

User Friendly

LACS
A Computer and
Technology
User Group

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APCUG EVENTS

Watch your email for
APCUG workshops and
other up-coming events.

LACS IS A MEMBER OF APCUG

www.apcug2.org
www.facebook.com/APCUG
www.twitter.com/apcug



An International
Association of Technology
and Computer User Groups

NOVEMBER 9 GENERAL MEETING

Meeting Time: 7:00 – 9 PM – Via Zoom

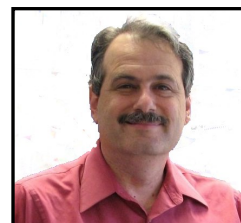
6:30 to 7:00: Socializing and Questions & Answers

Topics: **Encryption**

Speaker: **Mark Schulman**

Central Florida Computer Society

Computer Instructor, Software Designer,
and Small Business Owner.



Mark uses software encryption to protect
medical records for a family medical practice and for a
company doing clinical drug trials.

Losing a laptop, smartphone, or flash drive might mean
you're out some money, but it doesn't have to mean that
your confidential data leaks out into the world. Learn how
to use encryption software to protect your personal data
on PCs, laptops, external hard drives, USB flash drives,
and smartphones. Topics include:

- Single-file encryption
- Whole-drive encryption
- Encrypted containers
- Smartphone encryption

The presentation demonstrates several free software apps
that make encryption easy to use for anyone. His office
uses this software to protect medical records.

Meet Our Presenter

Mark Schulman has taught various programming courses
for major corporations and worked on large software de-
velopment projects. He uses encryption while managing
the IT department for a group of physicians and for a small
company doing clinical drug trials. His major geek interest
is the computer technology that made moon landings pos-
sible in the 1960s. He lives near Orlando, Florida.

Tuesday, November 9, 7:00 - 9:00 PM Via Zoom

6:30 - 7:00 Socializing and informal Q & A

LACS members on the PC groups.io list, will receive the
Zoom link on or about November 7. Guests may apply for
the link by emailing Leah Clark at leahjc@sbcglobal.net
before November 7.

More information about LACS at www.lacspc.org.

**FROM YOUR PRESIDENT / EDITOR****A New Way to Pay Dues:
PayPal**

Greetings, this is Gavin Faught, your Treasurer. I want to let you know that we now have a new option for paying dues: **PayPal**. To pay your dues, please go to the following link:

www.paypal.com/paypalme/00001024

and then click on **Send**.

You'll be asked to log in to your PayPal account or sign up for a PayPal account so that PayPal will know where to get the money to send.

Once you're done entering your dues amount, please click on **Add a note**. This is where you will give me any updated information: physical address, email address, phone number.

Please also add what type of dues you are paying: regular, electronic User Friendly, contributor, etc. Please tell me if you want your contact information published in the roster.

If you have any questions or comments, the best way to reach me is via email.

[gmfaught@gmail.com](mailto:gmfought@gmail.com)

Email Fraud—Be Careful

I received an email that appeared to be from a LACS member. Since it seemed to be from someone I have known for a long time and trusted, I almost fell for it.

He said a friend who had cancer asked for Google Play gift cards for her birthday. He was away from home so he was asking me to please purchase them for her, and he would pay me back when he got home.

I noted there was one tiny difference in the address it came from and his real address - a dot between his first and last names.

When in doubt call and ask your friend if did send the message.

Holiday Party

LACS members will be celebrating the holidays with friendship, fun, and food.

Date: Saturday, December 11

Time: 1:00 PM

Where: Golden China Restaurant

9018 Venice Blvd. Culver City 90232

Please join us and bring spouses, family, and friends. RSVP to Leah Clark via email, or at the November 9 general meeting.

- Dinner will be served family-style. They will not have the staff for serving individual orders.
- We ask you to plan to pay in cash to minimize the work of dealing with individual credit cards. The cost will be about \$20.00 per person.
- Proof of COVID vaccination will be required, as will wearing masks when not eating.
- Watch your email for further details, exact cost, and deadline for RSVPs. Maximum attendance will be about 50.
- Do you have any suggestions for something to do for fun?
- We will **not** have a general meeting on December 14.

It will be good to celebrate the holidays together again. Let's make it special.



*To all LACS members,
their families and friends.*

GENERAL MEETING REPORT

October 12, 2021

By **Leah Clark**, LACS President and Editor

Topic: **New Security Issues and Solutions**

Speaker: **John Krout**,

APCUG Speaker's Bureau

Potomac Area Technology and Computer Society, VA

John Krout had two presentations for us this evening. The first one concerning security for cars, and the second dealing with issues using public USB ports, as in airports. He started by giving tips on how to access the QR codes in the presentation.

Theft of Keyless Entry/Startup Cars

Today, many vehicles use a fob for keyless entry and startup. The car has a fob powered by a button battery. Each fob has a unique digital ID to unlock the door using low-power radio signals, making it necessary for the fob to be near the car. To start the car, you push the power button on the dash. The fob must be in the car because the fob's digital ID is registered with the car.

If you damage your fob, you can buy a used one online. Unfortunately, that means that bad people can buy a fob and register it for your car if they are able to get into your car. You may register a fob with more than one car.

Car thieves assume that the fob is near your front door and the car is in front of the house. A thief brings two radio repeaters and puts one by the car and one near your front door. The signal from the car goes through both repeaters to the fob to open the car door and then back to the car to start it up. He then drives to a chop shop to disassemble the car for parts.

To minimize the risk of theft

- Put the car inside a locked home garage
- Use a steering wheel lock
- Store fobs inside a Faraday Cage (a closed metal box)

More Power to You

Safe Recharging Options Away from Home

Have you run out of phone battery power while on the go? Free public USB sockets may be compromised to read personal data or even install malware. Airports also offer AC sockets for recharging. You may carry a power bank to use where there are no AC sockets. Also, you can have a charging block and cable to plug into an AC socket to charge multiple devices. Finding enough available AC sockets in an airport may be difficult. John described the use of these and other resources.

