

RANDOM BITS

Licking County Computer Society

"serving technology users of East Central Ohio"

Licking County Computer Society

123 South 3rd Street Newark, Ohio 43055

Meeting on 3rd Sunday 2:00 p.m. to 4:30 p.m.

Website

www.lccsohio.org

Rich Allen: Editor

Volume 27 Issue 11

November, 2014

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November Meeting

With the approaching holiday season nearly upon us, the November Presentation and General Meeting has been combined with the December General Meeting. The December meeting will also have a special meeting date. The date of the December meeting will be December 7th at the normal meeting time. More details will follow in the December Newsletter.

Member of



An International
Association of Technology
& Computer User Groups





Previous Program Points

We are looking for someone, or several people, to step up and volunteer to write a couple of paragraphs to give us the high points of the meeting/presentation.

The October general meeting was a relatively short meeting..

October Presentation.

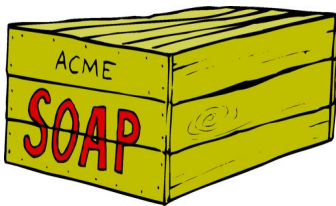
Mr. Bob Vance, our APCUG representative, gave a presentations on the APCUG website and the benefits of being a member of APCUG.

1. Bob covered how to log on to the APCUG website
2. Speaker bureau
3. Quarterly newsletter
4. Different contest that clubs can enter
5. Discounts
6. Push Articles

To view the complete videos of the the general meeting and the presentation go to the LCCS Media link below

* Clcik on the link to the right to see a video of Past Programs and Meetings [LCCS Media](#)

The Soapbox



Letter from the Editor

As the editor of Random Bits I would like to introduce you to the new Random Bits. The newsletter staff has totally revamped the layout and format of the newsletter. We have added more graphics and new sections to the newsletter.

We have gotten off to a great start on breathing new life into the newsletter. A number of the members, who have responsibilities, have stepped up and have provided the staff with news to report to the membership. There are still areas that we need some volunteers to step up and report.

If you have any comments feel free to send them by email to Newsletter@lccsohio.org. Please place "To The Editor" in the subject line of the email.



The SoapboxCon't

Most of you seem to enjoy our "Fellowship Table Refreshments". We appreciate your donations that keep it going. Many of you know that I've had to "cool my jets" for a few months. At our July picnic/General Meeting, I asked if someone else would step up and provide monthly refreshments.

Tami and Wayne Snyder offered to cover August, 2014 meeting. We set up a luau/pineapple theme for decorations and food. Yum!

Pat and Bob Woods said they would provide food for September, 2014 meeting. We took that opportunity to celebrate the opening of football season and decorated with OSU colors and trinkets and football-related items. Pat's treats were awesome!

Jaki and Jim Amore said they could bring Jaki's famous Chili and fixins' for the October, 2014 meeting. Grower's brought specialty bread; Snyder's brought corn, and Rauch's brought cornbread. Jaki used a Halloween theme and fall colors! Looked nice!

We are offering a big "Thank You" to these LCCS members for their generosity!

Submitted by: Mary Frances Rauch

Remembering Phyllis

Below are some of the memories of our members:

"My experience with her goes back to the days of "The Club." I dropped out for a couple of years or so and then we met up at what is now CTEC I rejoined after that. The Club had just been changed to a Society. I never did understand that. She always wanted thing to go her way some of which I would disagree with. We could always come to an understanding."

Bob Porter

"Phyllis always gave her best. By this example, she expected the same from all of us. I could tell you so many stories, but one that comes to mind as an example of this trait would be a LCCS General Membership Meeting long ago. She was our Program presenter that evening and planned to demonstrate how to save pictures from our camera's digital image card directly into a Folder on our computer, and then how to do batch processing. After she started her demonstration, it seemed unhandy for her to use the laser pointer, verbally tell us each step of the process, and do all the typing by herself. She said, "Mary Frances, you operate the computer and I will point and explain the process." I was new to computers and digital cameras, and said something like, "I don't think I know how to do that." She gave me one of those "Phyllis looks" and said, "Mary Frances, how many times have I shown you how to do this?" I told her, "Three times." She stared me down, and I got up out of that chair and went to the computer. She said, "I'll tell you AGAIN." So right in front of everybody I learned a lesson that I never forgot again."

