion, the file's data are still present on the hard drive, and special recovery software can still restore the file, providing that the data have not yet been overwritten.

So, there's the source of concern. You can delete your sensitive files, but you have no guarantee that the files cannot be recovered. Clearly you need to make sure that the actual contents of the deleted files have been destroyed. You need to "securely erase" such deleted files, or perhaps even erase – or wipe – the entire contents of the hard drive to make sure that none of your personal information can be read.

The trick for completely erasing a file is to overwrite the "free" space that is still occupied by the data for a deleted file with other information. For example, all of the bits occupied by the file's data could be overwritten with zeros. However, some sophisticated techniques can still restore so-called "weakly-deleted" files by reading patterns that remain in the magnetic media even after a file has nominally been overwritten. Most file-shredding and disk-wiping software offer multiple methods for overwriting a disk's free space. These generally consist of multiple passes to overwrite the free space, often using random data, in order to minimize or even eliminate any possibility of data recovery.

Obviously, the more passes that are made, the longer it takes to wipe the free space. The option selected will depend on the size of the free space, or of the disk being wiped, and the degree of security that you as the end user wish to implement. However, bear in mind that data recovery on a disk that

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Next Meeting: **WEDNESDAY, May 11th, 2016**

May Raffle

The May raffle prize is an **iCAN 15.6" Laptop Trolley Backpack**.

Tickets are, as always, a good deal at \$1 for one, a great deal at \$2 for three or the unbelievable bargain of \$5 for ten.



April Prize Winners

David Terroux took home our raffle prize at the April monthly meeting. Enjoy your Bluetooth speaker David!!

Coming Up...

→ Wednesday, May 11th, 2016

Speaker: Dr. Marc Lamarre, B.Sc., DDS, EMBA
Topic: Revolutionizing Dentistry Through Technology

Dr. Lamarre obtained a B.Sc. in biology from the University of Ottawa in 1977, and a Doctor of Dental Surgery (DDS) from the University of Toronto in 1981. After roughly 30 years in private practice, Dr. Lamarre returned to the University of Ottawa where, in 2011, he received an EMBA from the University of Ottawa Telfer School Of Management. He was recruited by Quantum Biomedical in 2011 where he served as CEO until January of 2012 when he co-founded Cumulus Dental, and now sits on their Board of Directors. Marc also sits on the advisory board of PEAK MD in Ottawa.

Cumulus Dental is an Ottawa based company which develops software and devices for dentists and hygienists. Software currently under development is an interactive, voice-activated 3D dental charting system which has the ability to perform a complete oral examination in less than 1/3 the time of a conventional exam. Devices currently under development include a digital periodontal probe which will enable rapid, accurate and reproducible periodontal pocket measurements, gingiva temperature and accurately gauge the presence of inflammation. Additional physiological measurements in next-gen devices will include detecting pH, oxygen levels, sulfides, and tissue necrosis.

Dr. Marc Lamarre will introduce the innovative systems and discuss Cumulus' plan to technologically revolutionize dentistry.

Wednesday June 8th, 2016

Annual Pizza Night and eWaste event

Speaker: Nina Diggioacchino, OES
Topic: Responsible Electronic Waste Recycling

And we will have a second speaker:

Speaker: Alan German, OPCUG
Topic: Securely erasing a hard drive for disposal

If you have an old computer that is no longer of any use, you will no doubt be thinking of sending it to a recycler. Typically, they will shred the hardware so none of the components will be able to be reused. But, do you want to guarantee that none of your personal information stored on the machine's hard drive is accessible before you hand it over for disposal? If so, you need to securely erase the contents of the hard drive - and this means using some special software. In this session, we will take a look at software for erasing external drives, and bootable media that will enable deletion of the contents of a hard drive in an obsolete machine on which Windows is installed.

Wednesday September 14th, 2016

Speaker: Chris Taylor, OPCUG President
Topic: Windows 10: One Year Out

Wednesday, November 9th, 2016

Speaker: Doug Gray, Ottawa Branch, Ontario Genealogical Society
Topic: An Introduction to Genealogy - Exploring Current Techniques, Key Tools, and Resources

For details on these and other meetings, visit <http://opcug.ca> and click on the MEETINGS button.

2016 CALENDAR

Meetings	Date	Time and Venue
OPCUG General Meeting	Wednesday, May 11 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
Linux SIG	Wednesday, May 11 th	Immediately following the OPCUG General Meeting.
Beer BOF (Wing SIG East)	Wednesday, May 11 th	10:00 p.m. (after all other SIGs) at Liam Maguire's, St. Laurent Blvd. at Innes Rd.

