Your Computer's Health, Comprehensive Computer Maintenance

By Greg Skalka, President, UCHUG (Under the Computer Hood User Group), CA March 2011 issue, Drive Light

www.uchug.org

president (at) uchug.org

People need computers. Computers need maintenance. Unless you want to gamble with your email, continued access to the Internet, your finances and the other things we have come to depend on from our personal computers, you should consider some preventative maintenance. Even if you are unconcerned about a temporary loss of computer use, if you use it to access your financial accounts, you could be risking those assets and your financial reputation by failing to maintain your computer's resistance to viruses and malware.

Just as a car requires maintenance to provide reliable transportation, a computer needs regular care to insure it can safely and reliably negotiate the Information Superhighway. The concern is not only for making sure the computer works when you need it to and does not lose valuable information, but it also must protect you from attacks by information thieves. Neglecting basic computer maintenance can increase the risk of problems resulting from hardware and software failures, and can leave you open to theft of your identity and finances.

Since I must provide the maintenance and IT support for all the computers and users in my household, I've developed a basic process for computer care that provides a lot of protection for minimal cost and effort. It has evolved over the years, as computers and the threats to their well-being have changed, and has allowed me to prevent any serious computer problems from occurring. There is nothing you can do to completely prevent

problems like hard drive failures, but you can take steps that will insure against the loss of data and allow you to be computing again soon.

My computer maintenance philosophy involves three basic computer maintenance principles I call the three up's: setup, backup and cleanup. Setup requires that each computer be configured as much as possible to make maintenance easier and operations safer. This can involve not only your computer's hardware and software, but your home network's hardware and configuration as well. Backup provides a reliable way to safeguard your computer's data and configuration, allowing you to recover easily from most any problem with minimal data loss. It can not only prevent information loss resulting from hardware failures, but can also protect your computer's configuration from alteration during the installation of questionable software. Cleanup involves regular maintenance activities performed to prevent hardware problems, keep your software running smoothly and repel cyber attacks. Implemented appropriately, these three aspects of computer maintenance can keep bad things from happening to your computers and the information they contain.

Setup

A thoughtfully conceived computer setup is the foundation on which the other two maintenance activities are based. For best effect, it should be implemented on your computers when they are first put into service. To make the backup and cleanup operations easier, I always - Partition the main physical hard drive into separate partitions for each "Function" - Provide a second physical hard drive for each computer for backup storage I typically create 7 to 8 partitions on the primary hard drive, each allocated to a particular function. One will contain only the operating system, another only data and others programs of different types. For best results, this must be done before



"Members Helping Members" (since 1983)

Board of Directors 2010-2011

Robin B. Seidenberg President president@lcace.org
Linda Busch Vice President vicepresident@lcace.org
Bobby Jacobs
Winnie Frost Treasurer treasurer@lcace.org
John Colosimo Programs programs@lcace.org
Liz BarnettMembership membership@lcace.org
Linda Koudelka Public Relations pr@lcace.org
Volunteers
Webmaster
Newsletter EditorMichael J. Mc Enery editor@lcace.org

News Journal

Historian Kenneth Savage

kennethisavage@hotmail.com

The LCACE News Journal is published eleven times annually. Members are encouraged to submit contributions which will be acknowledged in this newsletter.

Send articles to editor@lcace.org

Permission is granted to reproduce any or all parts of this newsletter in other User Group publications, provided that credit is given to LCACE and the individual author(s).

Logo designed on an Atari Stacy Laptop in 1989 by Dwight Johnson Jr.

Lake County Area Computer Enthusiasts

LCACE c/o Group Ambassador

"J.J." Johnson

Membership

LCACE membership is open to all individuals and families interested in personal computing. Annual dues are \$20.00 per individual/family. Applications for membership may be obtained at the monthly meeting, by request on the club hotline, and are now available on our web site at http://www.lcace.org.

Meetings

LCACE meetings are usually held on Saturdays at the Grayslake Area Public Library, 100 Library Lane, Grayslake, Illinois. The meeting room opens at noon and the formal meeting begins at 12:30 p.m. All meetings are open to the public. Bring a friend!

Newsletter Submissions

Club members are welcome to submit classified ads, reviews, tips and other articles for publication, to our newsletter editor in Microsoft Word format (.doc). Publication deadline is the 20th of the month for all ads and articles. Please do not use tabs or special formatting.

