CUE Newsletter – December 2020 (Volume 37 Number 12)

Visit the CUE
Website at:

www.cuerie.com

CUE is a member of APCUG

Member of

apcug An International
Association of Technology
& Computer User Groups

CUE Calendar

Calendar events are subject to change. SIG stands for Special Interest Group.
(look for notices outside of the newsletter for delays or special news on meetings)

CUE Membership Meetings (typically 3rd Thursday of each month)
    No meeting in December
    Thursday January 21st at 7 PM

Beginner's User Group (BUG) SIG Meetings
    To Be Scheduled Upon Request

Digital Photo SIG Meetings (typically 1st Saturday of each month except June/July/August)
    No meeting in December
    Saturday January 2nd at 9:30 AM

Genealogy SIG Meetings (typically 1st Tuesday of each month)
    Tuesday December 1st at 7 PM
    Tuesday January 5th at 7 PM

MAC SIG Meetings (typically 2nd Saturday of each month except June/July/August)
    Saturday December 12th at 9:30 AM
    Saturday January 9th at 9:30 AM

Smartphone & Tablet SIG Meetings (typically 4th Monday of each month) (RSVP John Fair)
    No meeting in December
    Monday January 25th at 7 PM

Windows SIG Meetings (typically 2nd Saturday of each month except June/July/August)
    Saturday December 12th at 1 PM
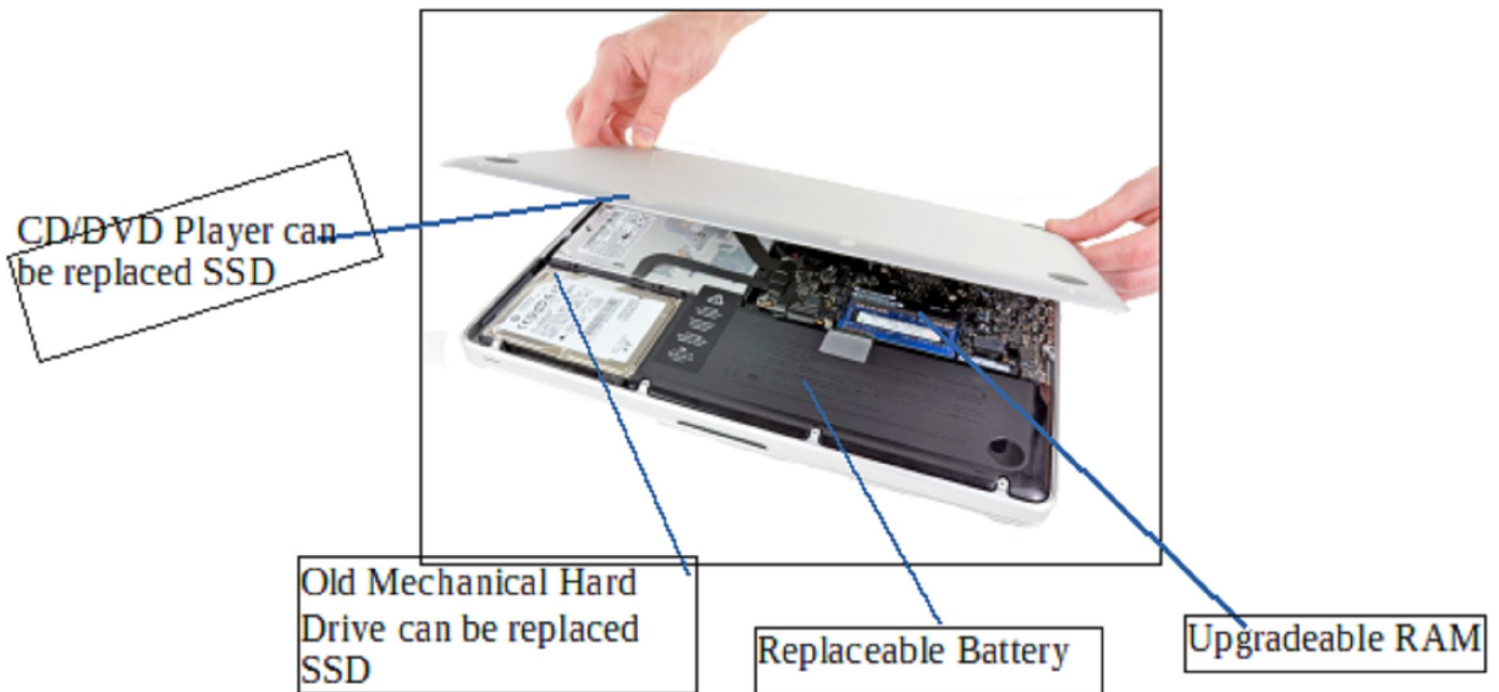   Saturday January 9th at 1 PM