Please note that unless otherwise noted, SIGs meet at 9:00 p.m. (immediately following the OPCUG General Meeting).

SECRETARY'S REPORT FOR 2015/2016

Board Members

The Board of Directors was announced on February 11, 2015 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
 Bob Walker, Facilities

The Board later welcomed Mike Pereira to the Board and he was named Meeting Co-Coordinator, along with Jeff Dubois.

Board Meetings

The Board met 11 times on

(2015) Feb 16, Mar 16, Apr 13, May 25, Jun 15, Aug 17, Sep 14, Oct 15, Nov 16, Dec 14 and (2016) Jan 17

Most of the discussion at meetings related to creating the program, ensuring raffle and door prizes for the meetings, ensuring articles for the Newsletter, and planning the closing June Pizza-Q. This year, the Board also planned a Fall Workshop as well as the Silent Auction and eWaste events.

Major decisions made:

- To accept Richard Aylesworth's comments and recommendations on the review of the financial records for 2014.
- To provide complementary memberships for one year to 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 nominate Chris Taylor for the Major's City Builders Award
- To initiate a ride-share program since the museum is not accessible by public transportation
- To run a membership survey
- To test recording of OPCUG meetings for later publishing on the web
- To purchase microphones for presenters
- To eliminate publishing and distribution of the Text version of the Newsletter
- To provide a budget to the Publicity Coordinator
- To increase publicity through Facebook, Twitter and community papers
- To ask Richard Aylesworth to review the Treasurer's financial records for 2015.

Election

Bob Herres agreed for a sixth 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, 2014. Since there were only nine nominations, no election was required. Thanks again to Bob Herres for taking on this role.

Annual General Meeting

The Annual General Meeting was held on February 15, 2016. Minutes were taken by Secretary, Gail Eagen.

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 2013/14 were:

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

Chris thanked Bob Herres for once again carrying out the duties of Election Chair.

2. Chris said the **President's Report** would be published in the March Newsletter.
3. The **Treasurer's Report** for the calendar year 2015 was prepared by Alan German and presented by Chris Taylor in Alan's absence.

Chris stated that the report was published in the February 2016 newsletter.

He reported that the OPCUG was in good financial shape finishing fiscal year 2015 with expenses exceeding revenue by \$294.29. The positive financial picture was largely due to the success of the Fall Workshop and the fact that the lunch was contributed by Microsoft. Costs for Newsletter and raffle prizes were lower this year. Office Supply costs were higher but would last for several years. Membership income was increased due to the Workshop which gave away a 12 month memberships. Raffle income was down due to lower cost prizes and fewer attendees at Meetings since the move to the Aviation museum.

Chris asked if there were any questions. One member stated that the membership figures were misleading because the income was really for future years; membership income would thus be lower in future years. Chris acknowledged this but stated that the OPCUG used cash rather than accrual accounting.

Chris thanked Alan for his efforts and thanked Richard Aylesworth for scrutinizing the Treasurer's financial records.

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

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PRODUCT REVIEW

PDF-XChange Viewer, a further review Part 2, Annotation in PDFXCV

by Micheline Johnson

PDF-XChange Viewer (PDFXCV) has already been reviewed by Alan German. This is Part 2 of a review that looks at PDFXCV from a somewhat different viewpoint.

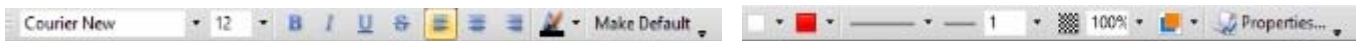
Annotation, high-lighting and drawing tools allow the adding of text (such as the source URL) and other markup anywhere on an open PDF document. There is a Comment and Markup Toolbar (right-click on free space on any toolbar and enable Comment and Markup Toolbar) shown below, which is useful when you are editing the PDF in this way.



These tools include:

Sticky Note, Typewriter, Text Box, Call Out, Highlight Text, Cross Out Text and Underline tools. There are a number of drawing tools (Arrow, Line, Rectangle, Oval, Polygon, Cloud), File Attachment, free hand draw and erase, and Stamps.

Similar tools are available in Adobe Reader X and up, see Mott¹. In addition, you can toggle on or off a formatting toolbar by pressing Ctrl+E. This formatting toolbar will change depending on which Comment and Markup tool has been selected. Typical formatting bars shown below are for text (left) and for boxes (right).



