

Official Newsletter
SouthEastern Michigan
Computer Organization, Inc.

DATA BUS

Volume 38

November 2013

Number 11

IN THIS ISSUE

| | |
|---|----|
| Notice of Nominations | 3 |
| Excel 2010 Bible, by John Walkenbach Book Review by Jean Blievernicht..... | 3 |
| Free Up More Hard Drive Space on Windows 7 and 8, by Ira Wilsker | 7 |
| Interpreting SMART Data, by Dick Maybach..... | 10 |
| Web Browsing 101, by Sandy Berger | 14 |
| Who's Driving this Bus Anyway?, by Dave Helmer..... | 15 |
| Internet Alerts Can Keep You Informed, by Sandy Berger | 16 |
| Board Meeting Minutes, by Carol Sanzi | 18 |
| SIGs: Computing, Techniques, Advice, Linux, Programming..... | 19 |
| DATA BUS Deadline..... | 19 |
| Other Groups Calendar of Events..... | 20 |
| Computer Resource People | 21 |
| SEMCO Calendar | 22 |
| Map & Directions to SEMCO Meetings at ESD | 23 |

SEMCO OFFICERS

| | | |
|--|-----------------|----------------|
| President | Mike Bader | (586) 447-6683 |
| Vice-President | Richard Jackson | (248) 546-3694 |
| Secretary | Carol Sanzi | (586) 739-7256 |
| Treasurer | Brian Brodsky | (248) 391-9125 |
| Members-at-Large of the Board of Directors | | |
| | Bob Clyne | (810) 387-3101 |
| | Richard Fink | (248) 752-6762 |

NEWSLETTER STAFF

| | | |
|------------------------------|-----------------|----------------|
| Publications Committee Chair | Position Open | |
| Interim Editor | Bob Clyne | (810) 387-3101 |
| Events Research | Betty MacKenzie | (586) 254-0677 |
| Proofreaders | Beth Fordyce | (248) 573-5321 |
| | Ken Phillips | (734) 654-3679 |
| | Paul Baecker | |

SIG (SPECIAL INTEREST GROUP) CHAIRPERSONS

| | | |
|-----------------|-----------------|----------------------|
| SIG-Computing | Tom Callow | (248) 642-5770 (9-5) |
| SIG-Techniques | Position Open | |
| SIG-Advice | Bob Clyne | (810) 387-3101 |
| SIG-Linux | Brian Brodsky | (248) 391-9125 |
| SIG-Programming | Richard Jackson | (248) 546-3694 |

The SouthEastern Michigan Computer Organization, Inc. (SEMCO) is a non-profit, 501(c)(3), group dedicated to providing information, education and a forum to computer users (professional and amateur) and other interested individuals. Membership in SEMCO is open to all individuals 18 years or older. Persons under 18 years may become members through the sponsorship of a parent or guardian. Dues of \$30/year include monthly DATA BUS and free personal ads.

**All SEMCO correspondence should be addressed to
SEMCO, P.O. Box 707, Bloomfield Hills, MI 48303-0707**

Web site: <http://www.semco.org>

E-mail: semco@semco.org

DATA BUS is published monthly by SouthEastern Michigan Computer Organization, Inc. (SEMCO) as its official newsletter. **Mail DATA BUS newsletter copy to: Bob Clyne, 130 First Street, Yale, MI 48097; or e-mail: clyne@mich.com.** The Editor is responsible for contents and control of the DATA BUS. Materials published herein may be used for non-commercial purposes only, without further permission of SEMCO or the authors, except as noted, providing credit is given to the author and source, i.e. DATA BUS, and issue date. Entire contents copyright © 2013 SouthEastern Michigan Computer Organization, Inc.

Your mailing label and membership card list the month and year your membership expires. Newsletters will not be sent after the month of expiration. Back issues may not be available. Renew your membership as early as possible.

This publication was created using Adobe InDesign CS6
donated by Adobe Systems, Inc.

Excel 2010 Bible
By John Walkenbach
Book Review
By Jean Blievernicht

This is a big book—1006 pages and is designed for the beginner through advanced user using Excel 2010 (though much of it will also apply to the 2007 version of Excel). It is organized into 7 parts (including the Appendixes). There are 45 chapters within the 7 parts and it includes a CD. The CD explains the system requirements, how to use the CD, sample files, and troubleshooting. Adobe Reader is included as well as the eBook version of Excel 2010 Bible. Appendix B specifically lists the files on the CD for each of the book chapters.

Since many subjects are touched on lightly in the beginning chapters, Mr. Walkenbach includes a cross-reference to a later chapter that covers the subject in much greater detail. There are frequent notes in boldface that help you master the task at hand or denote something that is fundamental to understanding subsequent material. Tips, also boldfaced, often give you alternate ways of doing something. Cautions are important pieces of information to keep you out of trouble.

The nine chapters in Part 1 are an introduction to a spreadsheet, how to move around a sheet and workbook and how to enter data. Mr. Walkenbach explains some of the essential operations such as resizing windows, closing windows, renaming a sheet, zooming, freezing panes, inserting, deleting, and hiding rows and columns and much more. Then there is creating and naming ranges, copying and pasting using a variety of methods, adding, editing, and printing comments, and working

NOTICE OF NOMINATIONS

Please take notice that under the Bylaws of the SouthEastern Michigan Computer Organization, Inc., nominations for officers will be taken at the general meeting to be held Sunday, December 8, 2013 at 1:30 p.m., with the election of officers to be held at the January general meeting.

The following offices will be open for nominations:

- 1) President
- 2) Vice President
- 3) Secretary
- 4) Treasurer
- 5) Two Members-at-Large of the Board of Directors

with tables. Formatting, styles, themes, saving a workbook, Autorecover, Passwords, file compatibility, and using and creating templates introduce the reader to more than just the basic level of usage. But before Mr. Walkenbach leaves this part he covers printing and some of the adjustments that can be made to get the output you want.

Generally, his explanations are very good, but once in a while he leaves out a piece of information in an explanation. For example, he talks about using Scroll Lock to scroll through the worksheet without changing the active cell by turning on Scroll Lock. But where is Scroll Lock? Is it somewhere on the ribbon or on the keyboard? Just so you

know, it is on the keyboard, a key I had never noticed before and which had to be activated by using the Function key on my laptop.

I liked when Mr. Walkenbach discussed the ribbon and actually had figures depicting the way the ribbon would look at various page widths. Want to get rid of the ribbon just temporarily? There are several ways, but the easiest for me was to use Control+F1 to toggle the ribbon off and on. Since I prefer using the keyboard rather than the mouse, I welcomed the tip to use the Alt key, which would then show me keytips. If I pick one of the letters shown in a keytip, the ribbon action would be performed or another round of keytips would be shown and I could then choose one of those letters to execute a command.

Many people never bother to change the ribbon or Quick Access Toolbar, but you can speed up your work by adding the commands you frequently use. Mr. Walkenbach wisely introduces how to do this early in the book. Realizing that you might occasionally type in some text that is too big for the ribbon bar, you can widen it by clicking on its lower edge and dragging it down. These practical helps occur frequently in the book, and I will continue to include a few of them in this review.

The concept of using forms to enter data is introduced in Chapter 2 (usually it's in the advanced section of a book). To use forms, first enter headings in the columns in the first row of your data entry range. Click on a cell in the table and then click on the Form button on your Quick Access Toolbar which will set up the form for you automatically. Fill in the data using the Tab key to move down the form. Finally, click on

the New button on the form for a new blank form. (The data will be transferred to a row in the table.)