John then evaluated other charger products for cars and airports, and he noted concerns. He showed QR codes so we can learn more about them.

- AC charger blocks
- Automobile charger blocks
- Small AC power strips
- Automobile inverter
- 12-volt charger block for cars
- Power banks for laptops that the TSA approves to carry on planes

Before the informative Q & A, John listed other presentations he had prepared.

- Complete Robocall Defense (80 minutes)
- Automotive On-Board Diagnostics and BlueDriver
- Digital Video Editing Fundamentals Plus
- How to Find Your Lost or Misplaced Phone
- Intro to Geocaching
- Custom Digital Waypoints
- On the Go for Smartphones and Tablets (add keyboard, ethernet and a mouse to your phone)
- How to Remove Android Bloatware
- Tiles for Tracking (attach tiles to anything that could be misplaced or stolen)

Watch the Zoom recording to see all of this excellent presentation. ❖

WHY AM I GETTING EMAIL SENT TO AN EMAIL ADDRESS SIMILAR TO MINE?

WHEN IT KINDA SORTA LOOKS LIKE YOURS, BUT IT'S NOT

by Leo A. Notenboom

[About Leo - Ask Leo!](#)

leo@askleo.com

It's not uncommon to get unexpected emails sent to an email address similar to your own. I'll review why that is and what to do about it.

My email address is `{example}@gmail.com`, and about a week ago, I started receiving emails, mainly advertising and spam but all from the USA, and I live in Portugal, that were sent to `{example}@aol.com`. I tried sending an email to this "other" `{example}` but got it returned saying the address doesn't exist. Yet that is the address that the senders are using, and they are somehow coming to me. Is this phishing or is someone being naughty? Have you ever come across this before?

In the question above, I've used "`{example}`" as a replacement for specific email addresses. In each case, the part before the "@" was the same; only the part after "@" was different.

This is **spam** — nothing more. Mark it as spam and move on.

There are several ways this can happen, but one approach spammers use explains most clearly what they're up to and why.

Email to a similar address

Spammers often use email addresses similar to yours to get your attention and pique your curiosity. If you don't see your real email address on the message, it's likely to have been BCC'ed. Regardless, it's spam and should just be marked as spam in your email program or interface.

The parts of an email address

Every email address consists of two parts: the part before the "at" sign ("@") and the part after.

The part **after** identifies the email service handling the email. For example, `@gmail.com` means the Google Mail service is used, `@aol.com` means AOL, `@randomisp.com` means that the server associated with `randomisp.com` is used, and `@askleo.com` means the Ask Leo! mail server handles that email address.

The part **before** identifies the email account on that service to which the email should be routed. That is often someone's name.

Combining the two, an email address like "`leo@askleo.com`" means that the account called "leo" on the "askleo.com" mail server is the intended recipient.

Even when the part before ("leo") is the same, if the parts after ("`@askleo.com`" or "`@randomisp.com`") are different, then they are two *completely separate and unrelated email addresses*.

That unrelated part is important. While "`leo@askleo.com`" and "`leo@randomisp.com`" seem like similar email addresses, they have *nothing* to do with one another.

Spammers want your attention

When spammers spam, they're trying to get your attention so you'll read and act on whatever they place in the body of their message. One way to do that is to send **To:** an email address similar to yours.

For example, if I used an email address like "`leonotenboom@askleo.com`," then a spam email sent to "`leonotenboom@randomisp.com`" might get my attention, even though it's not my email address. Especially since I have a unique name, seeing "leonotenboom" as an email address will at least grab my interest, even if I've never heard of "randomisp.com" or set

up an account there.

One way spammers do this is by using email addresses already on their lists or email addresses discovered in data breaches. They take the first part (e.g., “leonotenboom”) and then send spam to that account on all the major email services.

Let’s say my email address — {example}@askleo.com — was discovered in a breach. Some spammers will then proceed to send spam to similar email addresses on other domains like:

{example}@aol.com
{example}@gmail.com
{example}@hotmail.com
{example}@outlook.com
{example}@yahoo.com

They might send to hundreds or thousands of email addresses, all beginning with {example}, regardless of whether or not those accounts actually exist.

Spammers ignore failures

Let’s say spammers send emails to 100 different variations of {example}@ email addresses. Let’s also say 99 of those don’t exist.

Spammers don’t care. Even if the emails generate 99 bounces, spammers don’t care for either or both of two reasons:

They’re not monitoring replies *at all*.

The “From:” addresses used were spoofed and have no relationship to the spammer, the source of the spam, or anything else. The spammer will never see any bounce message sent to that address.

This is why replying to spam never works: the spammers never see it and wouldn’t care if they did.

And since spam is so cheap for spammers to send, it only takes one success for the hundred- (or thousand-, or million-) message campaign to be a success.

You might not be on the “To:” line

One thing that confuses people is that their real email address isn’t anywhere on the message they got. The bogus address and your actual address are not related in any way. Period!

Here’s how the original email probably started:

To: {example}@aol.com
Bcc: {example}@gmail.com
Bcc: {example}@hotmail.com
Bcc: {example}@outlook.com
Bcc: {example}@yahoo.com

Only one of the email addresses is exposed on the “To:” line. It got your attention because it’s an email address similar to your own, but it’s not yours.

The email you got was BCC’ed along with all the other variations. You wouldn’t see it because you can’t see who was BCC’ed on an email, but you would get it.

The email looks like it was sent to someone else (because it was), but you got it because it was *also* sent to you.

There’s no forwarding going on

The original question included this concern: the message was sent to an incorrect @aol.com email address shown on the “To:” line, accepted there, and then somehow automatically forwarded or redirected to the correct email address @gmail.com.