Comment and Markup can also be accessed via the Tools dropdown menu, which offers you:

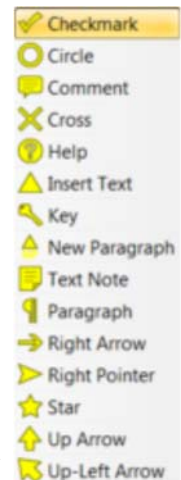
- Basic Tools (Hand tool, Select tool and Snapshot tool),
- Zoom Tools (Zoom in and out, Magnifying Loop, and Pan and Zoom tools)
- Comment and Markup Tools,
- Measuring Tools (Distance, Perimeter and Area), and
- Link Tools (rectangle and quadrilateral)

This route also gives you access to: Show Stamps Palette, Show Comments and Markup toolbar, and Show Comments List

Sticky Note

Click on Sticky Note icon on the Comment and Markup Toolbar and press Ctrl+E to open the Sticky Note format tool.

The format tool allows you choose fill colour, note icon (see right), and opacity, when the box is active. When you click inside the box, the format bar changes to a text formatting bar. Click on the PDF text where you want the Sticky Note icon to appear. A box opens outside the PDF display where you can type your comment.



Text

You can write or paste text anywhere in your displayed PDF by clicking on the Typewriter icon on the Comment and Markup Toolbar. Click on the screen where you want the text to start. The formatting toolbar allows you to set the Font Type, Font Size, Font Colour etc. Make your choice and click the Make Default button to make your selection the default. For example, open News 1512 from the web into PDFXCV, then using the Typewriter Tool, paste the URL at the top of the PDF. Save the modified PDF.

Text in a box

You can write or paste text in a box anywhere in your displayed PDF by clicking on the Text Box icon on the Comment and Markup Toolbar. To format the box, press Ctrl+E. The icons in this box format tool are (left to right) fill colour, border colour, border style, border line thickness in points, opacity and blend mode (see manual p.138), respectively. To form the box, click where you want the box to appear, and drag to adjust the box size.

Click in the box to enter the text.

Callout Tool

You can write or paste text in a callout box anywhere in your displayed PDF by clicking on the Callout icon on the Comment and Markup Toolbar. To format the text in the box, press Ctrl+E. Move the cursor to where you want the point of the arrow to appear and drag the cursor to where you want the text box to appear. Enter your callout text and adjust the size of the box.


Wednesday January 13, 2016 Speaker

Speaker: Bob Johnson, Funkdawg Films
Topic: An Introduction to Videography

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PDF-XChange Viewer, Part 2 *(Continued from page 4)*

Highlight, Cross-out and Underline Tools

The  icons on the Comment and Markup Toolbar allow you to highlight, cross-out or underline selected text. Ctrl+E opens a formatting bar, which allows you to select the colour and opacity of the highlight, cross-out and underline tools respectively. The underline format bar also includes an underline style icon (straight or squiggly line). The underline thickness is so thin that it is barely visible. The format bar should have included a line thickness (pts) icon.

Drawing Tools

The Comment and Markup Toolbar includes a multiplicity of Drawing tools (see right). These include Arrow, Line, Rectangle, Oval, Polygon Line, Polygon, and Cloud Tools respectively.

The Arrow tool is very versatile. Its format bar (Ctrl+E) includes control of Fill colour, Arrow colour, Border style, Border width, Start style, End style, Opacity and Blend. The arrow start (left) and end (right) options are shown to the right.

Click on the PDF where you want the arrow to start, and drag to the end point, which can be in any direction. With these options, you can choose to have the arrow at the start of the line, or at the end of the line, or both.

The Line tool has the same Start and End style options as for the Arrow tool (see right). The Rectangle, Oval, Polygon Line, Polygon tools Border style includes the cloud style.

The Attachment tool format bar offers a choice of attachment icon (see right). When you click on the PDF, it opens file explorer and lets you select the file to be attached. It then warns you that “This is a feature of PDF-XChange Viewer PRO. You may use it in the FREE version, but it will result in DEMO(!) labels on your PDF pages if you save the file.”

The Pencil tool allows you freehand drawing on your PDF.

The Eraser tool erases only those parts that were drawn by the Pencil tool. Its Format toolbar allows eraser diameters from 5 pt to 100 pt. (spaced by multiples of two, ie 5, 10, 20, 50 and 100 pts).