Mary Frances Rauch



The SoapboxCon't

Remembering Phyllis

Below are some of the memories of our members:

"It was clear that Phyllis was the heart and soul of the Computer Society. She was instrumental in working and giving so we could have a classroom to teach senior citizens. She set up the teacher's manual, which is still online but outdated, and she was one of the main teachers.

Other things I remember, her being the newsletter editor. She would get our articles and almost re-wrote them...she was a perfectionist. She would also host SIGS in her basement south of Granville. She once told me that this club was not a "social club" and I always fought her on that. I will continue her dreams with the Licking County Computer Society in her honor."

Jim Amore , President LCCS

Letter From a Member

"I am auditing/helping in the class "Beyond The Basics", taught by John Kennedy.

What fun! There is ALWAYS something to be learned. Although I know some tips/things, it was good to be reminded of those "hidden" learned items. No matter what one thinks they know about the computer, there is always room to learn more.

I encourage those, who don't think they can handle any class, to be brave and try.

No matter what class one decides to take, there is always something to be learned."

Nancy Grower

News and Events

In Memoriam

With deep regret we announce the passing of one of LCCS's lifetime, and founding, members. She will be greatly missed.



Dr. Phyllis Merritt Hartroft



Dr. Phyllis Merritt Hartroft, 86, died September 22 at the Selma Markowitz Center at Licking Memorial Hospital in Newark, Ohio.

She was a research professor of pathology and physiology at the University of Toronto, where she earned her PhD in Physiology; then Indiana University in Bloomington, Ind.; and finally Washington University in St. Louis for about 20 years.

Hartroft was born February 1, 1928 in Detroit, Mich., the daughter of Dr. Earl Merritt and Jacqueline Merritt. She received her undergraduate degree from the University of Michigan.

Throughout her professional career, she taught and conducted research on the endocrine system, kidney function and hypertension. She was active in a number of professional organizations, including the International Academy of Pathology, American Society of Pathology, American Institute of Nutrition and American Society of Anatomy.

Upon retirement in 1985, she moved to Licking County, where she resided until her death. Sharing a home with her good friend Marie H. Greider, Hartroft was active in the Licking County Historical Society, the Licking County Animal Shelter and the Licking County Computer Society.

Hartroft was a life member and past president of the Humane Society, and was an active volunteer at the Licking County Animal Shelter. She was a member and former trustee of the Licking County Historical Society, where she edited the newsletter for more than ten years. And Hartroft was a founding life member, editor and volunteer computer trainer with the Licking County Computer Society.

For much of the little spare time she had, Hartroft enjoyed tennis, tending her country home, visiting with family and friends, and caring for her horses and other animals.

Surviving Hartroft are Marie H. Greider of Newark; her older sister, Jacqueline Merritt Matthews of Mt. Clemens, MI; seven nephews and nieces, including Tom and Doug Kinzer of Bloomington, IN, John Kinzer of San Antonio, TX., Richard Matthews of Maui, Hawaii, Chris Matthews of Grosse Pointe Park, MI, Anne Brewer of Lawrenceville, GA, and Sue Pinkowski of Westland, MI; and several great nephews and nieces.

Preceding her in death were her parents and two sisters, her twin Patricia Kinzer and Peg Sontag.

Arrangements are being handled by Brucker Kishler Funeral Home, 985 N. 21st St., Newark. A service celebrating her life will take place at the funeral home Thursday, September 25, beginning at 11:30 a.m. with visitation one hour prior to the service. Donations, in lieu of flowers, may be made to the Licking County Historical Society more at:

Reprinted from Newark Advocate

Obituary located at the link below.

<http://www.legacy.com/obituaries/newarkadvocate/obituary.aspx?n=phyllis-merritt-hartroft&pid=172538658&fhid=8653#sthash.s4Qa99yJ.dpuf>