Learn how to format numbers (custom formatting is cross-referenced). Excel has quite a few ways to format numbers. There are even a number of keyboard shortcuts to access these. (Example: Ctrl + Shift + ! will give you 2 decimal places, thousands separator, and a hyphen in front of negative values.) However, if none of the supplied formats suits your needs, you can make a custom number format and save it (saves in the workbook in which it is defined).

Further chapters deal with operations on worksheets, cells, and ranges of cells. I learned that if my worksheet has named ranges, and I zoom it to 39% or less, the name of the range will be overlaid on the cells.

If you want to get rid of duplicate entries, it is easier if you convert the data to a table; otherwise, you will have to do it manually (Chapter 5). Sometimes you may want to format some of the characters in a cell in different ways. You can put text at an angle without inserting a text box. You can put borders in a cell or import an image (Chapter 6). Some people have to make worksheets that are virtually the same from file to file. If so, create a template (Chapter 8). Chapter 9 goes into the many adjustments that are possible when it comes time to print.

I was happy to see a page devoted to the syntax of a formula referencing another sheet in a workbook or another workbook, and how to handle a reference to a closed workbook. Many other reference books have not included this important information. There are good tips for working with formulas.

Formulas do not always have to do with numerical data. A number of Excel's formulas manipulate text. Here are a couple of examples. A list of names has the last name in Column A and the first name in Column B. A text formula can concatenate (join) them in one cell. Or the names are all in Caps which won't work well in a mail-merged letter. The function "Proper" can handle this. (Proper capitalizes the first letter in each word, as in a proper name.) There are a lot more very useful text formulas along with some brief examples.

Part II contains chapters that go into more detail about information first introduced in Part I. There are chapters devoted to working with functions, text manipulations, date and time calculations, counting and summing calculations, lookup tables, financial calculations, and array formulas. The reader is shown how to create and modify charts, how to use conditional formatting, and how to create Sparklines.

I have been talking about baking the cake, now I'll talk about the putting on the frosting. Yes, you can stop with the data being shown, but this is boring. A smart employee uses some of Excel's tools to enhance visual appeal and further clarify the data. Everyone knows you can insert pictures, but many people are not aware of all the possibilities in Excel itself. The shapes gallery has lines, rectangles, arrows, equation shapes, flowcharts, stars, banners, callouts, and a variety of basic shapes. You can modify the figures by changing their shapes, changing fill colors, outlining, rotating, and/or adding text.

SmartArt works with shapes to do even more amazing things. You can insert a wide variety of highly customizable diagrams and change

the overall look with just a few mouse clicks. If that is not enough for you, it is easy to insert clip art, screen shots (new in 2010), and even sound or video files. Another new feature is Artistic Effects which allows the user to apply a number of Photoshop-like effects to an image. You can probably spend more time beautifying the data than it took to produce it.

Unless you are in business, you may never have used data validation. This means setting up certain rules about what can go in a cell. You can display a message if the wrong data is entered. A drop-down list can be created whereby the user picks from that list. Validation criteria that you can apply are: Any Value, Whole Number, Decimal, List, Date, Time, Text Length, Custom, Ignore Blank, and Apply These Changes to All Other Cells with the Same Setting.

Once you have created a worksheet, it is a good idea to find and correct any formula errors. The types of errors that can be checked are: syntax errors, logical errors, incorrect reference errors, semantic errors, circular references, array formula entry errors, and incomplete calculation errors. Formatting and spelling can also be checked.

Sometimes you may have to get data from external database files. Getting data from Access would be one example. You can import an Access file and you can retrieve data with a query.

There are times when there is too much data for one worksheet or even one workbook. But you can still get at the vital information by using links or embedding. If there is too much detail in a worksheet to get an idea of the real significance of it, then it would be a good idea to create a worksheet outline,

a way of summarizing the data in much shortened form.

Again, when you have a lot of data, understanding it is not always easy. So Excel provides help in the form of pivot tables which allows you to slice and dice the data in dozens of different ways. Several chapters go into how to produce a pivot table and what type of data is appropriate as well as showing examples. It is a very advanced and powerful feature.

Sometimes you may need to perform a What-If analysis. What happens if you change part of the data, or what happens if you change another part of the data? Sometimes you may want to do the reverse of What-If and analyze the data using Goal Seeking and Solver. You start with the answer you want and let Excel tell you what the data needs to be to get that result. If you are heavily into statistics, get the Analysis ToolPak add-in. For power users, several chapters delve into using Visual Basic for Applications.

If you have gone to all this trouble to make an important workbook or worksheet, you often do not want someone else to make changes. There are three types of protection built in. With worksheet protection, you can protect the worksheet from being modified or restrict the modifications to certain users. With workbook protection applied, sheets cannot be inserted or deleted and you can require a password to open the workbook. With Visual Basic protection, you can use a password to prevent others from viewing or modifying your VBA code.

I often look at the Index and Appendixes first because who wants to wade through a book of this size for a few pieces of information on how to

solve a problem. This Index seems fairly complete although it could benefit from boldfacing main headings instead of just putting a large boldfaced letter at the start of each new alphabetical section.

Appendix A lists the functions available in Excel by category. It explains what the function does, but it does not show the syntax or arguments for a function. Even more helpful would have been to reference the page in the book that covers the function.

Appendix C discusses a number of places you can get more help, such as Internet Newsgroups, Web sites, and Microsoft Technical Support. This should be helpful for those with really knotty problems.

The final appendix is a list of Excel shortcut keys grouped into categories such as Moving through a Worksheet, Selecting Cells, Moving within a Range Selection, Editing Keys in the Formula Bar, Formatting Keys, Function Keys, and Other Shortcut Keys. This is one of my favorite appendixes, as I like to keep my hands on the keyboard instead of searching through the various ribbons. But I will never memorize all of the shortcuts as there are literally hundreds of them.

Excel is truly an amazing program. This is the third book on Excel I have read in the last 2 months. I cannot believe how much more I learned from this book. It certainly is a very inclusive book, yet easy to follow and understand. Sometimes I was surprised at when the author introduced a feature that I considered advanced, although I never considered the information out of place. It certainly lets the reader know a lot about the power of Excel. If you use Excel a lot, I recommend getting this book!

Excel 2010 Bible, \$44.99

By John Walkenbach

ISBN: 978-0-040-47487-7

John Wiley & Sons, Inc.

[<http://www.wiley.com/WileyCDA/](http://www.wiley.com/WileyCDA/).

[<http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470474874.](http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470474874.html)

[html](http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470474874.html)> (Page for this book).

Jean Blievernicht is a member of the SouthEastern Michigan Computer Organization, Inc. <<http://www.semco.org>>.



**Free Up More Hard
Drive Space on
Windows 7 and 8
By Ira Wilsker**

Despite the fact that newer PCs tend to come from the factory with hard drives having a capacity greater than we could have even dreamed of just a few years ago, there is some variation of Murphy's law that says that "The amount of data stored on a hard drive increases greater than the capacity of the hard drive to store it all." Even users of terabyte or greater drives have found that hard drive space sometimes becomes short, as they are now willing to use their computers as DVRs (digital video recorders), rip DVDs, save countless YouTube and other videos, build up massive collections of video and audio files, and save countless other files that consume the finite drive storage capacity.