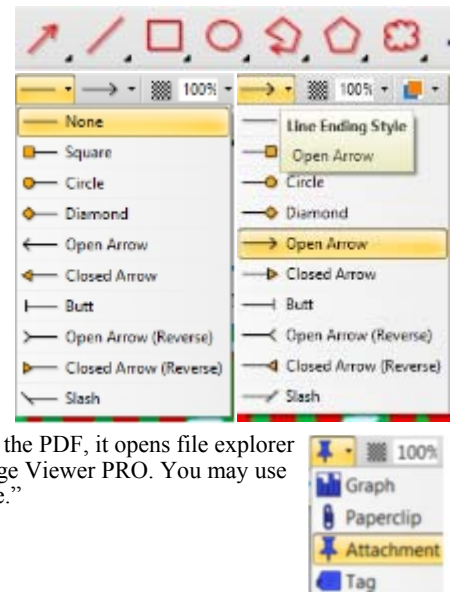
Stamps

Certain graphical images such as APPROVED, CONFIDENTIAL, DRAFT, EXPIRED, FINAL, FOR COMMENT, NOT APPROVED, NOT FOR PUBLIC RELEASE, SOLD, TOP SECRET etc, which are built in, can be imported into the active PDF. Additional images such as signature blocks, can be imported and applied. These images are known as stamps.

New stamps and new palettes can be added by going to

Tools drop down menu | Comment and Markup Tools | Show Stamps Palette | New

The manual warns you that should you stamp your signature block onto a PDF, “we strongly recommend you use the 'Flatten Comments' option to ensure your signature is not easily interfered with in the final PDF once distributed.”



References

[1] **How to Add Comments to a PDF with Acrobat Reader**, by Elizabeth Mott, Demand Media, no date, <http://smallbusiness.chron.com/add-comments-pdf-acrobat-reader-55336.html>. Mott lists support in Adobe Reader X and up for:

The Sticky Note and Highlight tools from the Annotations panel; and the Text Box, Text Callout, Line, Arrow, Oval or Rectangle, Cloud, Polygon, Polygon Line and Pencil tools from the Drawing Markups panel.

For a more detailed version of the entire article (Parts 1 and 2), read it online at:
http://web.ncf.ca/fm120/Software/Reviews/PDF_XChange_Viewer,_a_further_review,_update_2016-02-01.pdf.

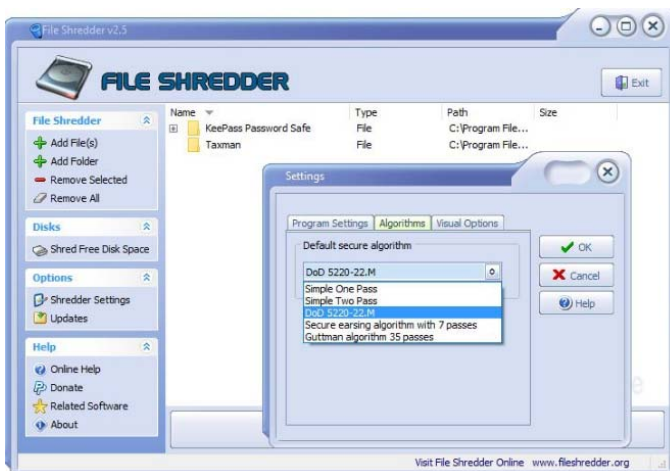
Wipe Out Old Data *(Continued from page 1)*

has been wiped by even a rudimentary algorithm is a non-trivial task. No doubt government spooks will be able to recover the data, but it's unlikely that mere mortals will be able to do so. Also, you need to consider what's the possibility of anyone trying to recover any information before the hard disk hits the shredder.

The good news is that you don't need to do very much to securely erase deleted files or completely wipe an entire drive. There is lots of software available that will accomplish these tasks. A Google search for "secure erase" or "wipe disk" will provide links to dozens of candidate programs. My preference is always for free software, and there are several such offerings for file shredding/disk-wiping programs.

There are two considerations for these operations. If you simply want to securely erase the free space on a hard disk, which will include files that are marked for deletion, you can install file-shredding software onto the hard drive and run the program from Windows. However, if you want to wipe an entire drive that is running Windows, you can't do this from the Windows drive itself. Clearly, you can't use a Windows utility program to delete all the files on the disk running the operating system. This would require deleting both the disk-wiping program and Windows while both are running! To accomplish this task, you need to use a stand-alone, bootable disk that contains the disk-wiping software.