News and Events

Repair Help Desk

WhenSat, November 1, 1pm – 4pm

Where123 S. 3rd St

Repair Help Desk

WhenTue, November 4, 7pm – 9pm

Where123 S. 2nd St

Digital Imaging Help Desk

WhenTue, November 11, 7pm – 9pm

Where123 S. 3rd St

Windows" Help Me/Show Me

WhenFri, November 14, 9:00am – 11:15am

Where123 S 3rd St

Linux/Ubuntu Help Desk

WhenFri, November 14, 1pm – 3pm

Where123 S. 3rd St

Repair Help Desk

WhenSat, November 15, 1pm – 4pm

Where123 S 3rd St

Executive Meeting

WhenSat, November 15, 3pm – 4pm

Where123 South 3 Street

IPad Help Desk

WhenTue, November 18, 7pm – 8pm

Where123 S 3rd St

Linux/Ubuntu Help Desk

WhenFri, November 28, 1pm – 3pm

Where123 S. 3rd St

Deadline for submission for Random Bits Newsletter

When Fri, Noember 28, 6pm

News and Events Con't

2014

November

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
26	27	28	29	30	31	01 Repair SIG/Help Desk 1 - 4 p.m.
02	03	04 Repair SIG/Help Desk 7:00- 9:00 p.m.	05	06	07	08
09	10	11 Digital Imaging SIG/Help Desk 7:00 - 9:00 p.m.	12	13	14 Windows Help 9:00 - 11:15 a.m. Linux SIG 1:00 - 4:00 p.m.	15 Repair SIG/Help Desk 1 - 4 p.m. Executive Mtg 3 - 4 p.m.
16	17	18 iPad SIG/Help Desk 7:00 - 9:00 p.m.	19	20	21	22
23	24	25	26	27	28 Linux SIG 1:00 - 4:00 p.m. Random Bits Deadline 6:00 p.m.	29 -
30	01	NOTES				

For the latest information on Events "Click" on the link below
[LCCS Google Calendar](#)

The Recycle/ Refurbish Bin

October 2014 Recycling Event



We had another great recycling event with a good turnout of volunteers both days. (16 on Friday and 22 on Saturday) We collected 18 pallets of recyclable items for the recycler and some units that might be refurbished. At this time we don't have the final breakdown until we get paid from the recycler. Thank everyone for all the help....GOOD JOB.

Jim Amore



The Education Corner

School's Out for the Winter



After a slow start back in March (we had to cancel 3 of the 5 classes being offered due to lack of numbers), another “school year” comes to an end for the Senior Computer Classes co-sponsored by the Licking County Aging Program and the Licking County Computer Society. Over the course of our school year, we offered twenty-seven (27) classes and actually held twenty (20) classes. Those twenty classes provided 142 students with around 240 class-hours of enjoyable educational instruction. Many of the students took the opportunity of taking multiple classes starting with the free “Computers for the Total Beginner”, moving on to “Beyond the Basics: What's Next?”, and finishing up with “Communicating with E-mail”. There were also a number of students that became aware of another operating system called Linux and learned about this free and easy to use computer operating system. A “Build Your Own Computer” workshop was held for the second year in a row where seniors went out and bought all the parts necessary to build a computer, and in about four afternoon sessions had a complete WORKING computer built from the bottom up by six (6) students with some assistance by a couple of instructors (Thanks, Ken).

The Teaching Program would like to thank those of you reading this newsletter that took one or more of the computer classes and hope you'll consider taking other classes next Spring and through out 2015. We want to express our gratitude to Janet Hill for all the assistance she gives the program in registering students and collect class fees. Also, thanks go out to Larry Fugate (LCAP) and Jim Amore (LCCS) for posting information on their respective websites. And I want to give a special thanks to the teachers who without their dedication, planning, understanding, and willingness to help out others interested in learning about computers, we couldn't have done it at all. Finally I want to ask that anyone that has taken one of our computer classes help spread the word over the winter months to your family members and friends that you think would benefit from our classes.

We will start up the computer classes again next March after the weather gets better. Registration will begin towards the end of February, so check the March/April issue of the Heritage Times and the February/March issues of the Random Bits

that will be out in late February for class offerings and meeting times. Thank you again for being a part of our successful 2014 school year. If you have any suggestions or comments about the classes or the Teaching Program, please e-mail them to lccs.freejohn@gmail.com.

SIG / Help Desk Reports

Repair SIG / Help Desk



Meeting Times

First Saturday 1:00 - 4:00 p.m.

First Tuesday 7:00 - 9:00 p.m.

Third Saturday 1:00 - 4:00 p.m.

Submitted by: Jim Amore

We've been busy during our repair SIGS but I don't have any real numbers or items that we worked on. In the future I'd like to have some write ups from the people we help. Maybe they will be able to remember and the write up might help others. If you are one of our members that has been help by the volunteers at a repair SIG, and would like to make a statement, please send to the editor of Random Bits at Newsletter@lccsohio.org. Please put Repair SIG in the subject line. If you would please state the nature of your problem and the solution.

Windows Help Me / Show Me



Meeting Times

Second Friday 9:00 - 11:15 a.m.

