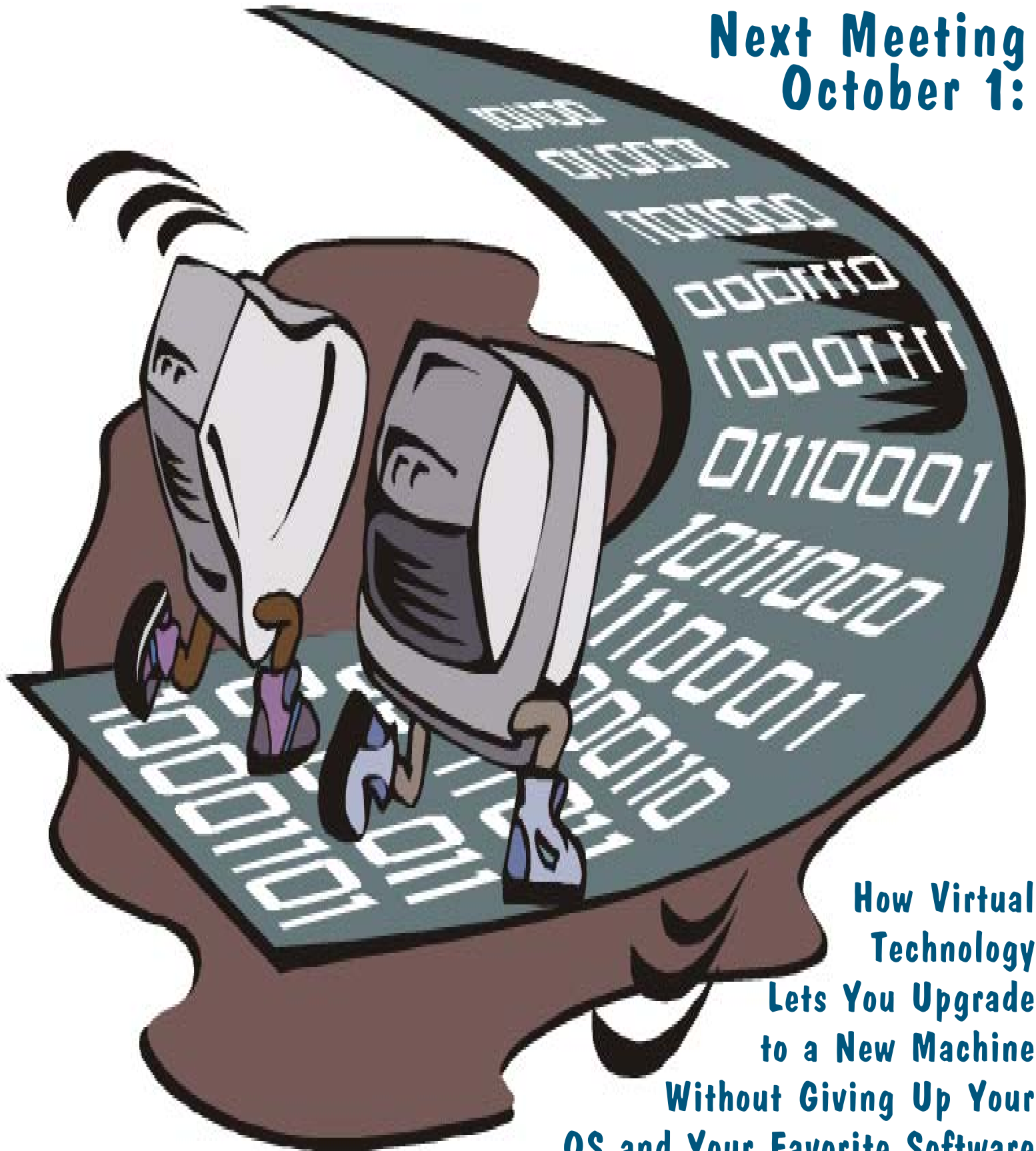


**Next Meeting
October 1:**



**How Virtual
Technology
Lets You Upgrade
to a New Machine
Without Giving Up Your
OS and Your Favorite Software**

Directors' Notes

A meeting of your board of directors was held on Wednesday, September 11, 2013. The meeting was called to order at 7:15 PM.

Attending were Richard Corzo, Jim Scheef, Lisa Leifels, Richard Teasdale, Andy Woodruff, Bruce Preston.

The minutes of last meeting were accepted.

Treasurer's Report

August 2013

Balance on hand 8/1/13	\$4,657.96
INCOME	
Dues	\$371.49
Total Income:	\$371.49

EXPENSES

Resource Center Phone	\$83.15
Resource Center Security	\$79.60
Newsletter Printing	\$176.00
Newsletter Postage	\$41.58
Renewal Letter Postage	\$10.89
Total Expenses	\$391.22
Balance on hand 8/31/13	\$4,638.23

Membership Report

JULY 2 - PagePlus X6 - Bruce Preston
AUG 6 - Office 365 - Microsoft Store
SEP 3 - Photo Organization - Ken Graff

	JULY	AUG	SEP
seat count	33	29	34
members signed in	27	24	28
visitors signed in	6	4	4
Paying members	121	121	121
w/ email address	111	111	108
new members	1	1	0

DACSDOC			
printed	75	75	75
number of pages	12	12	12

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mailed	64	62	60
mailed-members	45	43	41
mailed-other	5	5	5
mailed-free lib	14	14	14

Old Business

1. General meetings

• September 3: Ken Graff—digital photo editing, organizing, and sharing online. Preview: Lisa Leifels, Review: Richard Koser

• October 1: Bruce Preston – Virtual Machine Technology, how it works and demonstration. Preview: Jim Scheef Review: Jim Ritterbusch.