No. That’s not what happened. The message was not diverted.

If the @aol.com address was legitimate, it was delivered to the recipient there.

If the @aol.com address was bogus, it likely generated a bounce; spammers ignore bounces.

If your correct @gmail.com address was BCC’ed, as is my theory, the message was sent directly to you no matter what happened at @aol.com.

Skepticism is always called for

As you can see, spammers play games to mess with you. They'll do anything to make things look legitimate — or at least suspiciously legitimate enough to warrant your attention.

Don't fall for it.

Spam is spam, no matter what games they may play.

The best solution remains:

- ⇒ Mark spam as spam.
- ⇒ Move on with your life.

LOCATE FILES AND FOLDERS INSTANTLY!

By **Jasmine Blue D'Katz**

Lake County Area Computer Enthusiast, IL

www.lcace.org

jj1450xl (at) yahoo.com

I have been watching *Tech for Seniors* for several months, and I like attending our monthly club meeting. I learn about different programs available to make using my computer easier. Recently, during his *Evernote* presentation, one of the TFS hosts was asked a question about finding files and folders on his computer. He suggested and showed a program called **Everything**.

Everything is a piece of Windows software that bypasses Windows search, and in the blink of an eye, it gives you a list of all files and folders on your local storage device. If that is what you want, then basically that is what it does, and it is efficient, effective, stable, and uses low system resources.

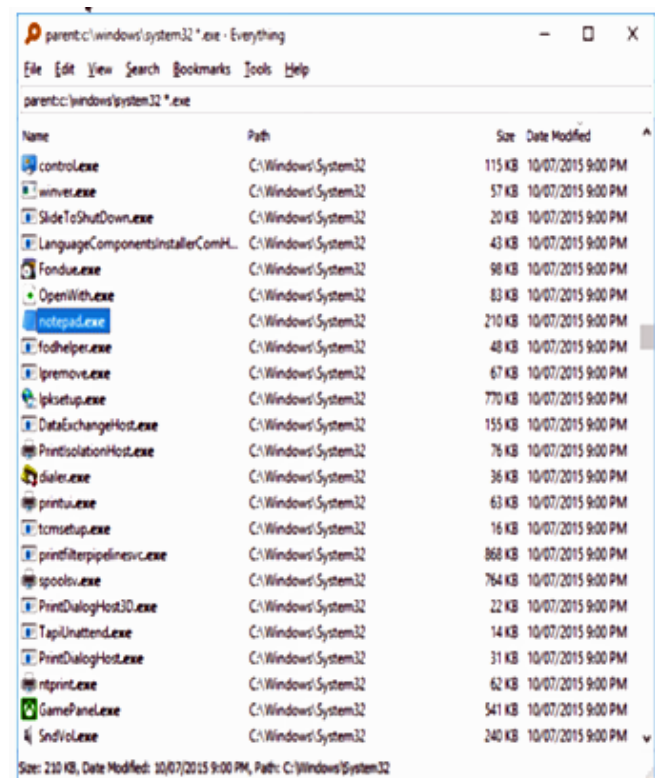
When I run Everything, it creates an index of all the files and folders on my machine. Now I am talking about indexing a 4 TB hard drive that may have millions of files, but this program is wicked fast. Furthermore, the search-

ing is done in real-time.

The screen display can be shown with several different files: Name, Path, Size, Last Write Time, Creation Time, Last Access Time, and Attributes. Sorting by any field will take a little longer than the search.

You no longer must struggle with Windows search again to find files on your disorganized system, so you might want to give Everything a try.

The best part of Everything is it is a **FREE** download and works with Windows 10, 8, 7, and XP. Everything is a simple app and one of the most useful ones I use on my computer. [Everything - Download \(softonic.com\)](http://www.softonic.com) ♦



Everything for Windows

HELPFUL MEMORY BYTES

By **Jim Cerny**, Forums Coordinator/Sarasota Technology Users Group

www.thestug.org

vp1 (at) thestug.org

Let's review and explore what we need to know about basic computer storage (bits and bytes) and how it helps us get an idea of how much data space needed to save and back up your stuff.

Suppose you landed on a planet, and the aliens there only had one hand and one finger on it (not ten fingers like we do). All they could do was flash a single digit or none at all (hence, zero or one). How high could they count?

Could they do basic math?

All computers use the binary system (a single digit of 1 or 0) – that is, they store and work with data saved in memory as zeros and ones. But there is NO LIMIT to how high you can count – you keep adding on more zeros and ones. For example, the digits we know in our numbering system such as 1, 2, 3, 4, 5, 6, 7, 8, 15, 16, 31, 32, 33, etc. would be the following in binary = 1, 10, 11, 100, 101, 110, 111, 1000, 1111, 10000, 11111, 100000, 100001, etc. So, adding a new digit to the left doubles the size of the memory (or number). Believe it or not, math gets a lot simpler with only two digits.

A single binary digit is called a **BIT**. Eight bits together form a **BYTE** of data.

Eight bits allow for 256 different combinations, enough to cover not only our 26-character alphabet, but special characters and more. Every keystroke on your keyboard enters one byte into memory!

I love the old science fiction movies – where the spacecraft command center was filled with gauges and dials! To read a value on a dial, you had to look closely to see where the arrow was. It showed measurement on a scale of



Flash drive



External Hard drive



Internal Hard drive

lines, and it was up to you and your eyesight to see the amount of “reading.” But with binary digits, you don't care about “how much”; you only need to know if it is there or not there -- a one or a zero. To get more accuracy, you add more binary digits. So, you will need a lot of them, but they are cheap and much easier for use in electronics.

One **KILO-byte** of memory is 1024 bytes, but when we start dealing with large amounts of computer storage, we round it off and call it a thousand.