Newsletter Advertising

Ad rates per issue: Full page - \$25, Half page - \$15, Quarter page - \$10, Business Card - \$5. Discounts are available on advance purchase of multiple issues. Please send camera-ready copy and payment to the club address by the 15th of the month preceding publication. For more information on ad pricing, please call our Hotline. Ads are **FREE** to all paid members.

Notice

LCACE WILL NOT CONDONE or knowingly participate in copyright infringement of any kind. The LCACE News Journal is published by and for LCACE members. Opinions expressed herein are those of the individual authors and do not necessarily reflect the opinion of LCACE, the membership, the board of directors, and/or our advertisers.

Robin's



RAMblings

Does it seem you are using your computer less and using smaller mobile devices instead? Tablets have really cut into the computer market. LCACE now has an iPad/tablet SIG (special interest group) led by J.J. Johnson, Mike McEnery, and John Colosimo.

Many people are using smartphones today. In fact these phones are faster, more powerful, and do more than computers did just a few years ago. Mobile broadband is the wave of the future. A 2011 survey showed that 40 percent of adults in Chicago used cell phones to connect to the internet.

If you have a smartphone, what antivirus/ antispyware program(s) are you using to protect it? Up until recently iPhone users said they were safe from viruses. In the past few months that has changed. There are free and paid antivirus and antispyware programs available for Android, Windows, and iPhones. It takes a very short time to go to your app store and download protection.

Charles Mages did an excellent presentation about Skype last fall. Skype continues to evolve. If you make calls outside of the United States, think about purchasing Skype To Go minutes. Calls to landlines in Canada and Western Europe start at 2.3¢ per minute. You can use a landline or a cellphone to make calls. No computer is needed.

We have exciting programs scheduled for 2012: June 2, 2012-Terri Hanlon will present "Genealogy". The Grayslake Area Public Library will co-sponsor this program.

July 14, 2012-Picnic at Liz and Fred Barnett's house
August 4, 2012September 8, 2012October 13, 2012-Windows 8
November 17, 2012-Photoshop Elements by Dwight "J.J." Johnson
December 1, 2012-holiday party at State Bank of the Lakes-Save the date!

Everyone, if you haven't already done so, it's time to pay your LCACE dues.

Happy computing!



Memo To Software Developers: LEAVE ME

By Walt Graham, President, Connecticut PC Users Group February 2012 issue, CPCUG Newsletter www.ctpc.org president (at) ctpc.org

It seems no matter how carefully I configure my computers and other devices to work the way I want, there's always some programmer just one step ahead of me. Just when I think everything is perfect, he or she manages to break it!

Example: after a couple of years of automatic updating, my browser of choice, Google Chrome, became sluggish. A Google search turned up a number of such complaints, but no solutions. Unable to find an answer, I switched to Firefox but noticed that some features I used all the time in Chrome (Duplicate Tab, for example) were missing. So I found and installed an add-on called "Tab Utilities Lite" that brought those features back. Problem solved – until this morning

(Continued on page 9)

Please remember to use the Amazon.com link on our website for your purchases:

Please click here ▶ amazon.com ◄ to help support our club with your on-line purchases



Phil Bock Linda Koudelka Danjean Savage

Bob Berry Mary Rhodes Doreen Lagoni





Doreen Lagoni Honored for Volunteer Efforts

LCACE's very own Doreen Lagoni was the 2012 Illinois winner of the Salute to Seniors Wall of Fame Award. This is a national contest, sponsored by Home Instead, Inc. to recognize seniors for the impact they make in their communities by volunteering their time and talents.

Doreen was nominated for her outstanding work with her organization, Bear Magic in Lake County. Doreen began Bear Magic in 1999 in association with the organization Good Bears of The World . Bear Magic is dedicated to providing love and comfort to traumatized children and the forgotten elderly, through the sharing and gifting of Teddy Bears. She tirelessly collects and organizes the distribution of Teddy Bears (and Beanie Babies to foster children) in Lake County. She has also helped collect and deliver bears all over the world to close to 2000 lucky recipients. Since its inception, Doreen has orchestrated the delivery of more than 69,000 bears and toys to the needy.

Kudos to Doreen!

Historian Kenneth Savage Commentary

Robin Seidenberg set up today's program.



President presents certificates of appreciation to leaders from the past year.



Proud Happy prize winner

Our President is thanking COSTCO for treating us to the delicious cookies.