• November 5: Mike Kaltschnee—Danbury Hackerspace. Preview: Bill Saturno, Review: Sean Henderson (Andy Woodruff backup)

• December 3: Bill DeRosa—Facebook and Pinterest. Preview: Lisa Leifels, Review: Richard Teasdale

• Possible future topics:

◦ Demonstrate apps for mobile devices—smartphones and tablets. This could be a meeting with multiple presenters for a full session, or it could be a small segment after Ask DACS. The iBook (Apple iTunes store), "The Telegraph: 500 Must Have Apps" would be a good resource. Decided to table, with intent to identify possible applications that might be of interest.

◦ Monthly "Get to know the SIGs" session where a SIG leader sets up a 'table' to discuss the SIG's activities. This would be done between the Ask DACS session and the featured presentation. Some suggestions: Mobile Devices, Linux (Raspberry Pi perhaps?), Drupal, Web Design. No selection was made for October.

◦ "LifeStream" monitoring. Mike Kaltschnee mentioned FitBit (currently available at BestBuy) or other 'wearable electronics'. Considering session on wearable technology such as this for the January session. Andy spoke with Jeff Schlicht, professor of phys ed at West Conn, about a possible presentation at DACS re wearable electronic devices that monitor exercise and/or body functions.

◦ Windows 8.1 Blue – will be a free upgrade out October 17-18. We should have a presentation on the update from the Microsoft Store. It

Directors' Notes, Cont. on page 3

Membership Information

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The editors welcome submissions from DACS members. Contact Richard Teasdale (dacseditor@dacs.org). Advertisers, contact Charles Bovaird at (203) 792-7881 (aam@mags.net)

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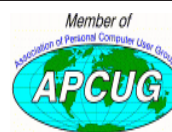
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Applications & Hardware to enhance *dacs.doc* are welcome.



Bill Saturno
APCUG Liaison
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Apple User Group



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RESOURCE CENTER: (203) 748-4330 • **WEB SITE:** <http://www.dacs.org>

HelpLine

Our former telephone HelpLine has been replaced by our web-based DACS Community Forum at <http://forum.dacs.org>. We have topic-specific forums where DACS members can post questions. Questions may be answered by SIG leaders or other DACS members. If none of the categories fit your question, just post it to the Ask DACS forum.

Topic

Microsoft Access
.NET Programming
Digital cameras/scanners/image processing
Content Management Systems
Linux
Mac and iPhone/iPad/iPod touch
PC maintenance
Smartphones & Tablets
Virtual machine software
Desktop publishing and website design
Windows

Forum

Access SIG
ASP.Net and C#VB.Net SIG
Digital Imaging SIG
Drupal SIG
Linux SIG
Apple SIG
PC Maintenance SIG
Mobile Devices SIG
Virtual Computing SIG
Web Site Design SIG
Windows SIG

Directors' Notes, Cont. from page 2

could also include information about the Microsoft Surface Pro (the Intel-based Microsoft tablet that will also run Windows desktop applications in addition to 'apps'). Perhaps see if Jay Ferron might be available early next year. If not available then ask for a representative from the Microsoft store.

° Bruce will do a Virtual Machine session in October and show that an XP machine (or earlier) could be built to support legacy applications. At the general meeting there appeared to be interest in learning about virtual machine software, such as VirtualBox, for installing and running older versions of Windows. Should we also schedule a hands-on workshop as a follow-on? We could ask audience members at the meeting. Decided to ask audience if there would be an interest in a workshop.

° Now that the new OS X Mavericks release has been announced to come out in the fall, we should ask Dave Marra to do another presentation as the time draws nearer. It need not be immediately after release, so something like March would be good.

° Andy suggested a session on creating a web site of various types: blog, brochure, e-commerce site, etc.) – making use of such as products/services as site builder (online or on PC), turn-key sites, etc. Andy suggested that as a computer group we should do some sort of session that would answer the question: "I think I need a web site, what are my options?" This might involve a "high level" overview of the various approaches.

° Lisa suggested a "decision tree" presentation – "What should I get?" – Windows or Mac, Desktop, All-in-One, Notebook, Tablet, or even SmartPhone – Android or iOS, etc. Lots of decisions - how to decide what meets your needs. We think this would be a 'tough' presentation to pull off but a lively session. We think it would be a good candidate for a panel discussion.

° Bruce suggested a session on advanced Google search techniques. For example here's a search: "a * saved is a * earned" would find the quotation. After brief discussion it was decided

Directors' Notes, Cont. on page 4

Meeting Review

Ken Graff—Photographer, Educator, Digital Artist

By Richard Koser

KEN GRAFF BROUGHT his extensive knowledge to our September General Meeting presentation, "Where Are My Pictures?" Ken's technical expertise and aesthetic sensitivity result from his 50-year career in photography including 35 years as an industrial photographer working at locations around the world. Ken is not unlike a photographic "Johnny Appleseed," practicing his craft and "planting" photographic knowledge and wisdom wherever he goes. As he puts it, "Ken now consults with photographers and enthusiasts in the art of digital imaging. He has been a speaker at photographic and computer groups throughout the country, showing the advantages of digital imaging."