Firstly, let's consider how to shred the free space on an operating disk drive. I have previously indicated one freeware program that will perform this task (<http://www.opcug.ca/public/Reviews/FileShredder.htm>). File Shredder is currently at Version 2.5 and is released under the GNU/GPL General Public License. Once installed, File Shredder allows you to specify one or more files or folders to be shredded. Alternatively, you can shred the free disk space across an entire disk volume. Another option is to remove all the files from a disk drive. The latter operation is most useful for wiping external drives, such as a USB memory stick, or a standard hard drive installed in an external USB disk enclosure. You are given a choice of shredding algorithm. File Shredder offers five different algorithms, commencing with a single pass, up to the use of the Guttmann algorithm using 35 passes – which is probably overkill for most of us!

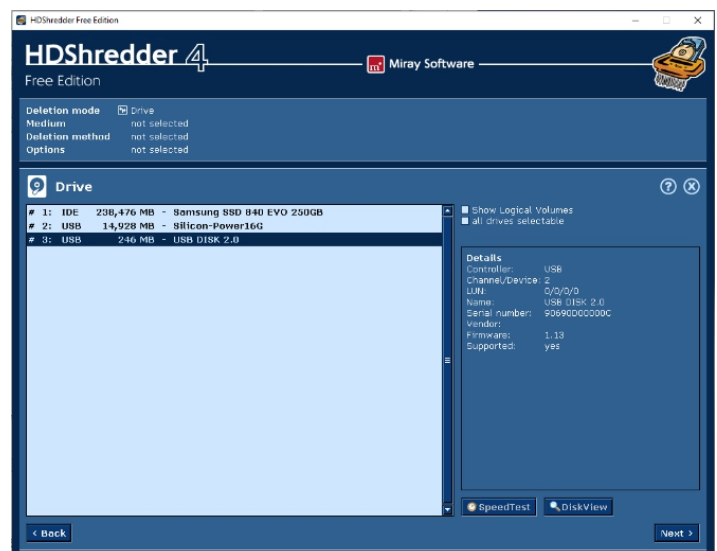


If we want to securely erase an entire disk drive we have a couple of options. We could remove the hard drive from the old computer and plug it into a disk enclosure. The disk enclosure is then connected to a second Windows computer through its USB interface. Software, such as File Shredder, can then be used to remove all the files and folders on the external drive. However, it may well be easier to erase the hard drive in place in the old computer. This requires using specialist software installed on a bootable CD/DVD or USB drive. Obviously, the choice of bootable media will depend on what disk formats are supported by the target computer's hardware.

One freeware option that can be used for this purpose is HDSHredder. The download includes an ISO file which can be burnt to a CD, DVD, or a USB drive. The resulting disk is dedicated to the shredding process such that, when booted, the computer runs the HDSHredder program directly. A user-friendly graphical user interface provides a series of screens guiding the user through the steps required to specify which disk is to be wiped and which method is to be used.

The initial screen allows the user to select if a disk or a disk partition is to be erased. Since we are erasing the entire drive, we simply retain the default option to erase a disk. The second screen lists the drives that are connected to the host computer. Using the mouse, or the up and down arrow keys, the specific disk to be erased can be selected. The next screen offers a choice of methods, nominally including automatic, standards, and user-defined. The automatic process is the only one supported by the free version of HDSHredder and is selected by default. Further options are to use fast (1 pass), medium (3 passes), or high security (7 passes). The subsequent options screen activates or disables items such as cached and shared memory which the help file suggests should be left enabled unless any problems occur.

The final screen provides a control button to start the disk wiping operation. Pressing this button brings up a dialogue box warning that the contents of the selected disk will be completely erased. Pressing the Start Deleting button brings up a progress bar and some statistics, including the percentage complete and the run time. At the end of the process a pop-up window provides a final report indicating the drive's name, the method and number of passes used, the number of deleted sectors, any write errors, and the total run time.



Wipe Out Old Data *(Continued from page 6)*

The free version of HDSHredder is limited to the use of the so-called “write zero” method of erasure. A zero value is written to each bit of data on the drive, thus over-writing any data that was previously present. As noted, for additional security, the over-writing process can be repeated multiple times, using either 3 or 7 passes.

The relatively simple method adopted by the free version of HDSHredder should be acceptable for most users. Anyone wishing to use HDSHredder, but requiring additional security, would need to use one of the commercial versions of the software that activate up to 15 additional algorithms for disk erasure, plus the option for a user-defined protocol. An alternative would be to use a different freeware program such as Darik's Boot and Nuke (DBAN). The user interface for DBAN is somewhat less sleek than that of HDSHredder, but the disk wiping algorithms are much more powerful.