A representative from COSTCO explains the various benefits of joining their wholesale program.



(Continued from page 1)

any applications are installed, so that the OS can remain separate in its own partition.

These partitions can be created by Windows in most cases, but I prefer the versatility of a partition management program such as Acronis Disk Director. The OS partition is the only primary partition, with the remaining partitions consisting of logical drives in a secondary partition. A typical partition set for a Windows 7 computer with a 1 TB hard drive might be:

120 GB - OS (operating system and drivers only; no programs installed here if possible)

50 GB - APPS1 (utility and system programs, like firewalls, anti-virus, anti-malware and browsers) 22 GB - GAMES (games)

50 GB - APPS2 (office and productivity applications, including email clients and financial apps)
100 GB - DATA (user data, such as documents, email, photos, source audio / video files and config files)

50 GB - APPS3 (mapping and misc. applications) 50 GB - APPS4 (multimedia applications, like photo / audio / video editors, scanning and VoIP software)

477 GB - LOCAL (scratch or working partition, for work in progress or temporary backup storage)

I never store anything in the My Documents folder created by Windows, as it is on the OS partition. I instead create folders in each partition to help organize files and programs, so I can avoid having to resort to using search to find things. If a desk-top computer can accommodate it, I always install a second physical hard drive in the case for low-cost backup storage. For laptops and small desk-tops, I provide a dedicated external hard drive (eSATA or USB 3.0 preferred) for backup files. To protect my most sensitive personal and financial files, I never store them on a computer, but instead keep them on a hardware-encrypted external USB hard drive.

I also configure my computer and home network for maximum security. All security functions available in your router should be enabled. I configure my network's router for strong wireless security, and prefer to use a wired connection when possible. I don't allow sharing of drives or resources on my computers, but instead use stand-alone network drives to share files and network printers to share printing capabilities. Each computer runs a software firewall (I like ZoneAlarm), an antivirus and several anti-malware programs. I try to keep the cabling between my computer and network devices neat and labeled. It is often good to add an additional fan to some computers for improved cooling. I've found placing a laptop on a laptop cooler allows better airflow to

the bottom and keeps it cooler (even without running the extra fans). I run my primary desktop computer on a low-cost UPS (uninterruptable power supply), so if the power goes out while computing, I have extra time to shut down properly and avoid data loss.

Backup

If you use computers long enough, you will have a hardware failure, the most common and devastating of which is a hard drive failure. To avoid the loss of my data, I make reliable backups of my computers as often as is reasonable.

Only you can decide how often your backups should be made, based on how much data you want to gamble with. Backing up more often puts less of your recent data at risk, but is less conven-

(Continued on page 6)

(Continued from page 5)

ient and takes time. It is easier to strike a reasonable balance between risk and time with your hard drive partitioned and segregated.

You can back up the more critical user data partition more often than the others, and with only user data in it, the backup file is created much faster. All partitions should be backed up periodically, and it often helps to label the backup files you make with source and date in the file name, and to maintain a backup log (text file).

If a computer hard drive fails, I want to be able to put in a new drive and be running again as soon as possible, with minimal data loss. To do that, I make image backups of each hard drive partition, rather than simply copy the files. There are several backup applications that can do this; the one I prefer is Acronis True Image. I make my partition image backups on the second internal hard drive or the external hard drive, so a hard drive failure does not result in the loss of my backups along with the primary data. I only make my backups while running the bootable CD version of True Image, so that I am familiar with the program when tragedy strikes. If a primary hard drive fails, I can replace the drive in my computer, boot from the Acronis True Image CD and restore all primary drive partitions from the backup files on the secondary or external drive to the new drive. I might have lost a few of my most recent files (created since the last backup was made), but I can be running again the same day.

I also like to make backups of the OS and application partitions right before installing new programs. If I don't like a program soon after installing, I'll simply restore the OS and application partition with the last backup files made, sending my computer back in time to a point before the installation. I like this better than using any of the uninstall methods, which often leave behind files and registry entries to clutter my drives and slow performance.

It is a good idea to periodically transfer backup files to external drives or other removable media, in case a computer power supply failure takes out both internal physical drives. Transferring these backups to another physical location (perhaps at least once a year) provides cheap protection for your data should your computer be

stolen or you lose your home from fire or other disaster.