There are some excellent third party utilities that do a commendable job of cleaning hard drives (and other digital storage devices) of useless and obsolete files, some of my personal favorites being CCleaner [<http://www.piriform.com/ccleaner>](http://www.piriform.com/ccleaner), and Wise Disk Cleaner [<http://wisecleaner.com/wisediskcleanerfree.html>](http://wisecleaner.com/wisediskcleanerfree.html). In a recent cleanup of a coworker's laptop,

CCleaner found and reclaimed over 2 gigabytes of hard drive space by deleting obsolete cache, data, temporary, and other useless files. As good as they are in freeing up hard drive space by deleting obsolete and temporary files, there are several types of Windows system files that they do not detect. While there are some third party drive cleaners that can detect and clean some of the hidden and old archived Windows system and update files, the safety records of some of these utilities has been spotty, with significant anecdotal postings of Windows problems after some incorrect files were deleted.

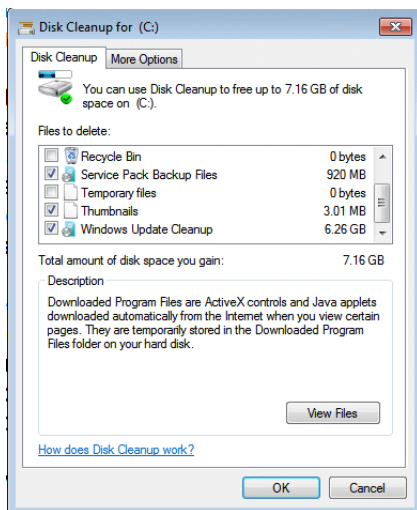
Microsoft has been acutely aware of the "bloat" that Windows leaves on hard drives as it is updated, and the junk files left on the drive as other routine Windows internal tasks are accomplished. In a recent (October 8, 2013) monthly update of Windows 7 and Windows 8, Microsoft included a much improved version of its Disk Cleanup utility. In addition to performing the common tasks of emptying the recycle bin, and deleting a variety of temporary files, the newly improved Disk Cleanup utility now can remove old, obsolete system and update files that are written to a deeply hidden system folder, WinSXS. Users who have not taken advantage of the recent updates provided by Microsoft may need to do so in order to utilize the newly enhanced capabilities of the updated Disk Cleanup feature.

The Disk Cleanup utility can be accessed and run by any one of several simple methods. The first time I ran it, I clicked on the "Orb" (Microsoft Windows logo on the bottom left of the screen), and in the "Search programs and files" box I typed "disk cleanup";

Disk Cleanup appeared at the top of the list under the “Programs” heading. Alternatively, typing “cleanmgr” in the search box, and then clicking on “OK” will directly load the program. For those who prefer to use the menus built into Windows, clicking on Start → All Programs → Accessories → System Tools → Disk Cleanup will directly load the utility. If a user gets a “Low Disk Space” warning from Windows, clicking on the warning will offer to run the Disk Cleanup.

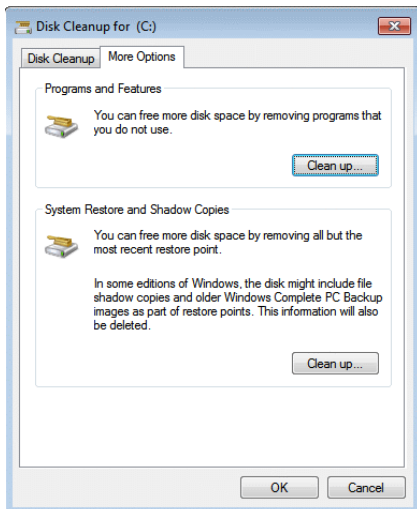
The amount of obsolete data and files that can be detected and removed by Disk Cleanup Utility is enormous. As an experiment, prior to running Microsoft’s enhanced, newly updated Disk Cleanup, I updated and ran both CCleaner (using many options in addition to the default cleaning list), and then Wise Disk Cleaner, allowing each in turn to delete any obsolete files found. CCleaner did a very credible job in locating and deleting useless cache and other files, and Wise Disk Cleaner found some additional files to delete. If I would have run these two programs in the reverse order, I surmise that the composite results would have been much the same.

After running both CCleaner and Wise Disk Cleaner, I ran Microsoft’s updated Disk Cleanup. Since my “C:” drive is my primary hard drive, I selected it for scanning by Disk Cleanup. It took almost two minutes for the Microsoft utility to scan my hard drive for files to delete, but the results that were finally displayed were very impressive, as it initially found 7.16 GB of files to be deleted; this is because Disk Cleanup can search in the hidden Windows folders that are inaccessible to most other cleaning utilities. Specifically,



on my Windows 7-64 computer, after running two other well respected hard drive cleaners, Disk Cleanup found 920 MB of “Service Pack Backup Files,” 3 MB of “thumbnail” files, and a staggering 6.26 GB of “Windows Update Cleanup” files.

On the top edge of the Disk Cleanup window is a second tab “More Options,” which offers two options to free up even more hard drive space. The two choices are “Programs and Features”

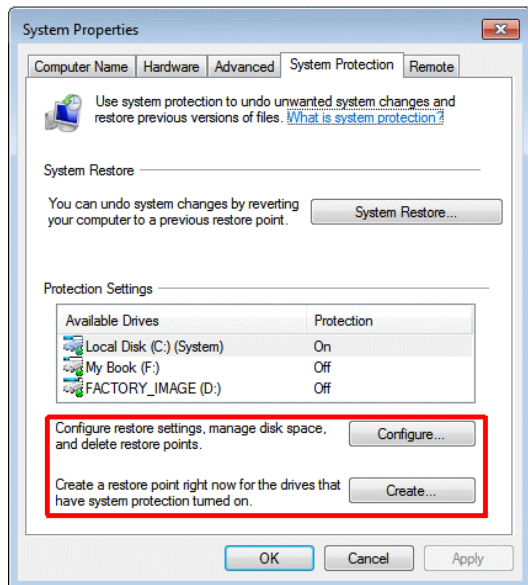


and “System Restore and Shadow Copies.” Under the “Programs and Features” heading is an explanation that says that “You can free more disk space by removing programs that you do not use.” The “System Restore and Shadow Copies” option states, “You can free more disk space by removing all but the most recent restore point.” This selection also states that the file shadow copies (saved, usually older versions of Windows system files), and older “Windows Complete PC Backup images” will also be deleted. Clicking on the “Programs and Features” clean up button opened Windows integral “Uninstall or Change Programs” utility (formerly called “Add/Remove Programs,” that allows the user to select which (if any) programs should be uninstalled, freeing up additional hard drive space.