Working on a 2012 Macbook Pro
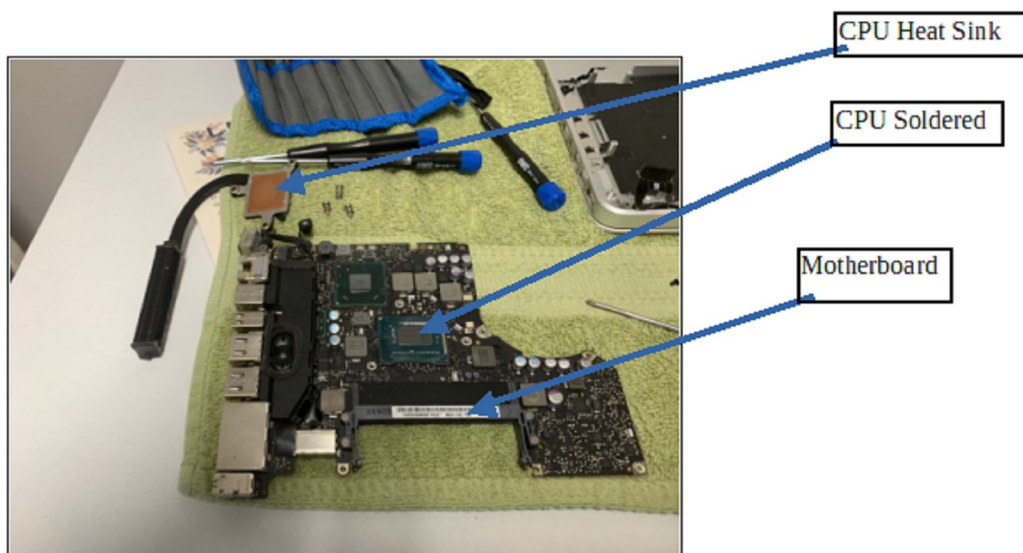By Lou Cioccio at Computer Users of Erie

I recently worked on a CUE member's Macbook Pro 2012. Yes, an 8 year old computer and one of the most upgradeable that Apple ever made. RAM can be upgraded. The Hard Drive can be upgraded to a SSD and can even remove the CD/DVD drive and place a caddy to accept a 2nd Hard Drive, preferably a SSD. Although you cannot upgrade any of the ports, it's a machine that can last, as the battery is not glued in and is easily replaceable.

Opening up one of these is very straight forward. Only ten screws to open the back.