One **MEGA-byte** of data is one million bytes or one thousand kilobytes. Those old 3.5-inch computer disks (remember them?) held about one and a half megabytes or about 220 pages of text. A CD-ROM (computer disk) could hold about 700 megabytes, that's over 400 of those old floppy disks and approximately 90,000 pages of text. It is good to remember that photos, depending upon the number of pixels in them, can be from 10 or 20 kilobytes up to 2, 12, 24, or more megabytes each! So, is a picture definitely worth a thousand words? You bet, and more!

One **GIGA-byte** is one trillion bytes or one thousand megabytes. Now we are talking serious (and very inexpensive) memory! You can buy a small portable USB drive (called a “thumb” drive or “flash” drive) in various gigabyte sizes – I tend to like the 32 or 64-gigabyte size because it can easily hold all my photos and documents as my backup. Just one gigabyte can hold almost 700,000 pages of text. That's a den full of books. One HD (high-definition) movie can take 2 to 5 gigabytes of memory. Movies and videos are moving pictures, of course, several pictures (or “frames”) per second. Fortunately, the data used to store photos and movies are “compressed” or coded to take up much less space than you would expect.

(Continued on page 17)

LACS NOTICES

WELCOME ALL

Gavin Faught,
LACS Treasurer
New Members (0)
Renewals (6)

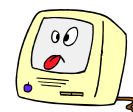
Rosalie Cirlin
Steven Halpern
Mark Presky
Tery Schooler

Susan Umeda
George Wolkon



FIX YOUR PC FOR FREE?

LACS Member and presenter, **Jim McKnight**, has an open offer to LACS members to diagnose, repair, disinfect, or upgrade members' PC's for free. There are certain limitations to Jim's offer, so see the details by clicking the "Fix my PC for Free?" link at



jim@jimopi.net

Non-members can wisely invest in a one-year new regular LACS membership (\$40.00), and Jim will fix your PC problem, too. Contact Jim for specific considerations.

HOW TO JOIN OUR MAIL LISTS

LACS members can join one, or both, of the lists shown by putting just their name in the message body of an e-mail to each of the lists they wish to join from the e-mail address they wish LACS to use. It's highly recommended to join both lists.

- **PC@LACS+subscribe (at) groups.io**
- **LACSLIST@LACS+subscribe (at) groups.io**

PC is for official LACS business only.
LACSlist is for any other computer or technology – related messages and questions.

Email computer or technology-related questions or comments to all members on the LACSLIST to [lacslist \(at\) lacs.groups.io](mailto:lacslist@lacs.groups.io).

New members will receive one invitation to join each list; they must respond quickly or follow the above instructions.

If you have any problems or questions about joining the lists, please contact Stephanie Nordlinger: [nordlacs\(at\)aol.com](mailto:nordlacs@att.net).

HOW TO CHANGE YOUR CONTACT INFORMATION

Go to www.lacspc.org. Click on **Member Forms** in the bar under the picture. Under **Membership Update**, select **Click Here** to select either the DOC or PDF form. Fill it out, and email it with your changes to membership@lacspc.org or mail it to

LACS, 11664 National Blvd. #343,
Los Angeles, CA 90064-3802.

ATTENDING A ZOOM MEETING

You should receive, via email, a link, Meeting ID, and Passcode to attend the LACS general meetings a couple of days before the meeting. **Please let Leah Clark know by the morning of the meeting if you don't have it.**

You can put an icon to the link on your desktop so it's handy at meeting time.

1. Right-click a blank spot on your desktop.
2. Select **New** from the drop-down menu.
3. Select **Shortcut**.
4. Type or copy and paste the link in the box that says "Type the location of the item."
5. Click **Next**.
6. Type a name for the shortcut.

HYPERLINKS

Underlined text (blue in the colored editions) in User Friendly usually means it's a hyperlink to a website. Click on the link to see the reference.

LACS CALENDAR



LACS Board Meeting

Date: Monday, November 1, 2021 via Zoom

Time: 7:00 P.M. (Open from 6:30 P.M.)

Please arrive early so we can start on time.

Where: At your home or wherever you are

General Meeting

Date: Tuesday, November 9, 2021 via Zoom

Time: 7:00 P.M. (Open from 6:30 P.M.)

Where: At your home

Please arrive early so we can start on time.

Where: At your home or wherever you are

November 7: Daylight Saving Time Ends

November 25: Thanksgiving Day

November 28: Hanukkah



VISIT OTHER COMPUTER USER GROUPS

Check out the URL below for information for visiting other user groups' Zoom meetings and for many more ideas for using Zoom and managing dealing with the stay-at-home restrictions.

<https://apcug2.org/tech-things-to-learn-while-sheltering-in-place/>

GENERAL MEETING PRESENTATIONS VIA ZOOM

November 9: Encryption

December 11, Saturday, 1:00 PM:

Holiday Lunch Party

There will be no general meeting on December 14.

This schedule is subject to Change. Check your email and *User Friendly* for updates.

ZOOM MEETINGS

To join a Zoom meeting, click on the URL on the invitation you will receive via email before the meeting and follow the prompts.

Contact Leah Clark at leahjc@sbcglobal.net if you have any questions or if you don't receive the link by the morning of the meeting day.

Please enter before our meeting starting time in case problems need to be solved and to ask questions. We want our meetings to start on time.

ZOOM RECORDINGS & PODCASTS

LACS members will receive links to the recordings of Zoom meetings via email.

To listen to the podcasts of most of our past in-person general meetings, go to <https://www.lacspc.org/category/audio-files/>. Click on the session you want to hear.

USER FRIENDLY BACK ISSUES AND INDEXES

To see back issues of *User Friendly*, go to <http://www.lacspc.org/category/user-friendly/>.

For indexes to past issues go to <https://www.lacspc.org/category/uf-index/>

To find a specific article or topic, use the search box on the top right.