Ken began his presentation with a brief history of photography. The first photograph, requiring an 8-hour exposure, was captured in 1826; the first image showing a person dates back to 1838. Kodak introduced roll film in 1890 and brought out the first Brownie camera intended for amateur use. In 1975, Kodak employee Steve Sasson began development of the digital camera, and Apple in 1994 introduced the first consumer digital camera. Over 3.5 trillion photographs have been taken since the advent of photography and, with the introduction of cell phone cameras, the rate of accumulation became even higher; now over 380 billion per year. Some 300 million images a day are now uploaded to Facebook, which contains 10,000 times as many images as the Library of Congress.

All of which brings up the problem of dealing with them. While some casual image takers just leave their images in their digital devices or their prints in shoeboxes, many seek ways to organize and edit them. "You can't fix a picture if you can't find it!" Now digital solutions are available, exemplified by Picasa, the free organizer and editor downloadable from Google (visit Ken's link site - address below).

When Picasa is first installed, and each time it is run, it surveys all or some of your computer's images; the survey can be restricted to selected folder(s). It is important to understand that Picasa edits pictures non-destructively - the surveyed images remain intact as originally found, and any subsequent instructions altering an image are remembered by Picasa and remain available for re-editing.

Images can be tagged with keywords, can be assigned to virtual albums, or can be given star ratings. Picasa can search for images by star ratings; for duplicate images by visual content; by keyword tags; or by GPS tags, showing their map locations, if your camera has GPS capability. Picasa can convert a virtual album

to a disk folder.

Picasa can edit pictures by brightness, contrast, color, or toning. It straightens horizons; adds text to images; creates collages in various styles; makes movies from slide shows (time-lapse series for example); creates Web albums for sharing. See Ken's link site (address below) for download and installation instructions.

Other free or low-cost editing programs are available: Pixlr Express online editor (pixlr.com/express); iPad Handy Photo app for iOS and Android (\$2) (<http://adva-soft.com/products/handy-photo/>). There is also a DSLR Online Camera Simulator that permits visualizing the effects of various camera settings: (camerasim.com/camera-simulator/)

Ken's Digital Photography SIG meets the last Wednesday of each month except (typically) December-April. Visit Ken's Web site at <<http://grafficx.com/>>. Links for tonight's presentation, including Picasa download and installation, are given at <www.graffic.weebly.com>.

DACS member RICHARD KOSER has worked as a freelance photographer and graphic illustrator.



Directors' Notes, Cont. from page 3

that this would be better as an article for DACS.DOC.

2. Bill Saturno is our new APCUG representative. Is he receiving APCUG e-mails?
3. Opening positions
 - Treasurer when Dave Green retires March 31.
 - President when Richard Corzo retires March 31.
 - Replacements for retiring "odd-year class" board members Drew Kwashnak and Annette van Ommeren in December. Jim, Lisa and Bruce are continuing. Dave Green is also retiring in December as an "even-year class" board member after serving just one year of his term.
4. Jim has suggested we need to revisit our social media strategy. Richard C is posting the general meeting on Meetup and LinkedIn. I and some other SIG leaders are sometimes posting SIG meetings on Meetup. Annette is posting the general meetings on Facebook, and the Linux meeting is posted.
5. Richard C announced Dave Green's and his upcoming retirement at the August general meeting. Jim wrote an article published in the newsletter and on the website. Does it look like we might find a new president? What about treasurer? If we don't find replacements, we will need to end DACS activities. Richard will contact a possible candidate for treasurer.

New Business

1. After discussion Dick Gingras accepted our request to join the Board of Directors. Dick was president of DACS for several years many years ago. The board appointed him to the unfilled vacancy for the two year term that started January 2013.
2. With our membership count having 11 board members is thought to be top-heavy. Our bylaws stipulate that we have an odd number, but do not stipulate what that number is. We discussed reducing the number of board members to 9.

Adjourned 9:35.

— Bruce Preston

Meeting Preview

Virtual Machines for Backward Compatibility – How to Run your old OS and Applications on a VM

by Jim Scheef

DO YOU LOVE YOUR Windows XP? It was easily the best version of Windows up to that point and the service packs made it ever more secure and stable. So even though it's now ten years old, you plan to never give it up; to stay with XP for as long as you possibly can. Hopefully forever!

But time and hardware move on. As various parts become unstable, eventually your hardware may become the limiting factor when, for example, the power supply in your Dell or HP machine fails and you find that the parts you need have become “unobtainium” – something so rare that prices have sky rocketed to unrealistic levels on eBay. To add insult to injury, new hardware no longer comes with XP drivers, so installing XP directly on a new machine becomes impossible. What to do? Oh my, oh my! What to do!? As bleak as this scenario might seem, there is another path – something that allows you to have your cake and eat it too! The answer is the subject of our October General Meeting presentation by Bruce Preston, DACS Secretary and Board Member.

Would you be interested in free software that you can install on new (or merely recent) hardware that will allow you to run Windows XP well into the foreseeable future? The software Bruce will demonstrate is called VirtualBox (virtualbox.org). First Bruce will explain what virtual technology is all about and then show you how VirtualBox allows you to run one or more guest operating systems on a single machine. Then he will demonstrate how to create a virtual machine and install Windows on that VM. Along the way, you will learn what is required to install and run VirtualBox in terms of host machine hardware and the host operating system. There are many variables but the basic concept is actually pretty simple: boot your new machine to whatever OS came preinstalled, then start an application that allows you to run the OS you really

like, or the one you happen to need for the moment to run an old application. Or start up DOS so you can have a fast game of the original Quake that you haven't been able to run since your old game machine died during the Clinton administration. Whatever your reason, Bruce will help you have your cake, easy as pie.