CD/DVD Player can be replaced SSD

Old Mechanical Hard Drive can be replaced SSD

Replaceable Battery

Upgradeable RAM

So you can see it's fairly easy to get into. Most screws are Torx 7, Philips head 000 and the battery is a triwing similar to the Philips 4 wing. Yes, Apple chose a different screw.
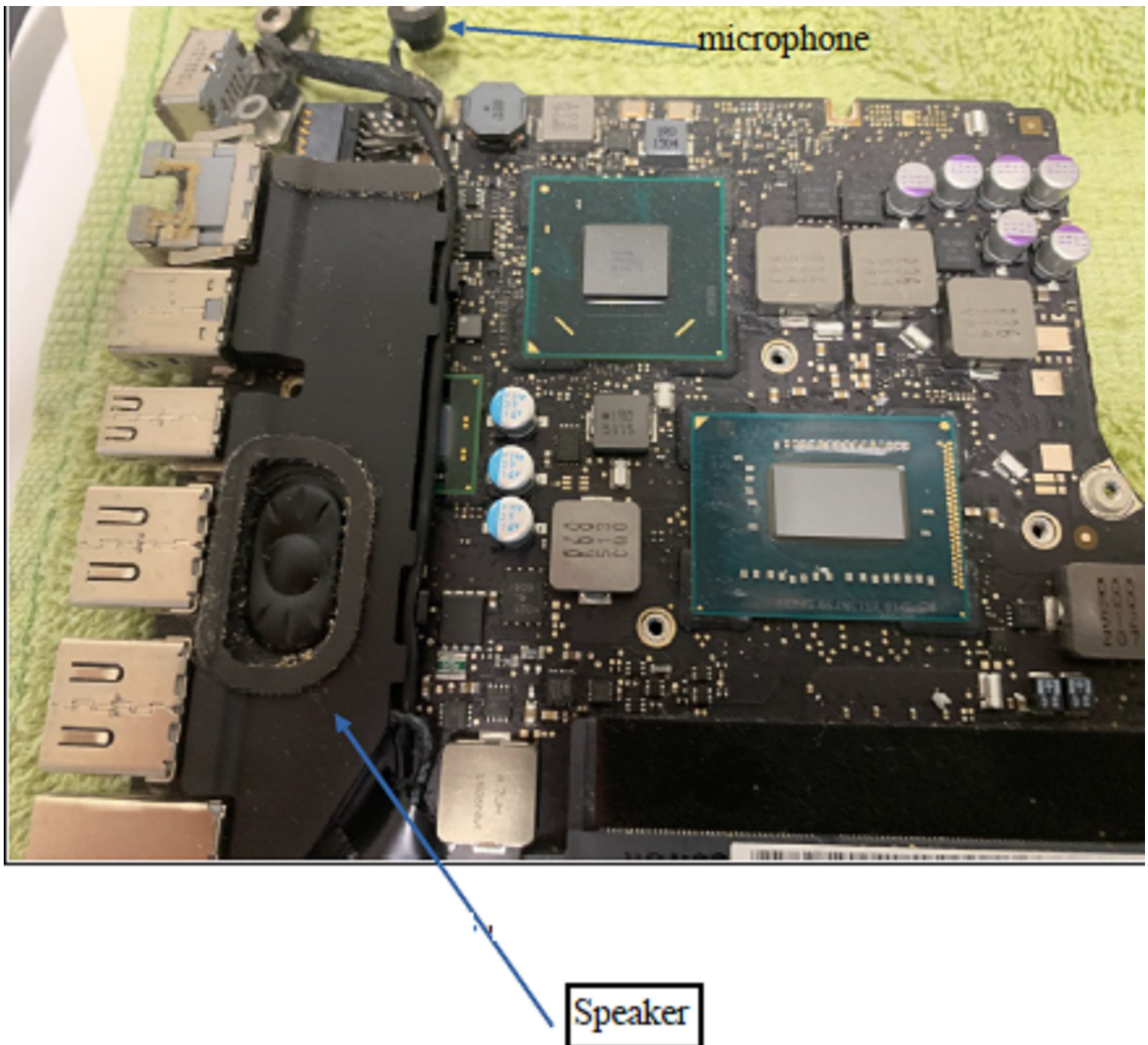

CPU Heat Sink

CPU Soldered

Motherboard

Macbook Pro Continued

Closeup of the small laptop motherboard for a 2012 MacBook Pro. From the top left is the power input, ethernet, display port, two USB ports, SD card reader, and headphone jack.