An amazingly large amount of hard drive space may be freed by deleting old system restore points; these files are located in a hidden and protected

folder, C:\System Volume Information. On my computer, most of these system restore files are each 2 GB to 4 GB in size, and consume in aggregate up to 10% of the hard drive space by default, but can be manually configured to consume more or less space as desired. On the large hard drive in my primary desktop, setting the “System Properties – System Protection” (Start → Run → type “SystemPropertiesProtection.exe” in the search box → click “OK”) to 5% of the hard drive capacity (one-half the default size) still allows for 50 GB of system restore space on a terabyte hard drive, and 30 GB of restore space on a 600 GB drive. Unless totally turned off (a bad idea!), Windows makes periodic restore points as scheduled and configured, and also before any major updates, as well as at other times. If the computer is running well, and appears to have had no system problems for a while, then it is probably OK to only have the latest restore point saved from deletion, the only choice offered

by Disk Cleanup. If you are unaware if you have recently created a system restore point, and your computer is currently running well, you can create a new system restore point by clicking on Control Panel → System and Security → System → System Protection; this leads to the window where the computer can be restored to an earlier time, a new restore point can be created, and the amount of hard drive space allocated to system restore can be selected. If the computer has been problematic, it may be worthwhile to save all of the stored system restore files, so



deleting all but the latest restore point may not be appropriate. In unusual cases, if the most recent restore point cannot recover from system problems, it may be necessary to restore from the last good restore point (other than the latest). On my desktop PC, I had 76 GB of older restore points, which, since my computer has been running well for months, I decided to delete with the “System Restore and Shadow Cleanup” option. Combining the 7 GB of space freed by the basic Disk Cleanup, and the 76 GB freed by deleting old restore points (other than the latest), made 83 GB more hard drive space available.

As with any other hard drive cleaning utility, Disk Cleanup must be used with a degree of caution; if there are any doubts, do not use it, but if you are reasonably trusting in Microsoft’s updated Disk Cleanup utility, you may be able to reclaim a lot of wasted space on your hard drive.

WEBSITES

<<http://support.microsoft.com/kb/2852386>>.

<<http://www.techsupportalert.com/content/how-free-more-space-your-hard-drive-updated-windows-7-disk-cleanup.htm>>.

<<http://windows7tips.com/windows-7-disk-cleanup.html>>.

<<http://www.piriform.com/ccleaner>>.

<<http://wisecleaner.com/wisediskcleanerfree.html>>.

<<http://www.techtipsgeek.com/create-or-delete-system-restore-point-manually-in-windows-7/131/>>.

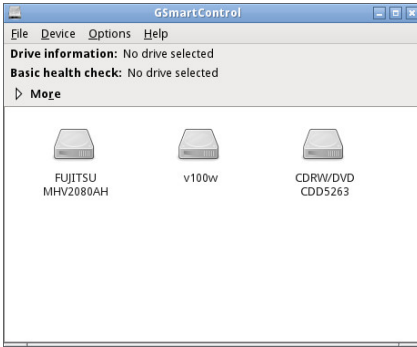
Ira Wilsker is a Columnist, The Examiner, Beaumont TX; Program Director of Management Development at the Lamar Institute of Technology, Beaumont TX. Contact him at <iwilsker@sbcglobal.net>.

Interpreting SMART Data By Dick Maybach

SMART (Self-Monitoring, Analysis and Reporting Technology – often written as S.M.A.R.T.) is a feature most hard drives use to provide you with indicators of their reliability. The hope is that these will predict pending failures and allow you to move data to another device in time. Unfortunately, experience shows that this is possible only about half the time. While SMART is a useful tool, it does not relax at all the importance of following a rigorous backup procedure.

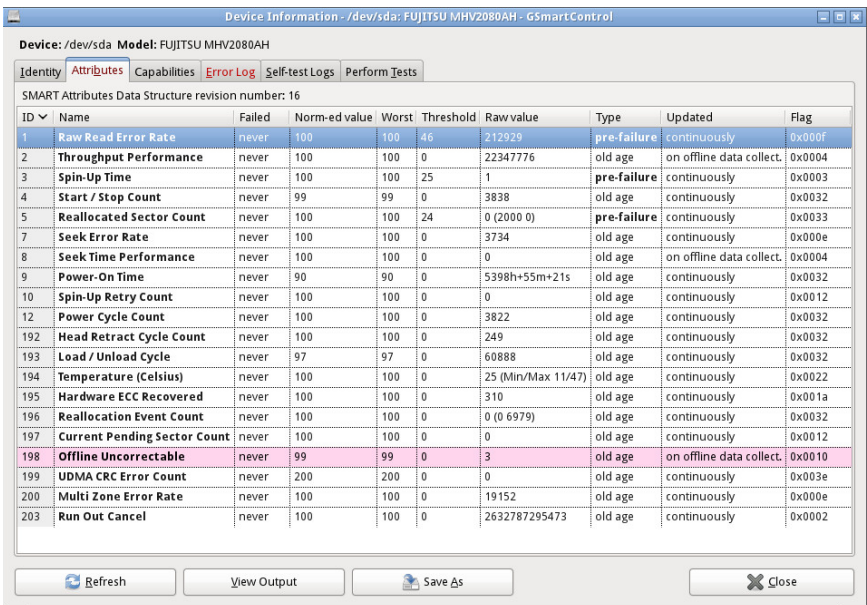
Even when SMART detects a problem, it probably does not inform your operating system, largely because operating systems seldom ask. Instead, you must take the initiative by using one of the many free programs available. For this discussion, I’ll use GSmartControl <<http://gsmartcontrol.berlios.de>>, which is available for Linux, Mac OS X, and Windows and can check both internal and external hard disks. This program is one of the tools included in Parted Magic, a diagnostic tool I carry on a memory stick in my key case. (See my article in April 2012 issue of BCUG Bytes, available at <<http://www.bcug.com>>.) The subject of the tests here is a much used laptop and its occasionally abused hard drive. The first screen you see when GSmartControl starts shows the disks; see the screen-shot on the next page. This shows three drives, a Fujitsu internal hard disk, an external Western Digital (labeled v100w) USB drive, and an internal CD-ROM drive.

Right-click on a drive icon and select View details to see what SMART knows about a drive. There isn’t



much of interest under the Identity tab, although the model and serial numbers could be useful if you have a warranty issue. However, note the red labels on the Attributes and Error log tabs, which show that SMART has detected problems in this disk.

The next screen-shot shows the *Attributes* tab. Note the line, #198, highlighted in pink, indicating a problem,



in this case an off-line uncorrectable error. Before we panic though, let's gather a little more information. Note first that no sectors have been reallocated, indicating that the failure wasn't permanent. (Modern disks have a reserve of unused sectors that they can substitute for those that fail, but they don't make the swap unless a sector experiences repeated errors.) Also note the total number of operating hours, almost 5400 in this case; we'll use this later. This figure applies only to this particular disk, a replacement for the original after it failed. The laptop also has a new motherboard, but replacing that didn't affect the SMART data on its hard disk.

If you move the cursor over an attribute in this table, you will see an explanation of its significance. Here, it says that perhaps we should be concerned, but SMART has not yet issued a warning, probably because the disk has not reallocated any sectors.

Let's look at the *Error log* tab to see what else we can learn. Note in the next screen-shot that although there have been 80 errors logged, the last one was at 1968 hours of operation, and we learned earlier that this disk has operated for nearly 5400 hours. In other terms, the last error occurred just 36 per cent into the total operating time. At this point, we relax; we needn't replace the disk, although we probably will begin pursuing our backup program with renewed enthusiasm.

Here too, moving the cursor over the high-lighted message will produce an explanation.