Clearly, more complex erasure techniques, especially those involving multiple passes, require additional run time. Even a single pass on a relatively large hard drive will take considerable time. The disk wiping process is not going to be a five-minute job. The reason that files are typically marked for deletion rather than actually erased is that changing a few bytes in the file system to note that the space previously occupied by the files is available for reuse is much faster than zeroing every byte of data occupied by the files. Erasing an entire disk can mean writing zeros to literally billions of bytes. Even at the data transfer rates use by computers this process is still time consuming. Secure disk erasure is therefore best achieved by using a set-it and forget-it method. Set up the process to blank the disk, start the software, and then leave the computer to do its magic.

My final words of wisdom on the topic of file shredding – and especially for disk wiping – are to carefully check the files, folders, or disk that you have marked to be wiped, before hitting the Start button. The whole purpose of the software is to completely destroy the contents of the items selected. Obviously, if such programs do their job (and they do!) you won't be able to recover any data that you mistakenly flagged for erasure.

You can use the techniques described here before you sell or recycle an old computer. The good news is that any recipient of the machine with the wiped hard drive won't be able to recover any data. At least, that will be the case unless the recipient is a government spook. So, just don't sell your old computer to a government spook!

Bottom Line

File Shredder (Freeware)
Version 2.5
<http://www.filesredder.org/>

HDSHredder (Freeware)
Version 4
Miray Software
<https://www.miray.de/products/applications/hdshredder.html>

Stopping Office Ads

by Alan German

Windows 10 seems intent on driving me crazy with updates – or at least with update notices. Fly-out notices keep asking me if I want to want to download the latest version of Microsoft Office. The answer was no on the first day they asked, and it was also no on the next day. It's still no today – the third day in a row! This is just too much of a good thing so it's now time to do something about it.

In my simplistic view of the Microsoft world, I thought that navigating to Settings – System – Notification & actions – Show notifications from these apps – Get Office and moving the slider control to “Off” would do the trick. But, evidently not. Somehow, Microsoft in its wisdom, has decided that I wasn't really serious about not seeing the update notification and so (a) shows me the message anyway and, (b) turns the above-noted setting back to “On” so that the ads continue.

Brad Chacos, writing in PC World, indicates that the culprit is the Get Office app. He further suggests that, for those of us with absolutely no interest in obtaining a new version of Office, a permanent fix to the issue would be to uninstall the app.

So, as directed, I navigated to Start – All Apps, right-clicked on Get Office, selected Uninstall, and confirmed my selection by clicking on the Uninstall button.

Voilà – no more notifications about new versions of Office!

Update: For more tips on how to eliminate other ads and notifications in Windows 10, see 7 ways Windows 10 pushes ads at you, and how to stop them

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. and Special Interest Groups (SIGs) go until 10 p.m.

Parking is available at the museum for a flat fee of \$3 after 5pm. Limited street parking is available for free. Details at <http://opcug.ca/public/regmtg.htm>

OPCUG Membership Fees: \$25 per year
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Follow us on Facebook: <https://www.facebook.com/opcug>
Follow us on Twitter: <https://www.twitter.com/opcug>

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Secretary's Report

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5. Chris thanked:

- Jocelyn Doire for the electronic distribution of the Newsletter and for maintaining the history pages on the web site.
- Mark Cayer for his work on membership and mailing the Newsletter.
- Bert Schopf for offering his office space for OPCUG Board meetings.

6. Questions and Comments - Chris opened the floor to questions or comments:

- A member asked if steps could be taken to provide better signage to the Bush Theatre.
⇒Chris responded that the Board would investigate.
- A member asked if something could be done about the lighting in the museum to make it easier and safer to reach the Bush theatre.
⇒Chris responded that the Board would investigate.
- A member asked if the OPCUG would be returning to the Museum of Science and Technology when it reopens.
⇒Chris responded that the Board hoped to be able to return to the Canada Science and Technology Museum when it reopened in 2017 but would need to look at its facilities and the price at that time.
- A member asked if another location then the Canadian Aviation and Space Museum could be found for the meetings since the Museum was not accessible by Public Transit.
⇒Chris Taylor and Bob Walker responded that the Board had looked at other facilities. They had looked at the costs and if OPCUG requirements could be met (Internet, audio visual, hours, room size, etc). Many facilities charge for the use of audiovisual equipment or security. No facility to meet the OPCUG requirements at a reasonable cost had been found.

7. The Meeting was adjourned at 7:48 PM.

Submitted by

*Gail Eagen,
Secretary, OPCUG*