For protection of my most sensitive financial files stored on a small external hard drive, I maintain another two identical drives as backups. I copy the new files to these backup drives weekly, and store them in a fire safe or off site. To insure adequate backups, it is best to develop a schedule for

making each of your backup types and stick with it.

Cleanup

The final piece of the computer maintenance puzzle is cleanup. This involves the periodic maintenance required to insure your computer continues to run safely and efficiently. Just as with backups, you should establish a schedule to follow to insure the proper maintenance is performed. Most of the required maintenance is done to the computer software, but there are also a few hardware maintenance items that should not be neglected.

To protect your computer from the external threats of viruses, spyware and other malware, the installation of good antivirus and anti-malware software is required. Although it seems the risk from viruses has diminished, running antivirus software and keeping its virus signatures updated is still important. Only one antivirus program should be installed on a PC, as conflicts can result from multiple programs. There are many good programs to choose from, some of which are free. I presently use the one that comes with ZoneAlarm Internet Security Suite.

There are also plenty of choices available for anti -malware software, with many excellent ones available for free non-commercial use. More is better with anti-malware software. Since they typically don't run in the background, many different programs can be installed and used separately without conflicts. Since some work better on different threats than others, having a variety of antimalware programs in your arsenal will provide the best detection and elimination of these threats. It is best to update your threat definitions and run your antivirus and anti-malware software at least once a week, preferably on a set schedule. I presently run Webroot Spy Sweeper, Safer Networking Spybot - Search & Destroy, Lavasoft Ad-Aware, Malwarebytes Anti-Malware and Microsoft Windows Defender.

Your computer is like a living organism that starts out quick and vibrant, but becomes slow and develops ailments with age and use. The OS, applications and hard drive storage combine to form something like a nervous system. To detect and

(Continued on page 7)



LAKE COUNTY CAMERA CLUB

www.lakecountycameraclub.org
info@lakecountycameraclub.org
Proud members of the
Photographic Society of America and the
Chicago Area Camera Club Association





(Continued from page 6)

prevent the equivalent of computer headaches, nervous breakdowns and Alzheimer, some basic system maintenance should be performed regularly. Your hard drives should be scanned for bad sectors and other drive errors and defragmented periodically. Operating system updates should be applied as they become available, to improve operation and close security holes. As your computer gets older and slower, running a registry cleaner or PC tune-up suite can clean out your OS and improve performance.

Ultimately, however, your computer may reach the point after a few years where "the body is willing but the mind is weak." If your hardware is too good to replace but performance has been greatly diminished, a computer reincarnation may be appropriate. If you partitioned your hard drive as I described and have kept

your early backup files, you can restore your computer's performance to its early days with no more effort than would be required to set up a new computer.

To give your computer a second life, simply restore your OS and all application (non-data) partitions, using backup files created soon after you got the PC. Having a backup log to refer to will help you pick a point in time that will minimize the reinstallation of applications. Your data should remain on its partition unaltered.

After restoring, you will need to apply all OS updates since that backup time and reinstall applications added since, but you will soon be running again with a computer that feels much younger. You can also use this opportunity to upgrade to a larger hard drive with little extra effort.

The final cleanup item to remember is your computer hardware. All computers should be opened up periodically so that dust can be vacuumed out or blown out with canned air. This also applies to laptops, though you may want to avoid disassembly, and only blow air into ventilation inlets and outlets. This will help your computer keep its cool and last much longer.

By following the three "ups" of computer maintenance, setup, backup and cleanup, you can keep your computer's performance at maximum with a minimum of effort, while protecting your data, finances and identity. By using a regular schedule of maintenance, little bits of time over its useful life spent taking care of your computer can keep it out of intensive care. Better Ups than OOPS.

Tip Corner

How to Send a Text Message from Email

eHow Contributor

This article was created by a professional writer and edited by experienced copy editors, both qualified members of the Demand Media Studios community. All articles go through an editorial process that includes subject matter guidelines, plagiarism review, fact-checking, and other steps in an effort to provide reliable information.

By eHow Contributor| updated April 16, 2012



A text message can originate from another cellphone or from an email.

If your cell phone plan does not include unlimited texting, consider using email to send your text messages. Sending your text messages through email is nearly as easy as sending them from your cellphone, and it can help you save money on texting charges. To send a text message through email, all you need is the phone number of the person you want to text and the recipient's cell service provider.