Submitted by: John Kennedy

Although we had a very small turn-out for this month's "Help Me/Show Me" session, those that came did go away with being "helped" or "showed" a few things. In fact, one member came with a problem with their cell phone. Even though this was supposed to be a "Windows" session and the phone wasn't even a Windows phone, a couple of the helpers (understanding that we're actually a "technology users group") decided to give it a try. After asking some questions and trying this and trying that, the problem the member was having with their phone was resolved and they left being satisfied customers. In fact, another person asked the helpers another question about their phone and was shown something new for them.

But getting back to the specific purpose of the morning session (Windows computers) we did have a few good items brought to us that were addressed. First off we worked on attaching an external hard drive to a members new laptop (previously they had been using an old XP desktop computer) and showed the member how it showed up in "My Computer" (or actually "This PC" since it was a Windows 8 laptop) and could easily be accessed to get or save files. Then we took a look at the backup software that came with the external hard drive that the member wanted to have installed so files would be automatically backed up. We ran the installation program and put the backup program on the laptop. But when we tried to run the program, we were informed that the program does not work with the current operating system. This particular external drive had an older version of the backup software that wasn't designed to work with Windows 8. So to solve that problem we went to the company's website and downloaded the newest version of the software. Once we got that installed we ran that version of the backup program, which we expected



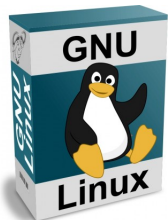
Meeting Times

Second Friday 9:00 - 11:15 a.m.

SIG / Help Desk Reports

to work, to view the settings for the automatic backup process. However, we were met with a different error message that informed us that this newest software does not work with the member's older device. So it was decided that we'd have to see about either running the included Windows 8 backup program (called "History") or go to a third-party backup program. This will be done at a later date.

If you have any kind of question or concern using either Windows 7 or Windows 8, please join us on the 2nd Friday morning between 9:00-11:15. You're welcome if you are the one needed to be "shown" or if you want to help out by being the "show-er". We can always use more people from both sides.



Meeting Times

Second Friday 1:00 - 4:00 p.m.

Fourth Friday 1:00 - 4:00 p.m.

Linux SIG / Help Desk

Linux SIG 2014-10-10

Submitted by: Ken Bixler

We introduced a youtube channel for entertainment and beginners Linux learning. Two guys and puppets run shows of about 4 minutes to introduce Linux concepts. Grade schools are using the show but if you like comics and puppets you can learn some Linux here.

<https://www.youtube.com/user/helloworldprogram>

Here is an example of one of the videos from the channel. Click the link below:

http://youtu.be/12jiiPFOWCE?list=PL5BlhFw3OgbpUYL4zP4zM8Na5Q2TwQA_X

There was a question about partitioning disks for Linux. Ubuntu uses two partitions by default but some people use 3 or more...Why? Larger numbers of partitions are used by hackers to isolate parts of the system. During their tinkering they may crash things and rebuilding one partition is easier than reinstalling the entire system.

Hackers, virus and malware threats were discussed.

There was a HowTo demonstrating conversion of a single music file from .wma to .mp3. VLC, which is available in Linux and Microsoft, completes the task for one song. Ken will find a script for conversion of an album. A

SIG / Help Desk Reports



slide show for VLC can be seen at:

https://www.dropbox.com/s/4g4ljhkjgf21t1l/wma_to_mp3.odp?dl=0

A member brought their laptop and printer so we could demonstrate how Ubuntu installs printers. Hint: Throw the CD/DVD as far as you can then leave it there.

Another member needed assistance with connecting to a network. Probably solved. Waiting for a report back from their home network.

The question of why Ubuntu boots first rather than Microsoft on dual boot machines. Linux assumes you want to use Linux. Otherwise, why would you have both installed? So, Linux boots first. We can adjust the boot sequence but kernel updates will cause a reversion. An offer was made to teach the owner how to make the change in boot order.

2014-10-23

We analyzed and ran a script to reduce image files sizes in a batch. The images were all 10 gigabytes or larger. The problem was defined as emailing a group of the images without exceeding email size limits.

Rather than having to open each image in a editing program we worked only on the command line in a terminal.

Copy images to a folder with the following command to avoid risking the originals:

```
cp Downloads/*.JPG Pictures ENTER
```

Run the script (provided by Ken Bixler) by typing the following:

```
sh ../scripts/finda_resize ENTER
```

This program is run once. All .JPG files in the folder were reduced to 450 kilobytes or less and renamed to their original name appended with _sm for small. IMG_4509.JPG became IMG_4509_sm.jpg

Contact Ken if you need a copy of the script.