MEMBERS HELPING MEMBERS

LACS members volunteer to help other members solve hardware and software problems by telephone during the hours listed below. Select the topic from the list and then contact a person whose number is listed next to it. **Find a helper's email address and phone number on your roster.** If you don't have your roster, call 424-261-6251. Only members in good standing may receive a roster. We hope that you find this LACS free service useful.

If you are experienced using a particular program or hardware, please volunteer to be a consultant. You don't have to be an expert. To volunteer for this list or to make corrections, please email Leah Clark at leahjc@sbcglobal.net or call her at 424-261-6251.

More Quick Consultants, and more categories are always needed. Do we have anyone who can help with Google apps? You may decline or postpone a call if it comes at an inconvenient time.

| | | |
|--|------------------------------|-------------------|
| Adobe Creative Suite: PDF, InDesign, PhotoShop, etc. - 10 | Lotus Word Pro, Approach - 7 | Photoshop - 10 |
| Android Smartphones - 8 | Mozilla Firefox - 7 | Quicken - 8, 12 |
| Apple devices - 11 | MS Excel - 8, 11, 12 | Thunderbird - 7 |
| Anti Malware and Backup - 7, 8 | MS Word - 1, 3, 8, 12 | Utilities - 7, 8 |
| Dragon Naturally Speaking - 3 | MS Outlook - 8, 1, 10 | Visual Basic - 5 |
| Genealogy - 8 | MS PowerPoint - 8, 11 | Websites - 5 |
| Groups.IO - 8 | MS Publisher - 2 | Windows - 6, 7, 8 |
| Hardware - 7 | Open Office - 6 | WordPerfect - 8 |
| | | Zoom - 2, 9 |

| Preferred Time for Phone Calls | | | |
|--------------------------------|-----------------------|----------|----------|
| Number | Name | From | To |
| 1 | Beckman, Loling | 10:00 AM | 6:00 PM |
| 2 | Clark, Leah | 7:00 AM | 5:00 PM |
| 3 | Hershman, Irv | 11:00 AM | 11:00 PM |
| 5 | Ialongo, Gilbert | 9:00 AM | 5:00 PM |
| 6 | Johnson, Carol | 10:00 AM | 9:00 PM |
| 7 | McKnight, Jim | 8:00 AM | 7:00 PM |
| 8 | Nordlinger, Stephanie | 9:00 AM | 5:00 PM |
| 9 | Presky, Mark | Any | Any |
| 10 | Rozek, E. J. | Noon | 8:00 PM |
| 11 | Van Berkorn, Paula | 9:00 AM | 5:00 PM |
| 12 | Wilder, Joan | 9:00 AM | 9:00 PM |

OFFICERS, DIRECTORS AND LEADERS

| Title | Name | Term |
|--------------------------|----------------------|------|
| President | Leah Clark | 2021 |
| Past President | Stanley Johnson | 2021 |
| Vice President | Stephanie Nordlinger | 2021 |
| Secretary | Marcia Jacobs | 2021 |
| Treasurer | Gavin Faught | 2021 |
| Director | Newton Bernstein | 2021 |
| Director | Irv Hershman | 2021 |
| Director | Paula Van Berkom | 2021 |
| Director | Sylvia Davis | 2022 |
| Director | Fred Kong | 2022 |
| Director | Howard Krivoy | 2022 |
| Director | Mark Presky | 2022 |
| APCUG Rep. | Leah Clark | |
| Corporate Counsel | Stephanie Nordlinger | |
| CCSC Computer Lab | Loling Beckman | |
| Database Manager | Sylvia Davis | |
| Groups.IO Lists | Stephanie Nordlinger | |
| Hospitality Chair | Sylvia Davis | |
| Newsletter Editor | Leah Clark | |
| Program Chair | Stephanie Nordlinger | |
| Publicity – Press | Mark Presky | |
| Publicity – Online Media | Open | |
| Quick Consultants | Leah Clark | |
| Webmaster | Paula Van Berkom | |

Mailing Address: 11664 National Blvd., #343, Los Angeles, CA 90064-3802

Website: www.lacspc.org

Contact the President/Editor at 424-261-6251. Follow the prompts. This is a Google Voice number.

Please use your roster for email addresses and phone numbers to contact any officer, board member or other member, or you may leave a message at the above number. If you don't have your roster, please contact Leah Clark at leahjc@sbcglobal.net and she will email you a copy. Only LACS members may receive a roster.

UNINTERRUPTIBLE POWER SUPPLIES

By **Dick Maybach**

Brookdale Computer User Group, NJ

www.bcug.com

n2nd (at) att.net

An Uninterruptible Power Supply (UPS) is a box that plugs into a power outlet on a wall into which you plug in your computer and its key peripherals. You connect it the same way you connect a power strip. Inside the box is circuitry that monitors the AC voltage, a lead-acid storage battery, a charger, a power supply that converts the battery voltage to 60-Hz AC line power, and a switching circuit that selects whether your computer is powered from the wall or the battery. Most units also include a surge suppressor. Normally, your computer and its peripherals are powered from the wall, and the UPS battery is charged. But if the AC voltage becomes too high or too low, the battery powers your devices through the AC converter.

Power companies in the U.S. provide reliable service, but sometimes this isn't easy. For example, they use the earth as part of their circuit, partly for safety reasons (to avoid high voltages building upon their wires). Service is difficult to maintain if the resistance of the earth is high, as is the case in the Freehold, New Jersey area, where I once was responsible for a lab. Partly as a result of this experience, I always used a UPS with my work computer. I saw the lights blink more than once, followed by streams of profanity from nearby offices where computers had crashed because they weren't UPS equipped. Although there may be no economic impact resulting from a power glitch while working on a home computer, it is most frustrating to have an editing or photo-retouching session ruined or an operating system corrupted by a power glitch during an update. Modern UPS units are cheap, and life is short, which often makes investing in one well worth its cost.