Read more: How to Send a Text Message from Email | eHow.com http://www.ehow.com/ how 5060074 send-text-message-email.html#ixzz1sbBucvjT

(Continued on page 8)

nstructions

1

Determine the cell phone provider of the person you want to text. Ask the people you text with for their provider names or use an online look-up service such as Primeris Fone Finder, at primeris.com, or Wireless Flat Rate, at freesms.1888usa.com.

2

Find out what domain name the cell phone provider uses for text messaging. You will use the domain name to address your email like this: phonenumber@domainname.com. This information can usually be found in the FAQ section of the cell phone provider's website. Here are the domain names used for some of the more popular phone providers:

US Cellular: email.uscc.net

Verizon: vtext.com Virgin: vmobl.com AT&T: txt.att.net

Nextel: messaging.nextel.com Sprint: messaging.sprintpcs.com

T-Mobile: tmomail.netSponsored Links

Registration Domain Name

 Get Registration Domain Name Info. Access 10 Search Engines At Once.<u>www.Info.com/</u> RegistrationDomainName

3

Open your email client and click "Compose" or "New" to begin a new message. In the To: field, use the phone number of the person you are texting followed by the domain name you found in Step 2. For example, if you are sending a text message to a Nextel subscriber with the

Windys Computer Repairs

Computer Won't boot...Who U Going To Call...

Computer Repairs

Virus Removal

Upgrades

Phil Nocerino

Custom Built Computers

Notebook Repairs

Wireless

PC Tech

I475 Robincrest Lane
Lindenhurst IL 60046

847-356-5527

www.windyssatellite.com

phone number 232-232-2323, you would enter

232232323@messaging.nextel.com.

4

5

Enter your subject in the subject line if you want -- it's optional -- and compose your text message in the body of your email. Keep the message brief; most cell phones accept text messages with a maximum of 160 characters.

Send the message.



(Continued from page 9)

Videographers who rely on Apple's "Final Cut Pro" for their livelihood are up in arms because some months ago Apple made sweeping changes to the program that severely disrupt their workflow. For the first time in over a decade I won't be upgrading to the latest version of Samplitude, the wonderful audio software I use to make a living, because the latest version introduces new annoyances without addressing old ones.

With installable software such as Samplitude and FCP, vs. "the cloud," at least the user can choose to *not* upgrade but, unless you stay current, you lose a level of support and inevitable changes in the OS and hardware environment will eventually render the old version useless.

So, all I ask is to be LEFT ALONE! When it's time to upgrade, bill me if you must, but let me keep working the way I want without spending needless hours trying to outsmart the programmers.

I realize we need to keep moving forward – the Firefox update, for example, may well contain some important improvements in security. But enough is enough! It's not that each individual change is a crisis – although some are – it's that we use so many different pieces of software these days, much of it embedded in various devices, that the totality of change can seem overwhelming.

Software developers might want to take a deep breath and ask themselves, "Is this change really necessary and what possible damage could it do?" – before adding another bell or whistle that might only cause more trouble.

Review

Do Not Track Plus

By Abine.com



A new program offered free from Abine software allows you to block websites you visit from trackwhere ing you browse. Many sites and Face-

book is one of the worst, want to track every site you visit so they can match your preferences to items they want to display to you from advertisers.

One must remember that many sites depend on you clicking on the links placed on their pages in order to get paid for the website. When you run Abine, it puts a small icon in your browser and it displays a number for each site you visit, telling you how many attempts are made to track your visit and what type of tracking company is making this effort. They also keep a running total of how many blocks have been made. After installing in Firefox, I visited CNN's website and it showed 5 attempts to track my browsing.

Installation following the quick download is painless and there is virtually no setup. I installed it in Firefox and it installed it as a plugin that puts a little icon in the upper right hand corner. I understand you need to install it for every browser you run if you run multiple browsers because it installs it in theat browser at that time. I usually only run Firefox so that's the only one I installed it on. The Abine website is: http://abine.com and I suggest you run the little DNT+ video to better explain the benefits of this little browser add on. The program is highly recommended by Cnet.com. Hope to see all of you at this month's meeting and have a great day.

(Continued from page 3)

(Groundhog Day) when Firefox automatically updated itself to v10.0, thereby breaking Tab Utilities Lite!

Yes, I suspect the developer of Tab Utilities Lite will update his utility to work with Firefox 10, but why couldn't Firefox have pointed out the incompatibility *before* delivering the update, instead of afterward, and let me choose to keep using v9 for awhile longer?