DACS meetings are held at the Danbury Hospital auditorium. (Go to www.dacs.org to find directions and parking info). Doors open at 6:30 p.m. for registration and casual networking. Meeting start at 7:00 p.m. with a Q&A period (Ask DACS), followed by announcements and a short break. The featured presentation begins at 8:00 p.m. The meeting is scheduled to adjourn at 9:30 p.m.

DACS General Meetings are free and open to the public. Members and prior attendees are encouraged to extend invitations to anyone interested in this topic.

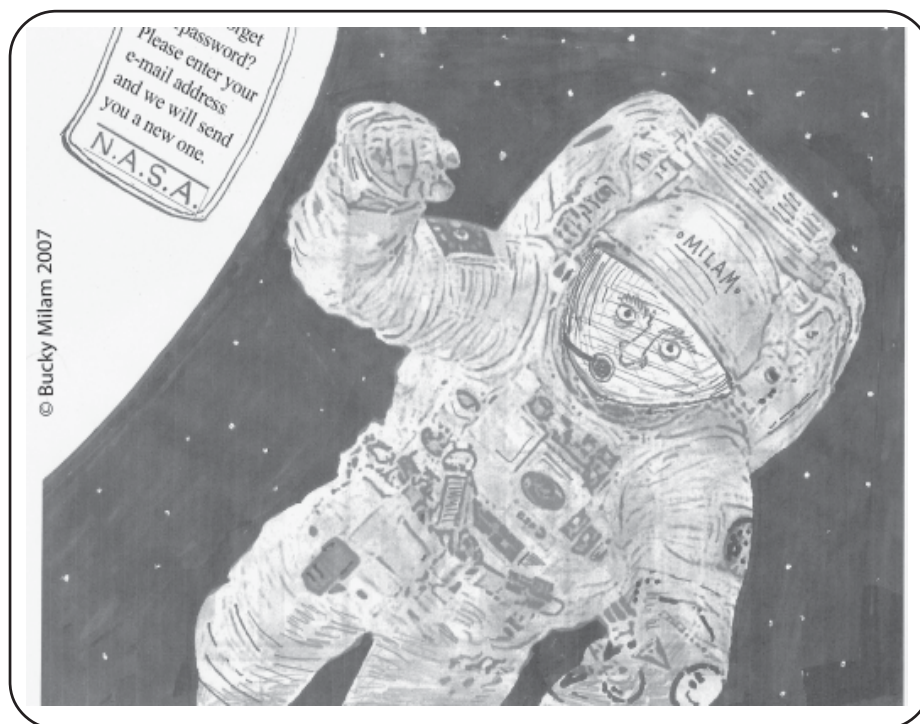


DACS Community Forum

Ever wanted to ask a question and get an answer without waiting for the next general meeting? How about sharing news with other DACS members, or communicating with fellow participants in a SIG you attend?

The DACS Community Forum (<http://www.dacs.org/forum/>) is another benefit of being a DACS member, and it's open 24/7. Once you register there you'll be able to post questions, answers, and comments. You can even set up an RSS subscription to be notified of updates to the forums.

Try out the DACS forum today!



Special Interest Groups

SIG NOTES: October 2013

Apple. Focuses on all aspects of the Mac and iPhone operating systems.

Contact: Richard Corzo (macsig@dacs.org).

Meets 2nd Monday, 7 p.m. at DACS Resource Center.

Next Meeting: Oct 7

Digital Imaging. All about digital cameras, retouching, and printing using various programs.

Contact: Ken Graff at 203 648-9747 (thedigitalwiz@gmail.com).
Meets last Wednesday, 7 p.m. at the DACS Resource Center.

Next Meeting: Oct 30

Drupal. Covers all things on Drupal, the open source content management system (CMS).

Contact: Jim Scheef (jscheef@dacs.org).

Meets on the second Thursday at 7:00 p.m. at the DACS Resource Center, or go to the DACS Community Forum (<http://www.dacs.org/forum/>) within the Members only area.

Next meeting: Oct 10

Jobs. Networking and jobs search

Contact: Charles Bovaird, 203-792-7881 (aam@mags.net).

Go to DACS Community Forum (<http://forum.dacs.org> for job listings).

Linux. Helps in installing and maintaining the Linux operating system. Also of interest to Apple owners using OS X.

Contact: Dave Mawdsley, linuxsig@dacs.org

Meets 3rd Wednesday, 7:30 p.m. at the DACS Resource Center.

Next Meeting: Oct 16

Mobile Devices. Focuses on smartphones, tablets, and e-readers of all makes and models.

Contact: Richard Corzo and Jim Scheef (Mobilesig@dacs.org)

Meets 4th Monday, 7 p.m. at the DACS Resource Center

Next Meeting: Oct 21

PC Maintenance. Review of PC hardware and OpSys maintenance and use.

Contact: Charles Bovaird, 203-792-7881 (aam@mags.net).

Go to DACS Community Forum (<http://forum.dacs.org>).

Server. Explores Back Office server and client applications, including Win NT Servers and MS Outlook. SIG is on hiatus and presently merged into the Drupal SIG.

Contact: Jim Scheef (jscheef@telemarksys.com), or go to the DACS Community Forum: <http://www.dacs.org/forum/>, within the Members-only area

Web Design and DTP. Learn about Adobe software for web, graphics and desktop publishing.