Device Information - /dev/sda: FUJITSU MHV2080AH - GSmartControl

Device: /dev/sda Model: FUJITSU MHV2080AH

Identity Attributes Capabilities **Error Log** Self-test Logs Perform Tests

SMART Error Log Version: 1
 ATA Error Count: 80 (Note: Usually only the last five errors are stored.)

| Error # | Lifetime hours | State | Type | Details |
|---------|----------------|----------------|-----------------------------|---|
| 80 | 1968 | active or idle | Uncorrectable error in data | 6 sectors at LBA = 0x06972e3b = 110571067 |
| 79 | 1968 | active or idle | Uncorrectable error in data | 6 sectors at LBA = 0x06972e3b = 110571067 |
| 78 | 1968 | active or idle | Uncorrectable error in data | 6 sectors at LBA = 0x06972e3b = 110571067 |
| 77 | 1968 | active or idle | Uncorrectable error in data | 6 sectors at LBA = 0x06972e3b = 110571067 |
| 76 | 1968 | active or idle | Uncorrectable error in data | 6 sectors at LBA = 0x06972e3b = 110571067 |

Complete error log:

SMART Error Log Version: 1
 ATA Error Count: 80 (device log contains only the most recent five errors)

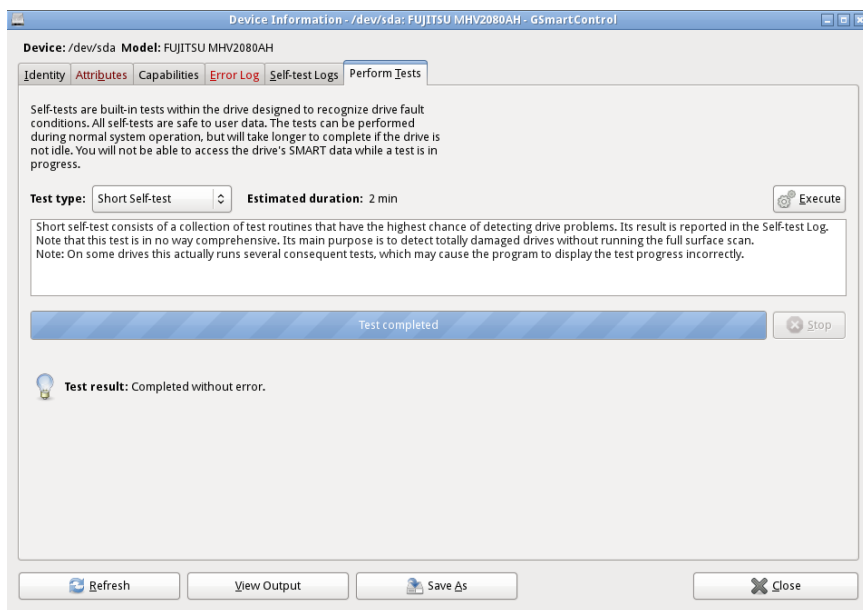
CR = Command Register [HEX]
 FR = Features Register [HEX]
 SC = Sector Count Register [HEX]
 SN = Sector Number Register [HEX]
 CL = Cylinder Low Register [HEX]
 CH = Cylinder High Register [HEX]
 DH = Device/Head Register [HEX]
 DC = Device Command Register [HEX]
 ER = Error register [HEX]
 ST = Status register [HEX]

Powered_Up_Time is measured from power on, and printed as
 DDd+hh:mm:ss.sss where DD=days, hh=hours, mm=minutes,
 SS=sec, and sss=millisec. It "wraps" after 49.710 days.

Error 80 occurred at disk power-on lifetime: 1968 hours (82 days + 0 hours)
 When the command that caused the error occurred, the device was active or idle.

Refresh View Output Save As Close

The last tab we'll examine allows us to run tests. As the screen-shot shows, the short one takes just two minutes. A more rigorous one is available, but for this disk it will take almost an hour.



For more information on SMART, see <<https://en.wikipedia.org/wiki/S.M.A.R.T>>. In particular, this lists the following parameters that merit close scrutiny, but not all manufactures include all of these.

- *Reallocated Sectors Count* – discussed above
- *Spin Retry Count* – failed attempts to get the platter up to speed
- *End-to-End error / IOEDC* – count of parity errors
- *Command Timeout* – number of failed commands
- *Reallocation Event Count* – number of attempts (both successful and unsuccessful) to transfer data to a reallocated sector
- *Current Pending Sector Count* – number of sectors experiencing errors, but not yet reallocated
- *Offline Uncorrectable* – number of uncorrectable errors (this term varies among manufacturers)
- *Soft Read Error Rate* – off-track error count
- *Drive Life Protection Status* – state of the drive based on its life expectancy

SMART is a useful tool for predicting failures due to aging, but it can't predict sudden catastrophes, such as you driving over your laptop with your car or your disk's electronics developing an open circuit. Keep your backups up-to-date.

Dick Maybach <[n2nd \(at\) charter.net](mailto:n2nd@charter.net)> is a member of the Brookdale Computer Users' Group <<http://www.bcug.com>>, NJ.

This article first appeared in the March 2013 issue of BUG Bytes.

Web Browsing 101

By Sandy Berger

Do you know the difference between a browser and a search engine? If not, it's time to learn the jargon! At the same time you can learn all about Web browsers and what they can do for you.

Often when I ask people which Internet browser they are using, they respond "Google." Yet, Google is not a Web browser. It is a search engine. This is a confusing concept for many. When you go to the store you may be browsing through the aisles while searching for a certain item. You can't be searching for a certain item unless you are already in the store browsing through the displays.

You can apply that concept to the Internet. You browse with an Internet browser like Internet Explorer, Google Chrome, Safari, etc. You search with a search engine like Google or Bing. You cannot use Google, Bing, or any other search engine unless you use a Web browser to get on the Internet first. So the Web browser is your gateway to the Internet.

There are many different Web browsers. If you use a Windows computer, phone, or tablet, the default Web browser is Internet Explorer. You may know it as the blue "e" that you use to get on the Internet. If you are using a Mac, iPad, or iPhone, the default Web browser is Safari. The icon that starts it looks like a compass. Other popular Web browsers include Opera, Firefox, and Chrome.

All of these browsers are free. All work in a similar manner. Each has tabbed browsing, bookmarks, auto fill, zoom, pop-up blockers, and automatic

updates. Yet each one is just a little bit different. The toolbars and menus look different. Things are in different places. For instance, each browser handles downloaded files a little differently and may give you different download options and put the downloaded files in different folders.

Sometimes, even main features vary. For instance Safari, Internet Explorer, and Firefox have parental controls. Chrome and Opera do not. Both Opera and Safari have Mouse Gestures, which allow you to move your mouse in simple ways to give the browser commands without using the more cumbersome menu choices. Internet Explorer, Chrome, and Firefox do not have Mouse Gestures.

All of these browsers work with Windows XP, Vista, Windows 7 and Windows 8. All, except Internet Explorer, which is Windows only, also work with the Mac OS. Depending on which tablet and/or smart phone you own, you can often also install these Web browsers or mobile versions of them on your portable devices. Your tablet may also have a special Web browser for use only on that tablet. One example of this is the Web browser called "Silk" that is built-into the Amazon Fire tablets.

If you are working on a PC or Mac, it is a good idea to install a second Web browser. This gives you an alternative way to get on the Internet if, for some reason the browser you usually use is not working properly. Not only can you install two or three different Web browsers, but you can use them all at the same time, if you wish. This makes it easy to try an alternative browser. You can run them side-by-side to decide which one you like better.

If you are currently using Internet Explorer or Safari and want to try another browser, check out Opera or Chrome. If you look at both of these browsers, you will see a stark contrast. Opera has all of the controls and menus visible while Chrome has a much cleaner look, with fewer obvious controls. It is up to you to determine which type of interface you prefer.

Here are links to several popular Web browsers. All are FREE!

Opera <<http://www.opera.com>>.

Chrome <<http://www.chrome.com>>.