We also ripped music from a CD, changed it to MP3 format and put it on our thumb drives. A simple Rhythmbox preference change was our main adjustment.

SIG / Help Desk Reports

Digital Imaging SIG / Help Desk



Meeting Times

Second Tuesday 7:00 - 9:00
p.m

Submitted on behalf of Dave Clement

At the October meeting of the Digital Imaging SIG one of our members, Rich Allen, developed and lead the members in a “hands on” learning opportunity using PaintShop Photo Pro software. The exercise was to make a portrait style photo using a color layer overlay, through which the portrait would show through. Each member was asked to bring in a chest up head shot of a subject to use for the portrait. Detailed step-by-step instructions, with screenshots, were provided ahead of time for the members to become familiar with the exercise. Members were encouraged to print out the instructions to aid them in completing the steps of the exercise.

After a brief introduction the members were asked to work on their own, or in pairs, to complete the exercise. The members become immersed in the exercise and Rich was able to circulate around the computer lab to help those who were having difficulties. After about an hour to hour and a half the members were finishing up on their works of art, many of the members commented on how well the exercise progressed during the night.

Several of the members were willing to share their works with you in the newsletter, see the inserts below this report.

For the November meeting the members were asked to become familiar with the Macro setting on their cameras and bring their cameras and tripods to the November meeting. We are planning to have several stations set up so that the members may practice their close up photography skills.

SIG / Help Desk Reports

Digital Imaging SIG / Help Desk
Examples of Member's work.



Meeting Times

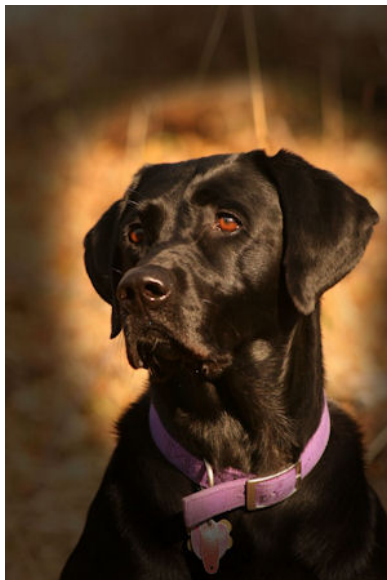
Second Tuesday 7:00 - 9:00
p.m



Mary Frances Rauch



Mary Frances Rauch



Bobbi Meldalh



John Kennedy



Rich Allen

SIG / Help Desk Reports

iPad / iDevice SIG / Help Desk

Submitted by Chuck Tyndall



Meeting Times

Third Tuesday 7:00 - 9:00 p.m

We had a great time again at the October iPad session. Everyone had something to contribute and we all learned something new. We had several people that were asking questions on general setting and how to make those setting. We also had a brief discussion about the wireless flash drive that Dave Rienhart had shared with us last month. Chuck shared with the group how to find resources about the iPad and setting it up on YouTube. Many of those who attended had questions and received help.

Featured Articles



Linux Is like Cars

Author John Kennedy

Member and Co-host, Linux Help Desk/SIG, Licking County Computer Society

Presentation from APCUG Virtual Technology Conference 12

Saturday, 2014, August 16

One of the many “concerns” about Linux is that there are so many different versions/distributions (or distros as Linux users call them) that a new user doesn't know which one to use. And they wonder why there are so many, since they are used to only having one version with Windows and Macs. I reply, “Why are there so many different makes/models of cars?” The answer is that everybody doesn't like the same thing in a car, and that's the answer in Linux as well. In this basic presentation, I will show/explain what the main differences are in the many Linux distros, and (just like in cars) how you might decide which version is the one you might want. With Linux being a free operating system, you can try out as many versions as you want until you find the one that just fits you. Join me for an enjoyable trip around the “Linux showroom” and see for yourself what it's all about.

Presentation provided by APCUG Link: <http://apcug2.org/>

Presentation Description link: <http://apcug2.org/content/linux-cars>

Presentation handout link: "[Click Here](#)"



Editing Photos With Your iPad

Author Sheila Bigel

Chair, eBlast Committee, Central Florida Computer Society

Presentation from APCUG Virtual Technology Conference 12

Saturday, 2014, August 16

The iPad has a large number of apps that will allow you to improve your photos. There are apps that provide basic photo editing features such as adjusting brightness, contrast, etc. Many apps provide a multitude of filters for special effects. Other apps allow you to add borders, text, clipart and create collages. This presentation will show a few apps that are fun, easy to use, and are free or nominally priced and will allow you to enhance the photos on your iPad.