The odd black device is the speaker and the top of that is the microphone part, half in picture. I could not visually see anything wrong with the board, burn spots, or any water damage. So I would assume it could have been failing, and dropping it was the last straw so to speak.

After I had cleaned the CPU, applying a very thin layer on both the heat sink and CPU, it did start up fine for me. So, though I was out of the woods with the simple fix, maybe heat from the CPU may have caused the problems.

I did a quick test by updating the OS. There were some security updates and running of Disk First Aid. For non mac users, the hard drive is partitioned with an emergency disk so as the main partition is unmounted. You can run Disk First Aid and it usually can fix any problems with the drive. After I was finished, or so I thought, I returned the laptop to the owner and turned it on for her to show her I had it working.

The next day, I returned to Holy Rosary as they were having trouble accessing the Erie Diocese Web Page. In fact, if you have time please access the web page with your favorite browser. Once you get there, access the News and Events, drop down and click on Faith Magazine. Once you are there, click on past issues, it does not matter which, and open it. Please email me here should it work in the download file that Editor Don Grim makes.

If I get a response, I will write an article that not all web pages are equal nor all web browsers translate well, as I learned something that day. After Holy Rosary, I went to help a parishioner on their WiFi and Cable modem. Yes, due to Covid, everyone was wearing a mask! I was able to get on the right path after we discovered Spectrum did not activate his ethernet ports! That almost ended in a rabbit hole but once I realized the ports should have had led's lighting up for traffic, and two peripherals can't be failed, that's when I realized a call to Spectrum again, another story!

Well the next day she showed up, it was asleep and she could not wake it up. I mentioned to her that it may be ready to give up the ghost. I did offer her a 2012 Mac Mini that she could have but she said she prefers a laptop. I told her I will see what I could do but that she should think about other alternatives.

She did give me a hint of when it failed and went to sleep mode. I did not try any apps except updating LibreOffice for her to the latest version. All her documents were there. I ran Tech Tools, which found no apparent problems.

So this time I tried the app she used, a Mahjong, and sure enough, when I selected a tile, it went into sleep mode.

Now it became apparent what is going on with the laptop. After reopening it up and double checking connections, I did find a residue but was not sure what it was. Dough was kind enough to let me look for the white squares and see if any were discolored, like red. Red will let you know if there was water damage.

None, so I cleaned anything that I could clean. Tom had suggested maybe changing the hard drive with another. Now this becomes interesting as these uni bodies' aluminum are polished outside but not on the inside. The ribbon cable from the Hard Drive that lays underneath the drive can rub and cause minute holes, and the drive can become unresponsive. So a possibility was that cable and that was not too expensive. But I chose to use my favorite tape, Kapton, and laid that on the case where the cable ran.

I put everything together and I can't turn it on at the on key. But if I plug it in, it will boot up. ODD! So I hooked it to an external monitor, the TV, and I get a screen but then notice the laptop has no image. It's BLACK!!! Oh man, then I try the keyboard. It does not work (well we later find out why that did not work). So now, back to tearing apart, double checking, and reconnecting these small clips and cables!

More research on the internet to find out what to do. So I retried it again and to my HORROR, the display port does not send a signal to the TV and the laptop has no response, nor any video.

After searching eBay and also emailing Tom and Doug, I resign myself. It needs a motherboard as everything is on it, not like some desktops. I finally find one, a motherboard that was used and tested to work. For a buy, it was now priced at $159 out of North Carolina, so I bought it. Hopefully I am not wrong in my thinking that something major went wrong with the motherboard, possibly the Graphic Processor Unit, aka GPU.