Safari <<http://www.apple.com/safari>>.

Firefox <<http://www.firefox.com>>.

Internet Explorer Built into Windows, not available for individual download.

Sandy Berger <[sandy \(at\) compukiss.com](mailto:sandy(at)compukiss.com)> runs *CompuKISS* <<http://www.compukiss.com>>.

**Who's Driving this Bus
Anyway?
By Dave Helmer**

When is the last time you worried about having the latest drivers for your computer? Ever? Never? Yeah, me too. Most people just don't give it any thought beyond the initial install of a new piece of hardware, but manufacturers tend to release new drivers all the time. Even your motherboard manufacturer sometimes releases updates. Mouse drivers, NIC drivers, USB drivers (there's probably a joke there somewhere, but it escapes me), hardware that no one ever thinks of in their computers, that may not be running the most current drivers. And really, why should you care? Mostly because those little outdated drivers

might be the cause of some significant computer problems.

For the most part, I'm a firm believer in the old "if it ain't broke, don't fix it" approach to system maintenance, but on more than one occasion, one or another of my systems will BSOD* for no apparent reason. Microsoft's pathetic approach to a diagnostic simply tells you that the problem may have been caused by an outdated driver. Well, duh.... Which one? Yeah, yeah, I know that BSOD's don't exist in the newer operating systems. But when a computer does a hard reset while you're in the middle of an hours-long project, does it really matter what you call it?

Keeping those drivers current is a nightmare, because no one really keeps track of the manufacturers and driver release numbers for everything in every computer they own. No one. Well, no one I know, or would want to know I suspect. I am usually doing well to keep my video and sound card drivers current, and yes, I do use discrete hardware plug-ins on my desktop systems. Motherboard sound and video are just not good enough for some of the things I use my computers for, although it is getting better all the time.

The good news is that there is a solution to this problem! Why else would I be writing this article? Actually, there have been a number of solutions to this problem over the last decade or so, but I have found none as user-friendly as a little freeware program called SlimDrivers, available at <<http://www.slimwareutilities.com>>. A recent article in MaximumPC magazine introduced me to this cloud-based utility for keeping drivers current, and it blew me away when I tried it.

Download the installer from the website listed above. Note that there are two other free utilities they offer as well, one of which, SlimCleaner, I am currently playing around with. Run the installer (do be careful when accepting the install, as they will try to install AVG Security Toolbar into your browser, not a bad thing, but if you're not into AVG you might not want to have it auto-installed) and when it's fully loaded, hit the big button labeled Start Scan. It's just about that easy. SlimDrivers then goes out and uses "Crowd-sourcing to spider and aggregate millions of devices" to find drivers. In English, that means it checks the hardware driver versions on your computer, matches them against the latest versions available online from the manufacturer, and presents you with a list of drivers for which updates are available. For those concerned, SlimWare Utilities is a Microsoft Gold Certified Partner, which means it should play very well with Windows. I've successfully used it on systems running Win8, Win7, Vista and WinXP, and was very satisfied with its ability to locate updated drivers on all 4 platforms. You are given the option to set Restore points before any new drivers are installed, and you can un-install or restore drivers from within the program.

At this point, the shine wears off a little bit, because you can only select one driver at a time to update. The drivers seem to download very slowly, and to be honest I end up wondering if SlimDrivers is choking my download speed as a way of enticing me to upgrade to their paid version (DriverUpdate, \$29.97/one year license), or if I am just being paranoid. And seriously, for freeware? I can take the wait. I haven't

been able to discover whether or not that one license for DriverUpdate would cover all my systems, or if I need a separate license for each computer. After each update, you are advised to restart your computer, and although you probably don't really "have" to do so each time, I certainly recommend it. This of course adds to the frustration of time being consumed.

Has it prevented any more BSoD's on my systems? Too early to tell, but I feel a lot more comfortable knowing that I am running the latest versions of hardware drivers on my computers. This program delivers, with a clean, easy-to-use (and understand!) interface. Learn more about it by visiting their website, <http://www.slimwareutilities.com>, and give it a shot.

*Blue Screen of Death. If you don't remember those, you probably have not been using a computer for very long.

Dave Helmer <[cugg\(at\)greeleynet.com](mailto:cugg(at)greeleynet.com)> is Past President and Co-Founder of Computer Users' Group of Greeley <<http://www.cugg.org>>, CO.

This article first appeared in the March 2013 issue of Random Access.

**Internet Alerts Can Keep You
Informed
By Sandy Berger**

How would you like to know every time your name is mentioned on the Web? Or when there is a breakthrough on a disease that you are following? Or when your favorite actor is starting in a new movie? This is all possible with automated Internet alerts. Read this to see how it works.

Internet alerts are available by many different Internet services. The

Weather channel at <<http://www.weather.com>> has free alerts that will give you daily weather alerts as well as alerts for allergens like pollen and also alerts for severe weather. Other alerts will keep you informed of the weather on school days and give warnings for snow and rain. You can apply several customization options such as the time of the alert and the severity that triggers the alert. You can get alerts sent by e-mail and/or text to a cell phone.

Many news stations also have alerts regarding news, sports, and weather. One of my local North Carolina stations, WRAL <<http://www.wral.com>> even has an app that uses GPS to alert you to severe weather no matter where you travel as long as you have your cell phone turned on. While most other alerts are free, WRAL charges \$8 a year for their GPS-based alerts. Check your local news stations for news alerts.

The granddaddy of all alerts, Google Alerts, is a very useful one that you should be aware of. This is one of Google's powerful tools that is completely free. You can use Google Alerts to keep track of anything on the Web. Just surf over to <<http://www.google.com/alerts>> and enter a search query. Then choose your options. You can control how often you get alerts (as it happens, once a day or once a week), the type of Web coverage that triggers an alert (news, blogs, video, discussions, books, or all of these), and you can also choose only the best results or all results. Enter your e-mail address and your alerts will start. You can change or remove an alert at any time. Once you start using Google Alerts, you will be surprised at the results.

Most people start with creating an alert with their own name. My "Sandy

Berger" alert tells me when any news article or blog mentions my name. Of course, it also gives me results for the other Sandy Berger. You know—that guy from the Clinton administration who stuffed documents from the National Archives into his pants. Unless you have a very unusual name, you can expect to get news of others with the same name. That's not all bad. In fact, it can be very interesting.

The Google Alerts can be wonderful if you are following the news about a certain item. For instance, they are wonderful if you are interested in following a certain disease, medical condition or treatment. You can use Google Alerts to follow any current event or any specific public figure, actor, or personality.

If you are a transplant and want to follow the news from your old hometown, this is a perfect way to do it. Just enter the name of your old city and state in the search terms. If you want to be more specific, you can just enter the zip code. This will give you results directly from your old neighborhood.

When you set up a Google Alert, you may want to limit the results to just the best results and only once a day. If you let Google give you all the results as they happen, I can assure you that you will be inundated with e-mail.

You are sure to find many different ways to use Google Alerts. In fact, it is good to play with the Alerts a little to get just what you want. Like any Google search, you can enter as many search terms as you like to narrow the results. You can put names in quotes to get exact matches.

Be creative with your alerts. You can have Google search for coupons for your favorite restaurant. You can use it

to follow a company whose stock you may be interested in purchasing. You can use it to follow an item that you want to purchase.

Sandy Berger <[sandy \(at\) compukiss.com](mailto:sandy(at)compukiss.com)> runs **CompuKISS** <<http://www.compukiss.com>>.