Presentation provided by APCUG Link: <http://apcug2.org/>

Presentation Description link: <http://apcug2.org/content/editing-photos-your-ipad>

YouTube presentation video link "[Click Here](#)"

Presentation handout link: "[Click Here](#)"

Featured Articles



How to Succeed at Close-up Photography

**Author Gene Barlow
User Group Relations**

Presentation from APCUG 2012 Summer Virtual Technology Conference (VTC4) -
August 4, 2012

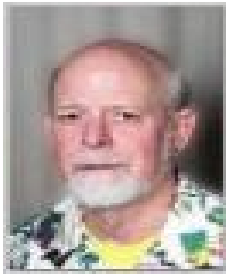
Close-up or macro photography is an exciting area of digital photography. Since the pictures you get are usually ones you would not see in normal life, they are very interesting to the viewer. Seeing things close-up is something you don't always enjoy seeing. There are many ways you can do close-up photography and we will explore the most popular ways that are used and give information about why one approach works better than others. My personal favorite close-up photography is wild flowers. I will try to cover some of the challenges of shooting excellent close-up photos of wild flowers so that you can control the shot to get the very best possible pictures. Throughout the presentation, I will use my wife and my wild flower photos to demonstrate the do's and the don'ts of close-up photography. Hopefully, you will learn some techniques by attending this session that will improve your own close-up photography. Gene will also talk about the importance of backing up so you don't lose your beautiful photos

Presentation provided by APCUG Link: <http://apcug2.org>

/Presentation Description link: <http://www.apcug2.org/content/how-succeed-close-photography>

YouTube presentation video link "[Click Here](#)"

Presentation handout link: "[Click Here](#)"



Basic Troubleshooting of Your Computer

**Author Jere Minich
Program Chair, Lake-Sumter Computer Society, Florida**

Presentation from APCUG 2013 Summer Virtual Technology Conference (VTC8) -
August 3, 2013

Things you can do, and help you can get for free.

Presentation provided by APCUG Link: <http://apcug2.org/>

Presentation Description link: <http://apcug2.org/content/basic-troubleshooting-your-computer>

YouTube presentation video link "[Click Here](#)"

Presentation handout link: "[Click Here](#)"

Featured Articles

External Storage

Author Dick Maybach

Member, Brookdale Computer Users' Group, NJ

2013, March

External Storage

By Dick Maybach, member, Brookdale Computer Users' Group, NJ

March 2013 issue, BUG Bytes

www.bcug.com

n2nd (at) charter.net

Although we use external storage much less than in the early days of home computing, it is still an essential technology for backing up internal hard disks, exchanging files among different computers, and expanding storage capacity. The increasing size of files had made obsolete many older technologies, and those that are still attractive fall into four types: electronic, optical, magnetic, and Internet.

There are many variations of electronic storage, but two are now dominant, USB memory sticks and SD cards. They have similar capacities with current "sweet spots" (capacities where the cost per byte is lowest) of around 16 Gbytes, although this is continually moving up. SD cards are typically faster, but appear to be less rugged with exposed connections and thinner packages. I have carried a naked USB memory stick in my key case for many years, and it has never failed, but I always keep my SD cards in their plastic cases. USB sticks have the further advantage that every computer has USB connectors, while SD access is less common, and although memory card readers available are very cheap, they also have low quality and often are unreliable. The circuits used for electronic storage do have finite lifetimes, in that they wear out after a (very large) number of writes; however, the risk is negligible for external storage devices.