The oddest thing, even swapping batteries, had no difference. It did not work but would boot and POST check if I plugged the AC adaptor to it. That was another tip off that unit would work but no video output. It was when I was able to reset the PRAM which stands for "Parameter Random Access Memory" and is pronounced "P-ram." PRAM is a type of memory found in Macintosh computers that stores system settings. You can reset or "zap" the PRAM on a Mac by pressing and holding the Command, Option, P, and

R keys right as you turn the computer on! I kept the keys down for 3 reboots and a white screen flash across the screen let me know the display works.

I received the motherboard today on Monday 11/23/20 and immediately installed it but the on key did not work. But if I plugged it in, it booted fine. I was able to enter the password but the enter key had no effect. There was a small return button on screen next to the password and that worked. Oh man, so I got the text edit app to work and found out some keys worked, others did not, and caps lock did not. Then I thought maybe that fiddly keyboard cable is not seated in all the way. Again, removed the back, at least I did not screw it in, and looked at it closely. It might be cockeyed so I disconnected the battery. Always remove the power source when working on a laptop. So I took a dinner break! When I came back I fiddled with the cable and reseated it and Voila! It worked. I was able to turn it on and play a game. It did go to sleep, or give me a black screen.

'Twas a Computer Christmas

T'was the night before Christmas, and all through the shop,
The computers were whirring; they never do stop.
The power was on and the temperature right,
In hopes that the input would feed back that night.

The system was ready, the program was coded,
And memory drums had been carefully loaded;
While adding a Christmasy glow to the scene,
The lights on the console, flashed red, white and green.

When out in the hall there arose such a clatter,
The programmer ran to see what was the matter.
Away to the hallway he flew like a flash,
Forgetting his key in his curious dash.
He stood in the hallway and looked all about,
When the door slammed behind him, and he was locked out.

Then, in the computer room what should appear,
But a miniature sleigh and eight tiny reindeer;
And a little old man, who with scarcely a pause,
Chuckled: "My name is Santa...the last name is Claus."
The computer was startled, confused by the name,
Then it buzzed as it heard the old fellow exclaim:
"This is Dasher and Dancer and Prancer and Vixen,
And Comet and Cupid and Donner and Blitzen."

With all these odd names, it was puzzled anew;
It hummed and it clanked, and a main circuit blew.
It searched in its memory core, trying to "think";
Then the multi-line printer went out on the blink.

'Twas a Computer Christmas Continued

Unable to do its electronic job,
It said in a voice that was almost a sob:
"Your eyes - how they twinkle - your dimples so merry,
Your cheeks so like roses, your nose like a cherry,

Your smile - all these things, I've been programmed to know,
And at data-recall, I am more than so-so;
But your name and your address (computers can't lie),
Are things that I just cannot identify.

You've a jolly old face and a little round belly,
That shakes when you laugh like a bowlful of jelly;
My scanners can see you, but still I insist,
Since you're not in my program, you cannot exist!"

Old Santa just chuckled a merry "ho, ho",
And sat down to type out a quick word or so.
The keyboard clack-clattered, its sound sharp and clean,
As Santa fed this "data" to the machine:

"Kids everywhere know me; I come every year;
The presents I bring add to everyone's cheer;
But you won't get anything - that's plain to see;
Too bad your programmers forgot about me."

Then he faced the machine and said with a shrug,
"Merry Christmas to All," as he pulled out its plug!

Author Unknown

Interdrone Conference

By George Harding at Tucson Computer Society, AZ (www.aztcs.org)

The Interdrone Conference, as you might guess, is about drones: how they are being used in industry, agriculture, first response, fire, police and more.

The Keynote speaker, Dan Ewell, FAA Deputy Administrator, said that there are now 1.4 million registered drones and 50,000 drone pilots that have passed Part 107 (which is required to fly drones other than for recreation).