Contact: Annette van Ommeren (avo@annagraphics.com).

Meets 3rd Tuesday, 7-9 p.m. at the DACS Resource Center.

Next Meeting: Oct 15

SIG News & Events

Mobile Devices. In August the Resource Center printer was properly connected to the network, so we were able to try out the utility called PrinterShare, which requires a Windows or Mac desktop application to share a printer and then either an Android app or an iOS app to print from your mobile device. You can print a test page for free to make sure the app works for you, but you'll have to pay for the full app to print documents or photos from your mobile device. You first have to start the app and then decide whether you are going to print an e-mail, web page, photo, or (on Android only) document. Contrast this with how AirPrint works on an iPhone or iPad, where you are viewing an e-mail, web page, photo, or document and then decide to print it (or share it through other means). The latter seems like a more natural way to work.

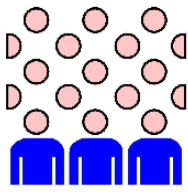











We had a new SIG member who was potentially interested in a mobile device (phone and/or tablet) to take on an upcoming trip instead of his large, heavy laptop. Since he was interested in a larger screen on a phone, that would point him to an Android (or possibly Windows) phone rather than an iPhone. Since he uses Gmail from Google (and probably the accompanying calendar and contacts), that would be a good match for an Android phone since Google is the developer of Android.

He also mentioned that he would like to off-load his photos from his DSLR camera to the mobile device while on the trip, so an SD card slot would be convenient. If they do have a slot, smartphones and tablets typically only accommodate a micro-SD card. The one exception I could think of was an iPad which has available a Camera Connector you can buy that has both an SD card reader and a USB port for plugging in your camera. This gets around the typical limitation of tablets not supporting the plugging in of USB devices (whether cameras, external drives, mice, etc.). The camera connector only supports cameras. The other exception I can think of is the Microsoft Surface RT or Pro. The Pro runs Windows 8 and so would support any device with a Windows driver. The RT would only support devices with a Windows RT driver, which may be a very limited set of devices.

I also mentioned form factor, where the 4 x 3 aspect ratio of the iPad in portrait mode better accommodates reading material such as PDFs and web pages, compared to the typical 16 x 9 ratio found on many Android tablets. I also emphasized the importance of the touch screen. The iPad is known to be very responsive for touch operation. I mentioned a scenario on my (Android-based) NOOK HD+ where using my finger it was sometimes difficult to position the cursor where I wanted in a text area. I recommend trying this out on any touchscreen device you are considering.

October 2013

Danbury Area Computer Society

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																										
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13	14  COLUMBUS DAY	15  Web Design& DTP Annette van Ommeren 7:00 - 9:00 PM <i>avanommeren@dacs.org</i>	16  Linux 7:30 -9:30 PM Dave Mawdsley <i>linuxsig@dacs.org</i>	17  SQL Server Study Group 7:00 -8:30 PM Sean Henderson 203-837-7068	18	19  DACS.DOC Deadline																																										
20	21  Mobile Devices 7:00 PM Jim Scheef & Richard Corzo <i>mobilesig@dacs.org</i>	22	23	24	25	26																																										
27	28	29	30  Digital Imaging 7:00 PM Ken Graff 203 648-9747 <i>thedigitalwiz@gmail.com</i>	31 	<div>Nov 2013</div> <table> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td></tr> <tr><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td></tr> <tr><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> </table>		S	M	T	W	T	F	S						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
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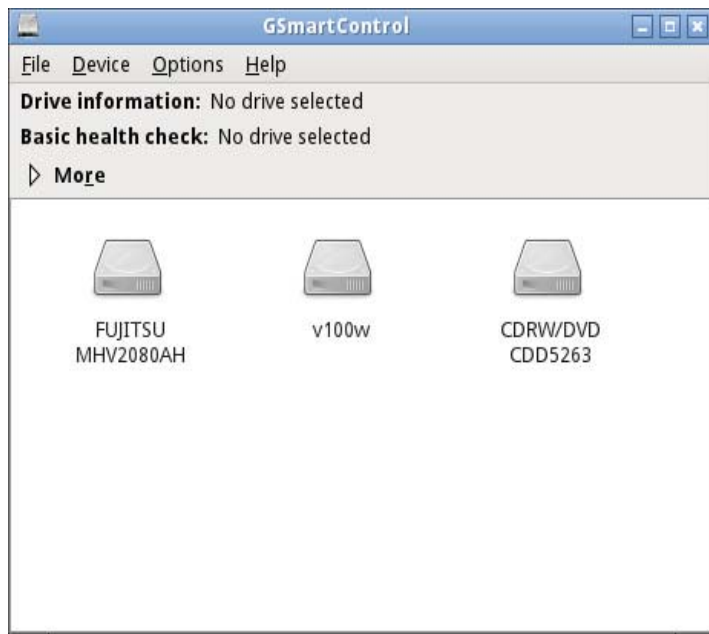
Computing Tools