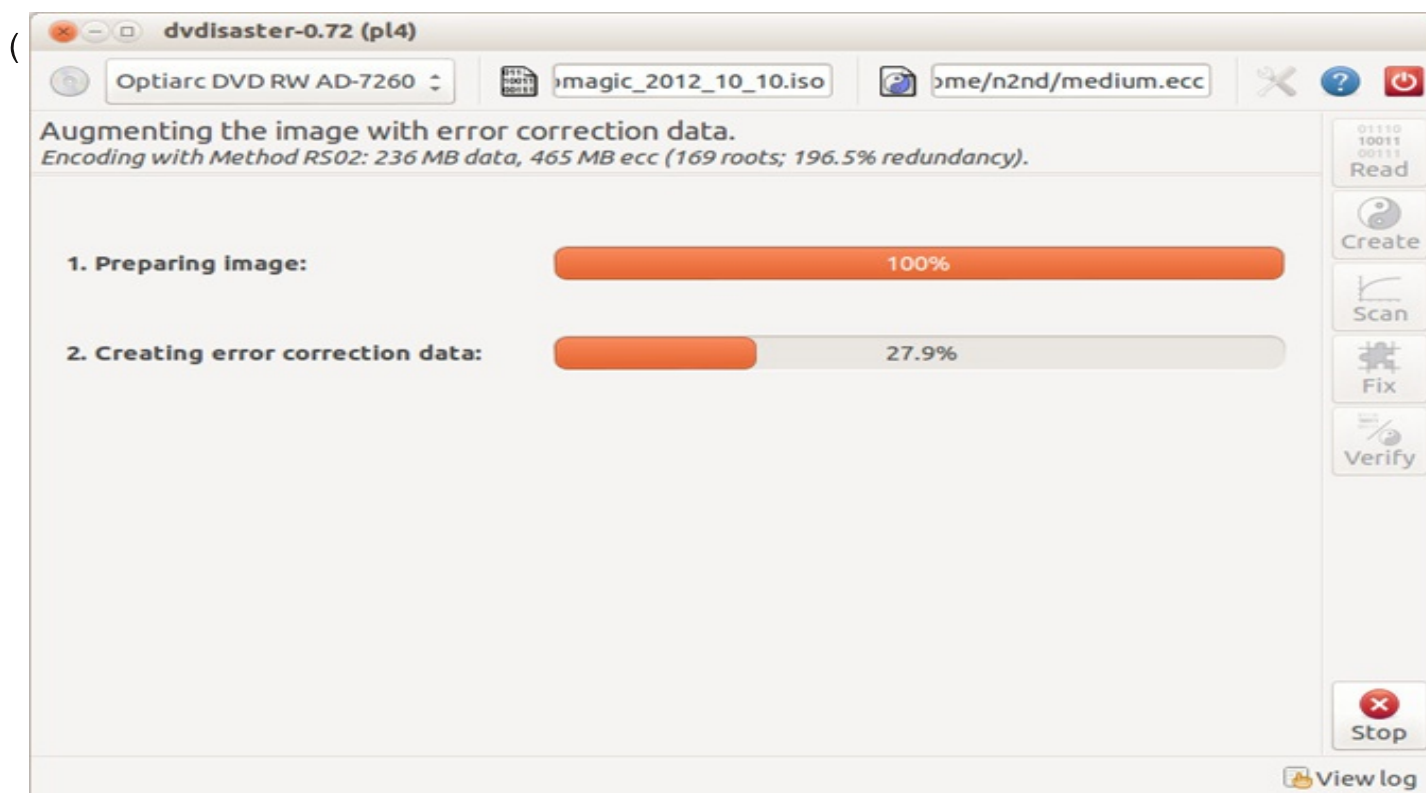
Optical storage is problematic, because much the available media is of poor quality and may begin to develop errors in just a few months. Even high-quality media rapidly deteriorate if exposed to high heat or humidity. For more on this, see my article, Using DVDs for Long Term Storage, BCUG Bytes, June 2008, available at <http://www.bcug.com>. Actually, my own experience with CD-ROMs and DVDs has been good, although I'm careful to use only quality media. Of the dozens stored at home, some for several years, I've had problems with only one, which can be read only on the drive that created it. On the other hand, the outer tracks of several music CDs stored in my car are no longer playable. Another problem is the low quality of CD-ROM and DVD drives, with Blu-Ray being especially bad. Blu-Ray drives are acceptable for play-back, but their lasers frequently burn out after writing just a few discs. This is unfortunate, as the capacities of CD-Roms and DVDs are rapidly becoming too low to be really useful.

If you use optical storage for archiving, consider using the free program [dvdaster](http://dvdaster.net/en/) (<http://dvdaster.net/en/>) for Linux, OS-X, and Windows, which adds error-correction and thus allows you to recover your stored files, even though up to 20 percent of the bits on the medium are corrupted. You need a disk-burning program that can create a file (called an iso-image) that is a bit-

Featured Articles

for-bit image of a CD-ROM or DVD and also has the ability to copy an iso-image to an optical medium. The procedure for creating an error-resistant disk is the follows.

- Use your disk burner to create an iso-image, which must be at least 20 per cent smaller than the capacity of the medium.
- Use dvdaster to add error-correcting data to the iso-image. The screen-shot below shows this in progress. After creating this image, click on the Verify button to check that it's good.
- Finally, use your disk burner to write the iso-image to the optical medium.