Interestingly, drone use is now much less personal leisure and more commercial utility. Many of the sessions at this conference were oriented to first responders.
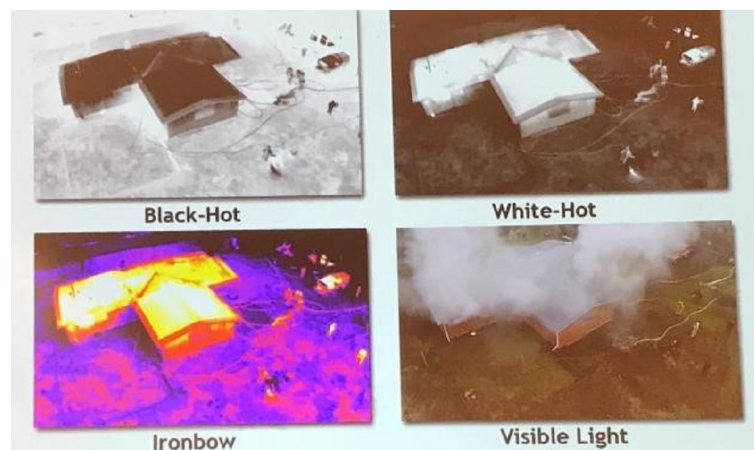
As the conference was occurring, a hurricane was wreaking havoc in North Carolina. Several of the panelists were from North Carolina and were dividing their time between sessions and communicating with the Governor! A few left the conference in order to be on the scene at the coast.

I was surprised by how many fire, police, and rescue organizations had formed their own drone teams, with a well-thought-out training plan and organized practice field exercises.
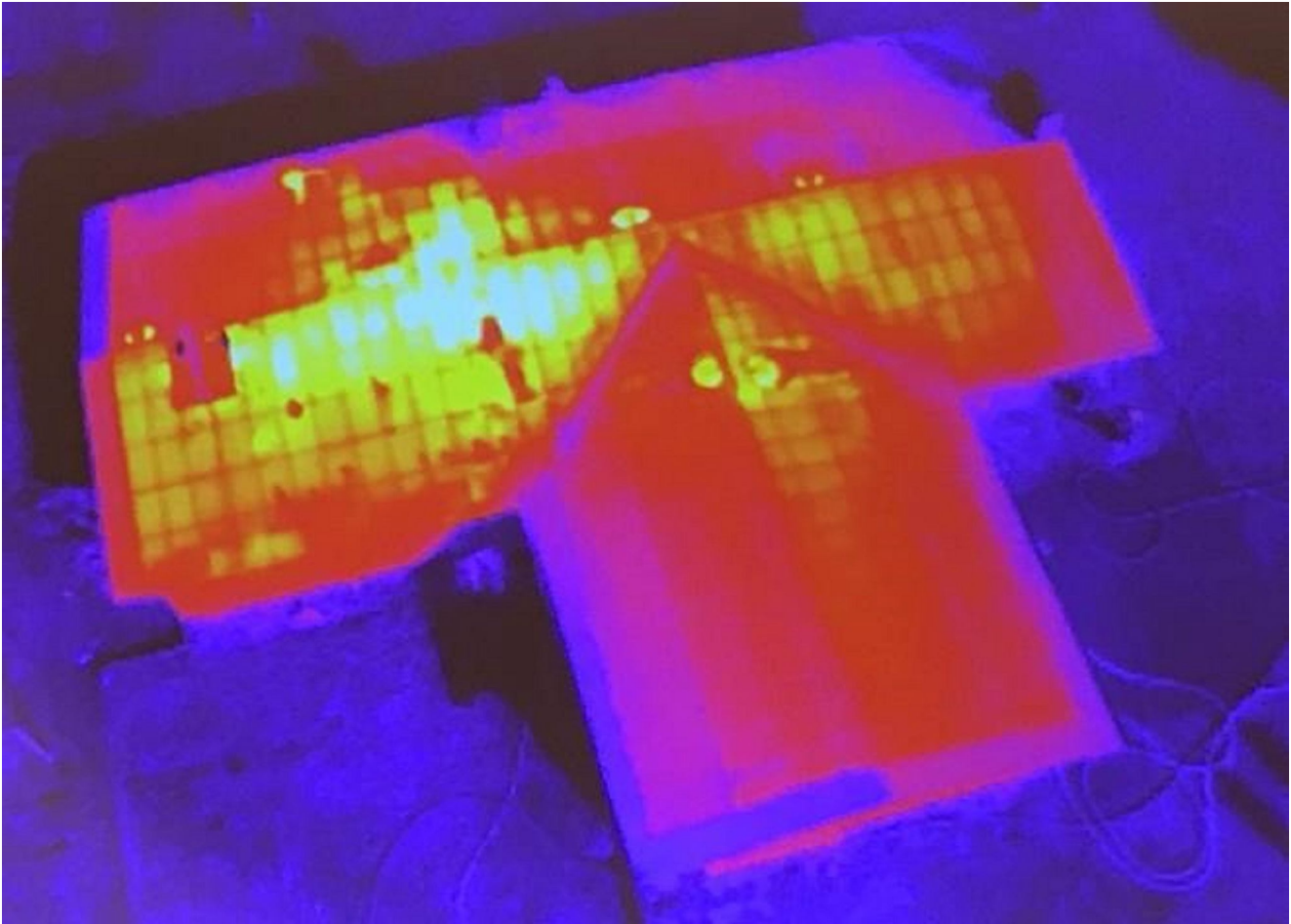
There were several panels put on by fire first responders, showing how they employ drones to do work that would be too dangerous for firefighters to attempt. One of the newest tools for fire groups is FLIR, an acronym for Forward Looking Infrared Radar. It can be used to identify hot spots that cannot be seen by our eyes.