BOARD MEETING
October 13, 2013
Carol Sanzi

Board Members Present

President Mike Bader, Vice President Richard Jackson, Secretary Carol Sanzi, Treasurer Brian Brodsky, SIG-Computing Chairman Tom Callow, and Member-at-Large Bob Clyne. The Board meeting was called to order at 12:08 p.m.

Business

Brian Brodsky reported that the current treasury amount equaled a total of \$8,836.51 with \$4,074.82 in the checking account and \$4,761.69 invested in three Certificates of Deposit. The membership currently is 71.

Carol Sanzi moved to be reimbursed \$3.48 for the purchase of plastic ware. Brian Brodsky seconded the motion and it was carried.

Bob Clyne moved to approve the minutes of the September 8, 2013 Board meeting as published in the October 2013 DATA BUS. Tom Callow seconded the motion and it was carried.

Bob Clyne moved to authorize the two Board Member-at-Large positions for 2014. Brian Brodsky seconded the motion and it was carried.

Bob Clyne moved to authorize the payment of SEMCO's APCUG dues for 2014 in the amount of \$50.00. Brian Brodsky seconded the motion and it was carried.

Richard Jackson reported that SEMCO, as an affiliate Society of ESD, has been invited to attend the Detroit Metro Business Association meeting held at the Motor City Casino. He is willing to attend and inform the attendees about the values of becoming a member of SEMCO. At the general meeting, he will make a request of another member to join him.

A discussion took place defining the needs of SEMCO. They will be addressed at the Emergency Meeting. Tom Callow agreed to run the meeting and requested the board to help keep the meeting focused. Richard Jackson is concerned about how to attract new members. What should SEMCO offer that would be more enticing? Should there be projects as opposed to SIGs? What kind of speakers does the membership desire?

Tom Callow moved to adjourn. Bob Clyne seconded the motion and it carried. The meeting adjourned at 1:08 p.m.

Help Wanted

DATA BUS Editor

**The Software used is Adobe
InDesign CS2**

The software, training, tutoring, articles, etc. will be provided. Contact Bob Clyne, 810-387-3101 or clyne@mich.com or any Board Member if interested.

SPECIAL INTEREST GROUPS (SIGS)



SIG-COMPUTING Tom Callow

November 10 1:45 p.m.: What's Hot for the Holidays: Richard Tapaninen of the Micro Center computer store will discuss, What's Hot for the Holidays: A review of current technology offerings and an explanation of how they work.



SIG-PROGRAMMING Richard Jackson

November 16 (Sat.) 2:00 p.m.: Visual Basic 2010 Express: Chapter 8 including the associated programming exercises of the book "Microsoft® Visual Basic® 2010 Step by Step." **Where:** At Richard Jackson's home. Call Richard Jackson at 248-546-3694 for directions



SIG-LINUX Brian Brodsky

November 26 (Tues.) 6:45 p.m.: Linux Backup Tools: SIG-Linux chairman Brian Brodsky will discuss Linux backup tools. **Where:** At the home of Richard Jackson, 10495 Kingston, Huntington Woods, MI 48070. Call Richard at (248) 546-3694 for directions.

SIG-TECHNIQUES Chairman Needed

November 10 3:45 p.m.: Practical Cryptology and Security to Protect Personal Data and Communications: Dan Diebolt will focus his presentation on modern cryptology principles in simple understandable concepts and present a variety of free software tools that will allow users to protect their data and communications.



SIG-ADVICE Bob Clyne

November 7 (Thurs.): 5:30 p.m.: General discussion. If you have computer related questions or problems, come to the meeting and we will discuss possible solutions. **Where:** At the Madison Heights Library, 240 West 13-Mile Rd. one block west of John R. The parking lot and entrance to the library are located on the north side of the library off Brush St.

December DATABUS DEADLINE (7th day after 2nd Sunday in month)
SEMCO Input and Members' Ads—Deadline: Sun., November 17, 11:59 p.m.
Members' personal ads are free. To mail, use Editor address on Page 2; e-mail address: [<clyne@mich.com>](mailto:clyne@mich.com). PLEASE send to arrive sooner than deadline.

Bob Clyne

clyne@mich.com

(to post monthly computer group info)

**CALENDAR-OF-EVENTS
OTHER GROUPS**

COMP (Computer Operators of Marysville & Port Huron)

November 6, 7 p.m. Acheson Community Resource Center, 514 McMorran, Port Huron, MI Jane Wheatly 810-982-1187 or Pam Raisanen E-mail: <bwcompinfo@gmail.com>. Web: <<http://www.bwcomp.org>>. Topic: Building a Media Server.

DITUG: Detroit IT User Group (Formerly Focus: Hope IT User Group)

1400 Oakman, Detroit, MI. 48238. Web info <<http://www.ditug.org/>>. See web sites for details. Pre-registration required.

HUG (Holly User Group)

November 9, 9 a.m.–noon (2nd Saturday) Groveland Twp. Fire Hall, 3085 Grange Hall Rd. & Dixie Hwy., Holly, MI. 48442. Ron McCauley 810-629-9683. Topic: TBA.

MacGroup-Detroit

November 17, 3:00 p.m., Birmingham Temple, 28611 West 12 Mile Rd., Farmington Hills. Info: Terry White, <terry@macgroup.org> or 248-569-4933 <<http://www.macgroup.org>>. SIGs: 2:00 PM. Topic: Mac OS X 10.9 Mavericks.

MacTechnics, (MAC User Group)

November 16, See web site for topic, meeting time and location <<http://www.mactechnics.org>>. JoAnn Olson at 248-478-4300. Topic: TBA.

MDLUG (Metro Detroit Linux User Group)

November 9, 12:30 p.m., (2nd Saturday); Michigan Network Services, 1677 W. Hamlin Rd., Rochester Hills, MI 48309. Web: <<http://www.mdlug.org>>. Topic: GPG—The how and why of signing and encrypting e-mails.

Motor City Free Geek

Every Saturday 1 p.m. to 5 p.m. 1511 Jarvis St. Suite #10, Ferndale, MI 48220 <<http://www.motorcityfreegeek.net>>. E-mail: <MotorCityFreeGeek@gmail.com>. Recycling & Open Source.

MUG (Michigan User Group)

November 12, 6:30 p.m., (2nd Tuesday): Farmington Community Library-Main Branch, 32737 W. 12 Mile Rd., Farmington Hills, MI. 48334. <<http://www.mug.org>>. Topic: OpenBSD and Clojure.

Oak Park Computer Club

Every Fri., 10:30 a.m. at Panera Bread—in the Cornerstone Mall (on the west side of Greenfield, south of Mt. Vernon) just north of Kroger. Including Q&A.

Royal Oak Computer Club

Every Wed., 12:30 to 2:30 PM at Mahany/Meininger Senior Community Center, 3500 Marais Ave., Royal Oak, 48073. Near Crooks & 13 Mile. Guest speakers & regular monthly speakers. <<http://tinyurl.com/royaloakcc>>.

SHCC (Sterling Heights Computer Club)

November 5, 7:30 p.m. (1st Tues); Macomb Community College South Campus, Bldg. K, 14500 E. 12 Mile Rd. Don VanSyckel <Don@VanSyckel.net>, 586-731-9232; Web: <<http://www.SterlingHeightsComputerClub.org>>. Topic: What's Hot for the Holidays.