Interpreting SMART Data

By Dick Maybach

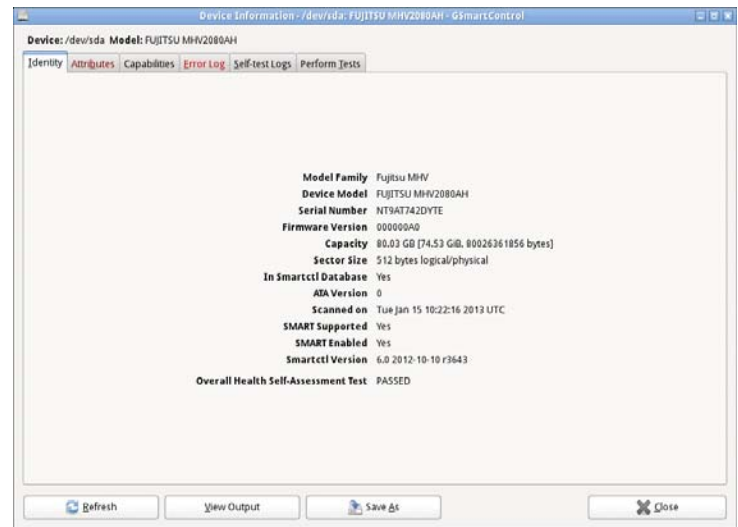
SMART (SELF-MONITORING, ANALYSIS and Reporting Technology - often written as S.M.A.R.T.) is a feature most hard drives use to provide you with indicators of their reliability. The hope is that these will predict pending failures and allow you in time to move data to another device. Unfortunately, experience 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 below. 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 under the Identity tab of interest, 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 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.

The screenshot shows the 'Attributes' tab for device /dev/sda. It displays a table of SMART attributes. The table has columns: ID, Name, Failed, Norm-d value, Worst, Threshold, Raw value, Type, Updated, and Flag. The row for 'Offline Uncorrectable' (ID 198) is highlighted in pink, indicating a problem. The 'Type' for this row is 'old age' and the 'Flag' is 'on offline data collect. 0x0010'.

ID	Name	Failed	Norm-d value	Worst	Threshold	Raw value	Type	Updated	Flag
1	Raw Read Error Rate	never	100	100	86	212529	pre-failure	continuously	0x000f
2	Throughput Performance	never	100	100	0	22347776	old age	on offline data collect.	0x0004
3	Spin Up Time	never	100	100	25	1	pre-failure	continuously	0x0003
4	Start / Stop Count	never	99	99	0	3838	old age	continuously	0x0032
5	Reallocated Sector Count	never	100	100	24	0 (2000 0)	pre-failure	continuously	0x0033
6	Seek Error Rate	never	100	100	0	3734	old age	continuously	0x000e
7	Seek Time Performance	never	100	100	0	0	old age	on offline data collect.	0x0004
9	Power-On Time	never	90	90	0	5398h+55m+21s	old age	continuously	0x0032
10	Spin-Up Retry Count	never	100	100	0	0	old age	continuously	0x0012
12	Power Cycle Count	never	100	100	0	3822	old age	continuously	0x0032
192	Head Retract Cycle Count	never	100	100	0	249	old age	continuously	0x0032
193	Load / Unload Cycle	never	97	97	0	60888	old age	continuously	0x0032
194	Temperature (Celsius)	never	100	100	0	25 (Min/Max 11/47)	old age	continuously	0x0032
195	Hardware ECC Recovered	never	100	100	0	310	old age	continuously	0x001a
196	Reallocation Event Count	never	100	100	0	0 (0 6979)	old age	continuously	0x0032
197	Current Pending Sector Count	never	100	100	0	0	old age	continuously	0x0012
198	Offline Uncorrectable	never	99	99	0	3	old age	on offline data collect.	0x0010
199	UDMA CRC Error Count	never	200	200	0	0	old age	continuously	0x003e
200	Multi-Zone Error Rate	never	100	100	0	19152	old age	continuously	0x000e
203	Run Out Cancel	never	100	100	0	2632787295473	old age	continuously	0x0002

If you move the cursor over an attribute in this table, you will see an explanation of its significance, as shown in the next screen-shot. 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

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

SMART Attributes Data Structure revision number: 16

ID #	Name	Failed	Norm-d value	Worst	Threshold	Raw value	Type	Updated	Flag
1	Raw Read Error Rate	never	100	100	48	212929	pre-failure	continuously	0x000f
2	Throughput Performance	never	100	100	0	22347776	old age	on offline data collect	0x0004
3	Spin-Up Time	never	100	100	25	1	pre-failure	continuously	0x0003
4	Start / Stop Count	never	99	99	0	3838	old age	continuously	0x0032
5	Reallocated Sector Count	never	100	100	24	0 (2000 0)	pre-failure	continuously	0x0033
7	Seek Error Rate	never	100	100	0	3734	old age	continuously	0x000e
8	Seek Time Performance	never	100	100	0	0	old age	on offline data collect	0x0004
9	Power-On Time	never	90	90	0	5396h+55m+21s	old age	continuously	0x0032
10	Spin-Up Retry Count	never	100	100	0	0	old age	continuously	0x0012
12	Power Cycle Count	never	100	100	0	3822	old age	continuously	0x0032
193	Head Retract Cycle Count	never	100	100	0	249	old age	Offline Uncorrectable	
194	Load / Unload Cycle	never	97	97	0	60888	old age	Number of sectors which couldn't be corrected during Offline Data Collection (Raw value). An increase in Raw value indicates a disk surface failure. The value may be decreased automatically when the errors are corrected (e.g., when an unreadable sector is reallocated and the next Offline test is run to see the change).	
195	Temperature (Celsius)	never	100	100	0	25 (Min/Max 11/43)	old age		
196	Hardware ECC Recovered	never	100	100	0	310	old age		
197	Reallocation Event Count	never	100	100	0	0 (0 6979)	old age		
198	Current Pending Sector Count	never	100	100	0	0	old age		
199	Offline Uncorrectable	never	99	99	0	3	old age	When a drive encounters a surface error, it marks that sector as "unstable" (also known as "pending reallocation"). If the sector is successfully read from or written to at some later point, it is unmarked. If the sector continues to be inaccessible, the drive reallocates (remaps) it to a specially reserved area as soon as it has a chance (usually during write request or successful read, transferring the data so that no changes are reported to the operating system. This is why you generally don't see "bad blocks" on modern drives - if you do, it means that either they have not been remapped yet, or the drive is out of reserved area.	
199	UDMA CRC Error Count	never	200	200	0	0	old age		
200	Multi Zone Error Rate	never	100	100	0	19152	old age		
203	Run Out Cancel	never	100	100	0	2632787295473	old age		