There are filters that can be used by a FLIR device to make the image more understandable: black hot, which makes the warm object black; white-hot, which makes the object white; ironbow, which makes the object golden. Each is useful in certain circumstances.

Black-Hot   White-Hot

Ironbow   Visible Light

Some other applications of drones for first responders and others are landslide inspection, to see into areas that an inspector may not be able to go; storm damage assessment, to get a broader view of the affected area; crash scene reconstruction; package delivery to isolated persons, especially medicines.

One area of progress in eliminating dangerous situations is drone detection. Airports, especially, need the ability to identify drones that may impact commercial aircraft. There are several systems that can identify a drone, but few that can eliminate the physical threat.

One area that is very important to those who fly drones is insurance liability. I did not see any vendors of insurance coverage at this conference, which is surprising.

The TV and cinema industries continue to use drones to enhance their video coverage at relatively low cost. Drones give the ability to view a scene from a distance, without the use of expensive helicopters.

The drone industry will continue to expand to meet the many uses of these new devices.

Interdrone
www.interdrone.com
Admission: various prices, depending on access

Genealogy Report for 11/3/20 SIG Meeting

The Genealogy SIG organized by Sue Mueller met on November 3, 2020 via Zoom. We had one new member attending, Dick Wilkins. We all agreed that using Zoom was a wonderful substitute for meeting in person during the pandemic.

Connie Edwards reviewed the book *The Seven Daughters of Eve* by Bryan Sykes. Sykes is a Professor of Human Genetics at Oxford University. The book explains Mitochondrial DNA in easy to understand language.

John Szvmpruch is seeking a company to repair an old book. If anyone has had a good experience with a company that does this kind of work, please be in contact with John.

Don Rhodes spoke about the steamer, *Erie*, that sank in the Great Lakes in August 1841. The ship is mentioned in several books and we will try to have one of the authors speak to us at a future meeting.