A surge protector has a device that is connected across the power line. If the voltage rises above a specific value, the resistance of the device becomes low. The hope is that the device will survive long enough to keep the voltage low until the surge is over. Most such devices will protect against one surge, but in doing so, they burn out, which is why many surge protectors have an indicator that is illuminated if the device is good. Of course, since most of us locate our surge suppressors on the floor with the dust bunnies, we can't see their indicators. Surge protectors do not protect from low voltages.

By the way, neither surge protectors nor UPS units can defend against direct lightning strikes, which can vaporize the wiring in your house as well as equipment connected to it. The voltages are high enough for lightning to arc hundreds of feet from a cloud to the ground, and the currents can be a million Amperes or more. Fortunately, direct strikes are rare. However, a lightning strike near the power grid can cause a momentary rise in the voltage, which is what a surge protector tries to prevent.

Most consumer UPS devices have the architecture shown in **Figure 1**, page 13. First, the Protected AC-Out socket is connected through the AC-In cord to a wall outlet in normal operation. At the same time, the input power is applied to a battery charger that keeps a lead-acid battery (which uses the same chemistry that starts your car) fully charged. Finally, control circuitry monitors the AC-In voltage. If it departs from what is acceptable, a relay switches Protected AC-Out to a DC-to-AC converter that generates a 125 volt, 60 Hz waveform from the DC voltage on the battery. This does mean that the Protected AC-Out voltage is zero during the time it takes for the relay to complete its operation. Still, this time is short compared to the 1/60 second period of our power system, and it doesn't affect a computer's oper-

ation. In addition, most UPS devices have additional outputs connected to the AC In port through a surge protector.

A push-button connects to the controller. When it turns off the UPS, Protected AC-Out is turned off, but battery charging continues, and Unprotected AC-Out remains hot. The last is important; to avoid unpleasant surprises, be sure to unplug any unprotected devices before working on them.

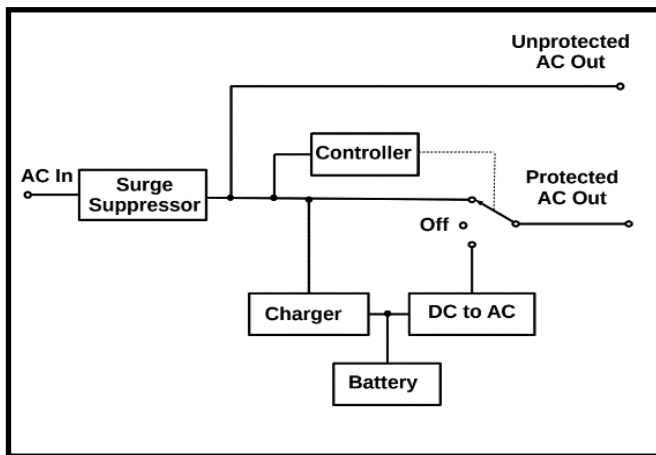


Figure 1. UPS Architecture

Some iMacs are incompatible with some popular UPS units. They work fine when the AC power is good, but the UPS will refuse to switch to battery when it fails. So if you have an iMac, do your homework.

Try to buy your UPS from a supplier that offers a "No questions asked" return policy on UPS purchases; not all do (in particular, Amazon the last time I checked). As soon as everything is connected and the battery is fully charged, pull the AC power plug to see if the unit switches to battery power. If it doesn't, you should trade it for a compatible one.

A UPS is designed to provide power when that from your power company fails. In particular, it assumes that commercial power is available when it's first turned on, and it may not start if this isn't true. This means you may not be able to use a UPS to provide power on a camping trip. You also may not be able to turn it on after the power fails.

Most UPS manufacturers specify the maximum output of their units in both Watts and Volt-Amperes, with the latter being larger. You should buy one with a maximum Wattage equal to or larger than your computer power supply rating. (We're discussing here only the total power supplied by the battery backup connectors; we can ignore the power supplied by the surge protected connectors.) I'm assuming that you purchased your computer system and that the manufacturer correctly sized its power supply. Make appropriate adjustments if you know you have a larger than necessary supply, which is usually the case if you built your system. The average power consumed by your computer is usually significantly less than its maximum power supply rating. We have to be concerned about the maximum because the UPS will shut down if you try to draw more than its rated power from its battery backup connectors.

To estimate how long you can run on battery power, you have to know the average power consumption of your computer. My desktop uses about 100 Watts, which is probably a good starting point, although I would double this for a game machine with a high-power display driver. If you're still using a CRT monitor, you should probably add 25 to 50 Watts for that. Some manufacturers, including APC, have graphs showing run time vs. load on their websites, although these are valid only for new batteries. Many UPS manufacturers specify the length of time they can supply power at maximum load, and you can use this to estimate how long they will last. For example, my UPS is rated at five minutes at 600 Watts. Therefore, at 100 Watts, it should last six times as long, or 30 minutes. APC's chart shows 50 minutes at 100 Watts, so the rough estimate is comfortably conservative and allows for battery aging.

Decide what you want to keep running when the power fails. Your goal is to keep your computer running long enough so that you can save your work and power down normally. You may be able to work for a little while, but once the battery is exhausted, you're done. At a minimum, you need to back up your system unit and display. If you are visually impaired, you should also include your powered speakers. Everything else should have just surge protection; this includes your printer, scanner, and network equipment. It is especially important that you not try to back up a laser printer, as they draw so much current that your UPS may not turn on, even when your house power is normal.

Figure 2 shows the rear panels of two American Power Conversion UPS devices. Both have two cable-TV and two Ethernet connectors connected to surge suppressors. Both also have a USB connector, which allows your PC to monitor the UPS. The top one has two types of outlets labeled Battery Backup and Surge; the left-hand connectors are UPS protected, and the right ones have only surge protection.

The lower unit is more complex. The top protected connector has the label Master. When current flows from this socket, the sockets labeled Controlled by Master are also turned on. When the current stops flowing from the master socket, those controlled by it are turned off.