Thirteen months ago my otherwise excellent online broker, E*Trade, updated an online application called MarketCaster that I use for obtaining real-time quotes. It hasn't worked correctly since — it now shows totals in the "gains/losses" column as "minus 100%" in all my watch lists. Their IT folks have acknowledged and apologized for the problem but for over a year now they have either been unable to fix it, or perhaps it's not a priority — maybe other users don't bother totaling their watch lists. Immediately after the update I asked, "Can I return to the previous version that worked?" "No, there's no way we can do that," they replied.

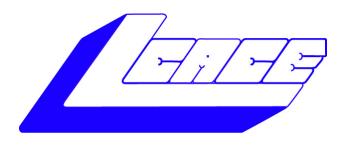
A few months ago my wife complained that Yahoo! had updated her online calendar requiring more clicks to get things done.

Recently my TomTom GPS started nagging me to update its maps. Thinking that could do no harm, I downloaded and installed the new maps. Before the update, I was able to drive for miles on the highway in peaceful silence. As I neared my exit, she (why is her name "Tom?") would tell me to prepare to exit. But ever since the update, she chimes in at every exit along the way reminding me *not* to exit but to instead stay on the highway! So I can't live with her anymore but I can't live without her either. The workaround, of course, is to mute the sound – and risk missing the exit.

Intuit has now begun warning me that I need to update to Quicken 2012 by April in order to keep downloading data from my financial institutions. What will the new version break? I can hardly wait.

Facebook users can likely look forward to some nasty surprises when the company goes public and updates the user interface to better monetize the site for its shareholders.

(Continued on page 8)



Lake County Area Computer Enthusiasts

Do you have computer questions or need help with your computer?



Visit Lake County Area Computer Enthusiasts' help desk for one on one help

Open to all

11:15 a.m.-12:15 p.m.
Grayslake Area Public Library
Rooms A-C

Saturday, June 2

Saturday, October 13

Saturday, August 4

Saturday, November 17

Saturday, September 8

Members' E-mail Addresses



Johnson, Dwight R. Barnett, Fred Barnett, Liz Becht, George Bell, Julie Berg-Wells, Lois J Berry, Bob Berry, Tracy A. Bitterman, Jay Bock, Phil Busch, Linda E Busch, Roger Colosimo, John Ditman, Bill Eisenmann, Richard Flanery, Bob Frost, Jack Frost, Winnie Gauger, Tammy L Jacobs, Bobby Kalinoski, Donna L Koudelka, Linda Koudelka, Robert Kusiak, Joseph	deedee1938@yahoo.comjj1450xl@yahoo.comjj1450xl@yahoo.comBNSCom@aol.com
	anguslechat@aol.com
Mc Enery, Mike J	mmcenery@sbcglobal.net
Nocerino, Phil	
Rehberger, Judy	graduates63@gmail.com
Rhodes, Bill	
Rhodes, Leah	
	Mary.Rhodes@gmail.com
	kennethisavage@hotmail.com
	kennethisavage@hotmail.com
Seidenberg, Lew	drlew1@aol.com
	anguslechat@aol.com
	gkstraw@comcast.net
Wells, Alden H	alden_racing74@yahoo.com

REASONS WHY PEOPLE WHO WORK			
WITH COMPUTERS SEEM TO HAVE			
A LOT OF SPARE TIME			
Web Developer	Sysadmin	Hacker	
		\$ 日	
·Its uploading·	'Its rebooting'	'Its scripted'	
3D Artist	IT Consultant	Programmer	
P A		P =	
'Its rendering'	'Its your problem now'	'Its compiling	





Kaspersky Anti Virus

\$4.50

Lew Seidenberg Phil Boch

Members



Have your Web Site Advertised here, e-mail me at editor@lcace.org

www.pegasusphotos.zenfolio.com

www.RobinSeidenberg.com



L.C.A.C.E.

Phone: 847.623.3815

Web Site: http://www.lcace.org



Take a good look, you just might see yourself.

http://lcace.org/PhotoAlbums.htm

Next Meeting

Saturday

June

02

Meeting Agenda: http://lcace.org/agendas.htm

Meeting Agenda

Genealogy 101

Presented By:

Co-sponsored by:

Terri Hanlon



Lake County Area
Computer Enthusiasts
And
The Grayslake Area Public
Library