Note: SSDs reallocate blocks as part of their normal operation, so low reallocation counts are not critical for them.

Note: The drive has a non-zero Raw value, but there is no SMART warning yet. This could be an indication of future failures and/or potential data loss in bad sectors.

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.

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

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.

Here too, moving the cursor over the high-lighted message will produce an explanation, shown in the next screen-shot.

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

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

SMART Error Log Version: 1

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

Error #	Lifetime hours	State	Number of errors in error log. Note: Some manufacturers may list completely harmless errors in this log (e.g., command invalid, not implemented, etc.).	Details
80	1968	active or idle	6	6 sectors at LBA = 0x06972e3b = 110571067
79	1968	active or idle	6	6 sectors at LBA = 0x06972e3b = 110571067
78	1968	active or idle	6	6 sectors at LBA = 0x06972e3b = 110571067
77	1968	active or idle	6	6 sectors at LBA = 0x06972e3b = 110571067
76	1968	active or idle	6	6 sectors at LBA = 0x06972e3b = 110571067

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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)

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

SMART Error Log Version: 1

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

Error #	Lifetime hours	State	Number of errors in error log. Note: Some manufacturers may list completely harmless errors in this log (e.g., command invalid, not implemented, etc.).	Details
80	1968	active or idle	6	6 sectors at LBA = 0x06972e3b = 110571067
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77	1968	active or idle	6	6 sectors at LBA = 0x06972e3b = 110571067
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Complete error log:

SMART Error Log Version: 1

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CR = Command Register [HEX]
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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)

- 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 is a member of the Brookdale Computer Users' Group, NJ.

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September 2013

Moderated and reported by Jim Scheef

WE WELCOME QUESTIONS FROM the floor at the start of our General Meetings. The role of moderator is to try to guide the discussion to a likely solution to the problem. In addition, members who are not able to attend the General meeting may submit questions to askdacs@dacs.org. We will ask the question for you and post the reply in *dacs.doc* and on *dacs.org*. Please provide as much information as possible, since we can't probe during the session.

Q – The CD-DVD drive in my computer disappeared from Windows. I heard there is a registry tweak to fix this. Does anyone have any info on this? This is Windows 7, and we think it disappeared after a round of Windows Updates. A Microsoft “Fix-it” did not fix it.

A – The discussion at the meeting involved more questions with no solution. Questions included: Does the drive appear in the BIOS? Can you boot from the drive? The drive does not show in either Device Manager or in Drive Management. Suggestion: scan for new devices in Device Manager.

Microsoft “Fix-it” is a wizard found on the Microsoft Support website that solves a single specific problem.. These small programs perform required repairs “automatically”. They are programmed to check that you are running the appropriate Windows version but it is best to read the description carefully to be sure it applies to your situation before trying to run it on your computer. If one exists for your problem, you will find it by searching on your favorite search engine (I use Bing for this) and looking for Microsoft Support in the search results.

Post-meeting, the member found that it did show in the BIOS and the machine can boot from a bootable CD. He also happened upon a solution. Using Drive Manager, he changed the drive letter for the “recovery partition” from drive-d to drive-r, simply to force a change in the registry drive settings. On reboot, the CD-DVD drive reappeared as drive-e, as if by magic. This may or may not correct a similar problem on another computer and, unfortunately, does nothing to solve the mystery of why it disappeared.

Q – Has anyone tried to hack their television? I (as in your moderator) bought a Samsung “smart” TV (model

UNxxF7100zzzzz, xx is the size in inches, the zzzzzz part is not relevant). The key part of the model is the 7100 which defines it as an upper/mid-level LED smart TV. I believe it runs Linux.

A – Discussion at the meeting centered on smart TV capabilities. A member asked if the set has an Ethernet jack or Wi-Fi. It has both but the networking implementation has some weird limitations. For instance the field for the WPA2 encryption key (pass-phrase) is limited to about 15 characters (at the meeting I said the SSID by mistake). This drove me nuts trying to enter the key using the remote control by “thumbing” on a virtual keyboard. I’d get part way into the key and the window would close. It seems that Samsung thinks a key of about 15 characters is long enough! When I got the RJ-45 jack installed in the wall wired and working, the key length issue became moot. Another question was what does an Internet connection get you? Smart TV’s can run apps, just like a smartphone or tablet. In this case, the apps come from Samsung instead of the Google Play Store. The apps include such things as Netflix, HBO Direct, Hulu, YouTube, etc. There is also a browser, but not all smart TVs have a browser. As I wrote this, I checked the browser string passed to websites: “Mozilla/5.0(Smart-TV;X11;Linux i686) Apple webkit/535.20+ (KHTML, likeGecko) Version/5.0 Safari/535.20+”. For comparison, the string on my main computer running Win7 and Firefox is “Mozilla/5.0 (Windows NT 6.1; WOW64; rv:23.0) Gecko/20100101 Firefox/23.0” Compare these and you can start to guess what the string means. To eliminate the need to thumb around a virtual keyboard, I bought a Samsung Bluetooth keyboard made for their televisions. It works, but there are

many issues which make it difficult that are beyond this discussion. The TV is also able to play video content shared on a computer using DLNA (Digital Living Network Alliance) which can be enabled in Windows Media Player. My interest was spurred by recent news articles about how newer TVs are hackable and those that include a built-in camera can be used to spy on owners. Samsung makes an accessory camera ostensibly to make “video calls” using Skype.