I connect my PC to Master, my monitor to Battery Backup Controlled by Master, and my speakers to Surge Only Controlled by Master. As a result, when I turn on the PC, the monitor and speakers are also turned on. However, if the power fails, only the PC and monitor remain powered. My other peripherals, the printer, and scanner are neither controlled by the PC nor protected. Inkjet printers should always be turned off using their own power switches, which are controlled. Just pulling the plug can result in ink clogs.



Figure 2. APC UPS Rear Panels

Many UPS units have associated software that allows you to configure them and monitor their operation. It may also include a provision to shut down your computer if the battery becomes depleted during a power outage. However, UPS manufacturers are Microsoft-centric; their software may be Windows only, and if it does have Mac or Linux software, it probably has fewer features than the Windows version. Some higher-end units include front panels that provide much of the software's monitoring, making them less reliant on your operating system.

Figure 3 shows a Linux monitoring screen. It shows that the battery is fully charged and will power the system for about 53 minutes at the current load.



Figure 3. Linux UPS Monitoring

The built-in Windows program that checks the battery is even terser, see **Figure 4**.

Windows users can install APC's Power Chute software to get a better view; [PowerChute Personal Edition - APC USA](#). The following screenshots are from this program.

Figure 5 shows the current status.

Figure 6 (page 16) shows the voltages that cause the UPS to switch over to battery power.

Figure 7 (page 16) shows the power drawn from the master outlet, resulting in the other connectors being shut off.

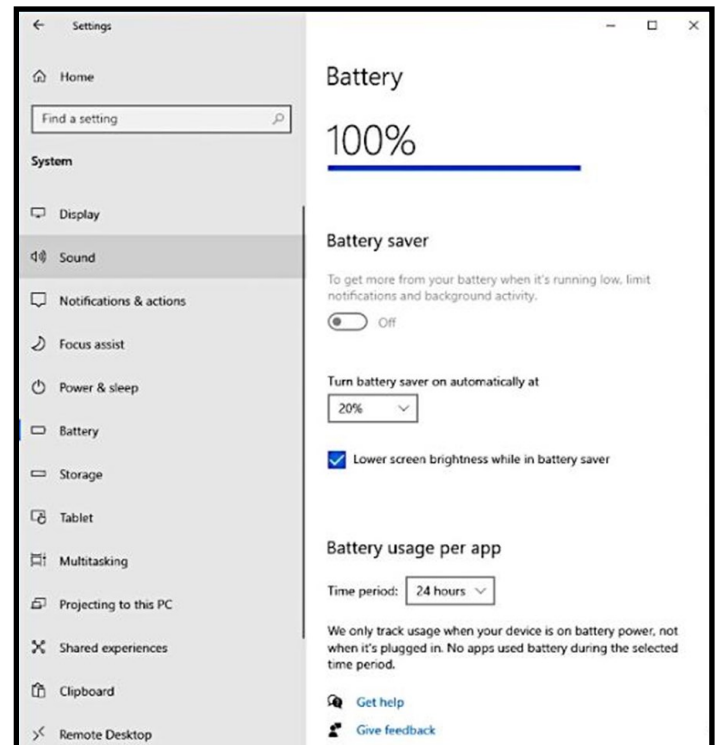


Figure 4. Windows Battery Monitor



Figure 5. Power Chute Window Showing Current Status

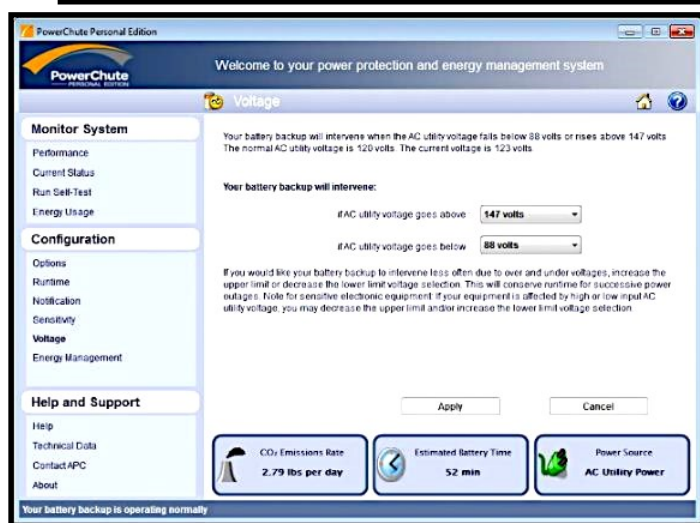


Figure 6. UPS Voltage Settings



Figure 7. Shutoff Control Power

By the way, you can purchase smart outlet strips that claim to control power in this way. However, I've found that their threshold is far too low to make them usable with PCs. PC system units draw a little power even when off, and it's sufficient to keep a smart outlet strip on.

Regardless of its features, a UPS is a valuable peripheral that can save you much time and frustration. ❖



NEMO (FILE MANAGER FOR LINUX MINT)

By **Cal Esneault**,
Cajun Clickers Computer Club
Past President and leader of many Open-Source Workshops & SIGs
CCCC Computer News, May 2021
www.clickers.org
office (at) clickers.org

Mint is a Linux distribution based on Ubuntu. The Mint team typically customizes key utility applications to support its goal of stability and user-friendliness. Three examples are shown below.

| Menu Name | Program name | Function |
|----------------|--------------|-------------------------|
| Update Manager | Mintupdate | Safely install software |
| Files | Nemo | File manager |
| Text editor | Xed | Edit text files |