Note the small blue circle containing a question mark at the upper left of the screen-shot. Clicking on it brings up an extensive manual in your Web browser, which you should read carefully.) Periodically scan your optical media (using dvdaster's Scan button) for errors. If they begin to appear, recover the data using dvdaster (which will produce an iso-image), create a new disk, and discard the one with the error. Until the medium begins to develop errors, you can read it like any other disk using your usual software.

Magnetic storage, in the form of external hard disks, offers high transfer speed and high capacity, making it attractive for many applications. It is also has the lowest cost per byte. To achieve this performance, these devices are assembled with very tight clearances, which means they must be sealed against air-borne contamination. The magnetic disks cannot be separate from the motor and head assemblies, making these devices much larger and less rugged than electronic storage devices. Here, you have a choice of interfaces with USB being the most common, followed by E-SATA. USB-3 drives are beginning to appear, but are considerably more expensive than USB-2, although this will surely change, probably soon. Diskettes are now obsolete, for good reasons. Their

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capacities are tiny, and their reliability is low. You can still buy drives, but their quality is very poor, with many delivered dead-on-arrival or failing very quickly. If you still have valuable data on diskettes, you should transfer it to a better medium soon.

Internet storage, commonly called “the cloud” is expanding rapidly. Modest capacities, up to around five Gigabytes, are widely available without charge. Transfer rates can be low, often just a few tens of kilobytes per second, and of course, the storage is available only if you have an Internet connection. There are also concerns about how secure the data is and whether it will continue to be available if the vendor goes out of business.

Which of these approaches you use depends on your application. For synchronizing the data among your own computers, Internet storage is the most convenient. Once you have set it up, the contents of the synchronized directories are always identical, no matter which computer you use to make changes. Since the information resides on every PC, you lose nothing if the cloud vendor discontinues the service.

For transferring files between your PC and a friend's, a USB memory stick (up to a few Gbytes) or a USB hard disk (for larger transfers) is the best choice. Almost every computer has a USB port, so your friend doesn't need to install any special software or hardware to affect the transfer. I always carry an eight-Gbyte USB memory stick, formatted as FAT-32, in my key-case, and I've never found a computer that couldn't read from and write to it. (Actually, my stick has two partitions, a seven-Gbyte FAT-32 one for transferring files, and a one-Gbyte Linux one containing Parted Magic. See my article *Parted Magic: Lots of Disaster-coping Tools, BCUG Bytes, April 2012*, available at <http://www.bcug.com>. This means I always have the ability to transfer files and a tool kit to solve computer problems.)

For backing up your PC, and external hard disk is the only reasonable solution. These feature high capacities, fast transfer rates (especially if equipped with a USB-3 interface), and high reliability. Their bulk and relative high fragility are not serious problems in this application.

External hard disks are also good for archiving things like photos and financial data, but you could use DVDs, provided you add error-correction using and store them in a benign environment. For added security, consider making more than one copy, and either transfer the information to new media every few years or periodically scan it for errors using dvdaster. Archival storage is an especially difficult problem. Computer technology is changing fast, and you must stay alert lest you lose the ability to access your archives (as happened to me when 5 ¼ inch diskette drives disappeared from PCs). For example, if you used dvdaster to safeguard your archived DVD, you must be sure not only that the program runs on your new PC, but also that it uses the same methods as those used to record the data, and of course the new PC must be able to read DVDs.

For sharing photos or files with friends, Internet storage is hard to beat, although mailing them a DVD or CD-ROM also works well, especially if they want to show the pictures to their friends.

To expand internal disk storage capacity, the preferred solution is an external hard disk with an E-

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SATA interface, although USB-3 is not a bad solution. Most likely, you would use E-SATA for a desktop, since it requires an expansion card, and USB-3 on a laptop (USB-2 if your laptop is older or not top-of-the-line). Mac owners could consider Firewire or Thunderbolt.

As you can see, there is no single solution, unlike in ancient times when diskettes were universal (or if we go back to near pre-history, cassette tapes, audio tapes, punched paper tape, or even punched cards). However, there is a good and inexpensive solution for every application.

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This is brand new from Avast:

Avast 2015 - Video and help available at:

<http://bob3160.blogspot.com/2014/10/avast-2015.html>

Have a great Thanksgiving.

Bob

Norbert (Bob) Gostischa

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