SEMCO

Serving the needs of professionals, hobbyists, novices, and prospective computer users since 1976.

- * Learn more about computing in an informal, non-academic setting.
- * Get honest answers to computer questions without commercial bias.
- * Meet and interact with other computer users. Personal and electronic networking.
- * Gain access to members willing to provide help in response to a phone call or e-mail.
- * Receive monthly newsletter with informative articles.



OCTOBER REFRESHMENT DONORS

Coordinator: Richard Jackson

Donors:

**Brian Brodsky
Carol Sanzi
Ken Phillips**

Note: For the Key Word to get a 40% discount see Mike Bader.



User Group Members SAVE 40%
learn • master • create

www.focalpress.com

COMPUTER RESOURCE PEOPLE

This is a list of people willing to be resources for members to contact when they have hardware or software questions.

Are you willing to help members learn?

Which software programs are you familiar enough with?

It is not necessary to be an expert, but just have some familiarity with the program and be willing to help someone starting to learn it. Please give this some thought and volunteer at the next group meeting.

Almost Anything: Vander-Schrier

AutoCAD: Comptois

Genealogy: Cook

Geocaching: Cook

IBM PC Hardware Issues: Clyne, Yuhasz

Linux: Brodsky

Mac Hardware and OS Issues: Yuhasz

MS Office for Windows: Callow

MS Word: Clyne

Networking: Callow

Novell Netware: Yuhasz

Operating Systems: Callow, Clyne, Yuhasz

Quicken: Clyne

Security: Bader

| | |
|---|--|
| Bader, Mike—586-447-6683, 9 am–8 pm..... | mdbader@flash.net |
| Brodsky, Brian—248-391-9125, 5–7 pm+weekends.. | brianbrodsky@ameritech.net |
| Callow, Tom—248-642-5770, 9 am–5 pm..... | tcallow@monaghanpc.com |
| Clyne, Bob—810-387-3101, 9 am–10 pm..... | clyne@mich.com |
| Comptois, Jerry—248-651-2504, anytime | |
| Cook, Stephen—313-272-7594, eves..... | scook48227@ameritech.net |
| Lis, Bernie—248-669-0101, 10 am–8 pm..... | BerLis@comcast.net |
| Vander-Schrier, Jack—586-739-7720, 12–8 pm..... | jvanders@comcast.net |
| Yuhasz, Steve..... | Help@yuhasz.org |



**SOUTHEASTERN MICHIGAN
COMPUTER ORGANIZATION, INC.**

SEMCO CALENDAR

**Engineering Society of Detroit
20700 Civic Center Dr., Suite 450, 4th Floor
Southfield, MI. 48076**

November 10—SUNDAY (Meet 2nd Sunday)

**SEMCO Board Meeting at 12:00 noon. For Officers and SIG Chairpersons.
Other members are invited to attend.**

SEMCO General Meeting at 1:30 p.m.

Special Interest Groups (SIGs)

SIG-COMPUTING, 1:45 p.m.: What's Hot for the Holidays: Richard Tapaninen of the Micro Center computer store will discuss, What's Hot for the Holidays: A review of current technology offerings and an explanation of how they work.

SOCIAL PERIOD, 3:15 p.m.: Refreshments! (Reminder: Keep it neat & tidy.)

SIG-TECHNIQUES, 3:45 p.m.: Practical Cryptology and Security to Protect Personal Data and Communications: Dan Diebolt will focus his presentation on modern cryptology principles in simple understandable concepts and present a variety of free software tools that will allow users to protect their data and communications.

SIG-PROGRAMMING, November 16 (Sat.) 2:00 p.m.: Visual BASIC 2010 Express: Chapter 8 including the associated programming exercises of the book "Microsoft® Visual Basic® 2010 Step by Step." **Where:** Richard Jackson's home at 10495 Kingston, Huntington Woods, MI 48070. Call Richard at (248) 546-3694 for directions.

SIG-ADVICE, November 7 (Thurs.) 5:30 p.m.: General discussion. At the Madison Heights Library located at 240 West 13 Mile Rd. one block West of John R. The parking lot entrance is off Brush St. The lot and entrance to the library are located on the north side of the library.

SIG-LINUX, November 26 (Tues.) 6:45 p.m.: Installing Windows applications on Linux using Wine: The group will attempt to install Quicken 2012 Premier on Ubuntu using Wine. Time permitting, we may also try to install other Windows applications. **Where:** Richard Jackson's home at 10495 Kingston, Huntington Woods, MI 48070. Call Richard at (248) 546-3694 for directions.

December 8—SEMCO Sunday.

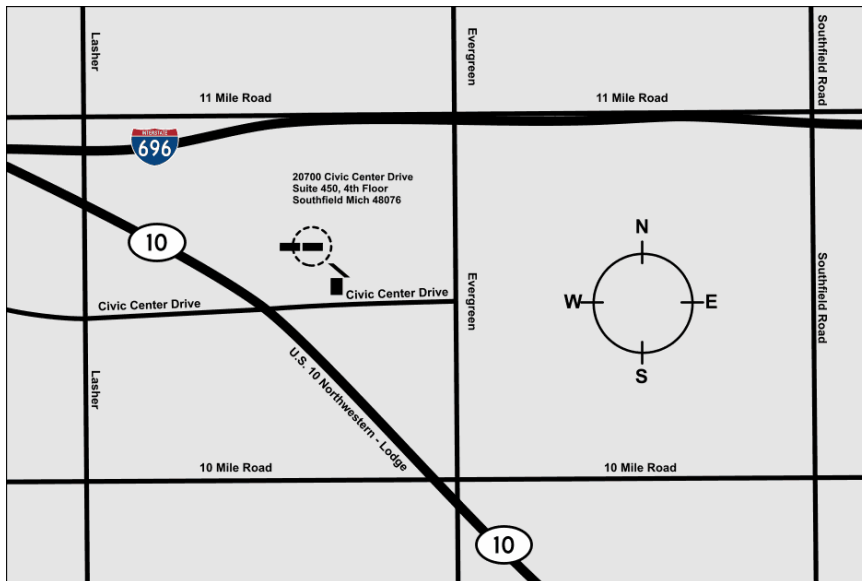
<http://www.semco.org>

PUBLIC INVITED

(Please copy this and the next page to post on your bulletin board.)

SEMCO Meetings at [Engineering Society of Detroit](#)
20700 Civic Center Drive, Suite 450, 4th Floor
Southfield MI 48076.

42°29'7" N by 83°14'29" W



From I-696 exit at Evergreen. Take Evergreen south to Civic Center Drive. Civic Center Drive is about halfway between I-696/Eleven Mile Rd. and 10 Mile Rd. Turn west, right if you are coming from the north, onto Civic Center Drive. Follow Civic Center Drive, watching the number signs on the right. When you get to the 20700 sign turn right, north, and follow the drive until you arrive at the southwest corner of the brown building with the Engineering Society of Detroit sign near the top. Turn right, east, and go past the front of the building. When you reach the end of the building, turn left, north and go to the back of the building and turn left, west, again. The parking lot will be on your right. The entrance is in the center of the building. Park in back of building. Enter the rear door. The ESD office is on the fourth floor.



**SouthEastern Michigan
Computer Organization, Inc.
P.O. Box 707
Bloomfield Hills, MI 48303-0707**

**SEMCO (future meetings)
November 10
December 8**

**FIRST CLASS MAIL
Dated Material**



**SEMCO: A Community Organization
Helping People for the 21st Century**