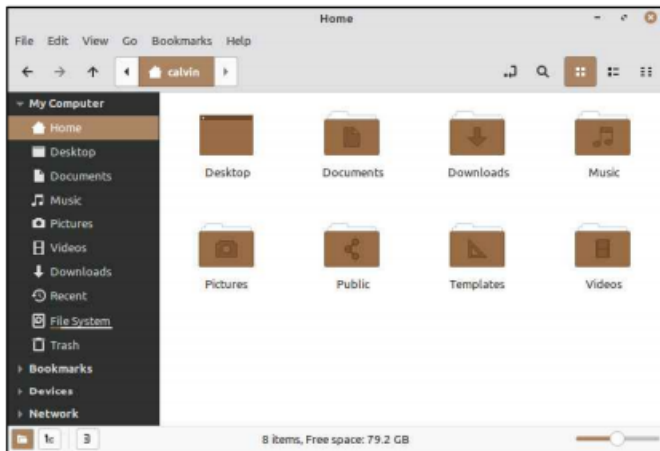
Nemo, the file manager, began around 2012 as part of the development of the Cinnamon Desktop, a project launched to avoid the use of Gnome 3 Shell.

Nemo is a “fork” of Nautilus, the Gnome file manager. Experienced Linux users often manage files using the command line. See an example of the “terminal” approach below.

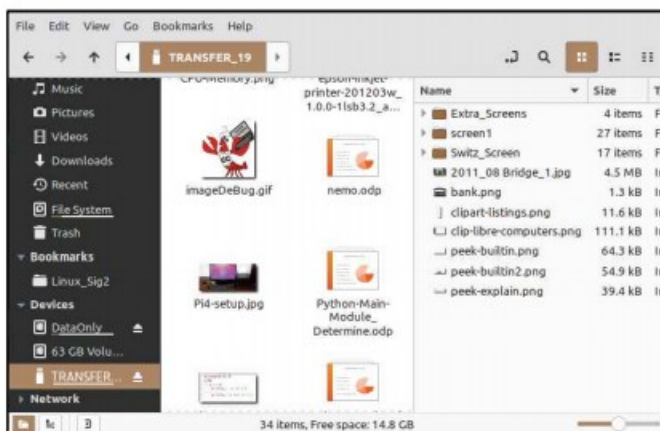


Average users, however, prefer the Graphical User Interface (GUI) that Nemo provides. Following is an example of the same directory listing referenced above but displayed by Nemo. The left-side pane provides easy navigation among parts of the overall file structure. The files can be listed in a variety of ways. Here, graphical icons are used. Other options include a detailed list view and a

compact list view just showing names.



To facilitate moving files around, Nemo offers an “Extra Pane” view (shown below). The listing on the left is in icon view, while the listing on the right is the detailed view. In addition, files can be moved back and forth between folders using the drag-and-drop method.



There are many more features available to enhance your file organization. For example, you can add “bookmarks” to the navigation pane to speed your access to frequently used file areas. Be sure to investigate this important application if you use Linux Mint. ❖



Helpful Memory Bytes

(Continued from page 7)

One **TERA-byte** is one thousand gigabytes. For us ordinary people, this is a **HUGE** amount of memory! You can get a one-terabyte drive for about \$50. It can hold 300,000 photos or about 500 hours of movies. And, unlike my memory, it will never forget anything.

The next memory size up is the **PETA-byte** -- yup, one-thousand terabytes! And, no, they are not going to run out of prefixes. All just to store ones and zeros.

I use a nice little thumb drive to back up my memory, but I seem to forget where I put it!



TECHNOLOGY TRIVIA

Compiled by Leah Clark, LACS

- If we could turn the human brain into a computer, then that computer would do 38,000 trillion operations per second and hold more than 3580 TBs of memory.
- Symbolics.com is the first registered .com domain name. It was registered on 15 March 1985.
- The design team of the IBM PC prototype was code-named *The Dirty Dozen*.
- Apollo 11 landed two men on moon. The combined power of all the computers in Apollo 11 is much less than the power of today's mobile phone!
- The Melissa computer virus affected about 20% of world's computers. It's creator, David L. Smith, was sentenced to 10 years in prison.
- Email was invented before the World Wide Web! ❖

JERE'S TECH TIPS

For many helpful tips and tricks for all aspects of computing, see *Jere's Tech Tips* at <https://apcug2.org/jerestips/>.

TECHBOOMERS.COM

teaches how to use various websites and internet-based applications.

- <https://TechBoomers.com>
- <https://www.youtube.com/watch?v=O2-bwYIYu1I>

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Go to the APCUG website <https://apcug2.org/discounts-special-offers-for-user-groups/> for discounts and special offers for Members of User Groups. Avast Anti-virus and Acronis True Image, and several book, media and training sites offer discounts including the two mentioned below.

- Members can save at the **Pearson Technology** websites: InformIT, Cisco Press, Pearson IT Certification, Que Publishing, Adobe Press, and Peachpit Press.
Informit.com/user_groups/index.aspx
Code for print books: **ITCOMMUNITY**
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- See the latest books on digital imaging and photography, gaming, animation, film and video, post-production, audio, music technology, broadcast and theatre from [Routledge | Focal Press](#) today! They offer discounts to User Group members.



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LAUGHING OUT LOUD



Music to My Ears

A senior citizen was showing off to his grandson the new car he had bought.

"Let's go for a spin," he told the youngster.

The old man pulled out of his driveway and placed his fingers above the top of the steering wheel with his thumbs pressed against the lower edge of the wheel.

"That's weird," the grandpa said, "I still don't hear anything."

"What are you talking about?" asked the grandson.

"The car salesman said I could hear different kinds of music if I used a thumb drive."

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| | |
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| Supporter | 75 |
| Benefactor | 100 |
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— **Free APCUG** (International Association of Technology and Computer User Groups) **Webinars**.

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Before each meeting, members and invited guests will receive an email with the URL link to the meeting. If you haven't received it by the morning of the meeting, let Leah Clark know. When you click on the link, you will enter a waiting room. Then the host or a co-host will admit you to the meeting.

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