Q – Has anyone tried a ChromeCast? A –

one at the meeting had tried using the ChromeCast device. Chromecast is a digital media streaming adapter developed by Google (en.wikipedia.org/wiki/Chromecast and google.com/intl/en/chrome/devices/chromecast). The device looks like a USB thumbdrive but plugs into an HDMI port on an HDTV. It connects to the Internet using Wi-Fi, costs \$35, and enables you to use various devices to find content which is then displayed on your television. Read the descriptions on Google and Wikipedia for more information.

As I investigated my television, I found that Samsung has similar technology where I can use a Samsung app on my Asus tablet to find content on the Internet and then transfer this content to the television. Samsung calls this “Screen Sharing” – but it works very much like Chromecast in that the tablet is not actually sharing its screen in the literal sense. So far I have not used this feature much as it is so much easier to just use the Charter Cable to find something to watch.

Q – Are Blu-ray burners available?

A – Members in the audience said that Blu-ray media and drives are available. From Wikipedia (en.wikipedia.org/wiki/Blu-ray): “Blu-ray Disc recordable” refers to two optical disc formats that can be recorded with an optical disc recorder. BD-Rs can be written to once, whereas BD-REs can be erased and re-recorded multiple times.’

Q – Does anyone have experience with M-disks that are supposed to last for 1000 years?

A – This appears to be a brand name for special write-once DVD+R recordable

media (www.mdisc.com). Special "M-DISC™ Ready Drives" from LG are required to record (they call it "engraving"), the disks can then be read in any DVD drive. Media cost is roughly \$3/disk. Capacity is the same as a regular DVD or 4.7GB. Amazingly, there is no reference on Wikipedia.

Q – How Many times can a CD-RW be rewritten? I have a multi-CD player in my car and I'd like to make new CD from time to time.

A – In my personal experience, I've reused a single CD-RW or a DVD-RW at least five times and many more. The media are so inexpensive, reuse should not be a big worry. I agree that changing tracks using a CD player built into the car is much easier (and safer) than changing tracks on an iPod. Some modern cars can control an iPod using buttons built into the steering wheel, but we will assume that is not the case here. As to recording CDs to play in the car, iTunes makes this trivially easy. Just install iTunes and feed it all of your existing music CDs. iTunes will RIP the songs to MP3. Then select a few songs and follow the directions to burn a set of tunes to a CD. Your car CD player may not understand MP3 format, but there is no way to find out other than to try. If your player refuses to play MP3s, burn the CDs using WAV format. MP3 is a lossy compression format, the files are thus smaller so more will fit on a disk. The process of RIPing to MP3 and then reconversion to WAV will result in some (small) loss of fidelity. To avoid this, you can use Windows Media Player to RIP to WAV files, but you lose iTunes ease of selecting the songs and burning the set to a CD. Certainly there are hundreds of other programs available to do all this that offer different features. A more thorough reading of iTunes documentation may find more up to date information.

[Disclaimer: Ask DACS questions come from members by email or from the audience attending the general meeting. Answers are suggestions offered by meeting attendees and represent a consensus of those responding. DACS offers no warranty as to the correctness of the answers and anyone following these suggestions or answers does so at their own risk. In other words, we could be totally wrong!]

Web Tools

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 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 (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 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 email.

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 to just want 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.

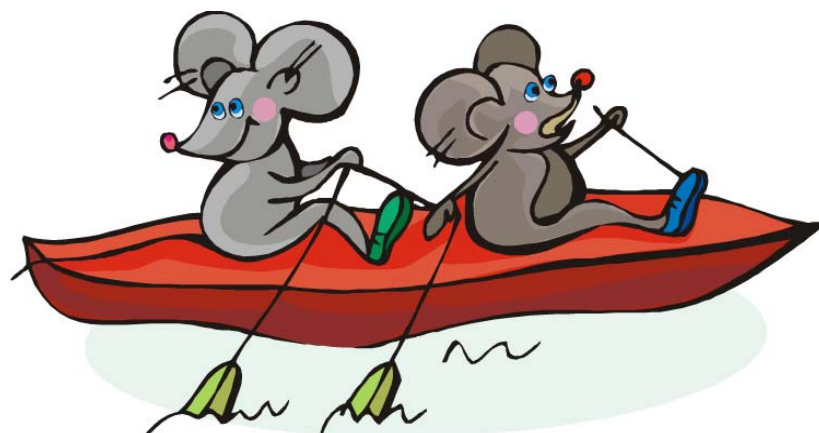
Be creative with your alerts. You can have Google search for coupons for your favorite restaurant. You can use it to follow a company whose stock you may be interested in purchasing. You can use it to follow an item that you want to purchase

SANDY BERGER is a nationally respected computer authority, and founder of *CompukISS*, a technology information Website (www.compukiss.com); *Sandy(at)compukiss.com*.

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