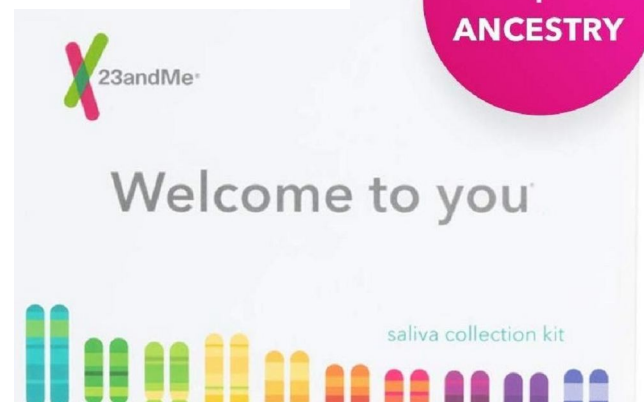Hal Kelley asked on to enter children on *Family Tree Maker* when the father is unknown.

The December Zoom meeting will be held December 1st.

Helen Shimek will speak on *Ancestry's ThruLines* and a similar tool on *23 and Me* at our January meeting.

Submitted by Connie Edwards

13

Smartphone & Tablet Report for 11/23/20 SIG Meeting

The SIG meeting was held via Zoom Video Conferencing at 7:00 PM on the customary fourth Monday of the month.

Joanne Kleinhanz advised us that AT&T 4G LTE phones without VoLTE (or HD Voice) will no longer function for voice or SMS text messages after February 2022. Other cellular providers may end service even sooner as they shut off the 3G and older voice service some phones use instead of VoLTE. LTE phones without VoLTE are rare and old in tech terms, but would still be useable even without VoLTE for internet access (and iMessage service if it is an iPhone). To check on your phone, look up "List of smartphones with HD Voice support" in Wikipedia.

We discussed iOS 14.2 and iPad OS 14.2 which were released in November. Features include more emojis, additional wallpapers and something called intercom using AirPods, HomePods as well as mobile devices. You can also add the Shazam app to Control Center. Shazam recognizes music playing nearby and lists the title and artist(s).

More on Technology for the Pandemic: Google Maps has included COVID-19 Info in the Stacks Menu (layered squares). Select this and zoom out on the map and you will see the 7 day average of numbers of new cases per 100,000 population. Data is available by county, state and country as you zoom out. For some areas these are sobering statistics. Nancy Group forwarded information on the Exposure Notification app using Bluetooth proximity sensing as developed by the Google-Apple partnership. The app requires iOS 13.7 so phones too old for

iOS 13 will not be able to use Exposure Notification. A description of the Exposure Notification app can be found in an article published in the November CUE newsletter.

The CUE November monthly meeting described how to use LastPass, a password manager, on a Windows 10 computer. Our SIG meeting focused on how password managers were particularly useful on mobile devices. Keychain is part of the Apple ecosystem, works through the Safari browser and is provided free with iOS and the Mac OS. Useful features include detection of weak, compromised, easy to guess or reused passwords as well as passwords that may have been included in a data breach. Keychain also generates random passwords for you.

My wife and I use the free version of LastPass since we both have devices outside the Apple ecosystem and Last Pass works across all our operating systems. We demonstrated access to the vault by using 2 factor identification and highlighted the convenience of Face ID on my iPhone. Touch ID can be used, but I have noticed difficulties in reliably using it to unlock my older phone and tablet. Dry fingertips seem to interfere with reliable, repeatable fingerprint identification.

We also showed how Auto Fill can be selected to use LastPass instead of Keychain and how multiple login identities are indicated differently in the iOS version. Another difference is how LastPass entries are made for a new website. There is no pop up asking if you want to save the information which then populates the LastPass entry card. Instead, touch the

Smartphone & Tablet Report Continued

username field and a LastPass entry card appears for you to enter user name and password and then save and auto fill the information.

Next meeting we hope to have a member show us their iPhone 12 (virtually) and describe their experience with Apple's latest. If anyone gets an iPad Air or Pro for Christmas, we would be happy to include it in the show and tell.

There will be no meeting of this Special Interest Group in December. The next meeting of the Smartphone and Tablet Special Interest Group will be via Zoom and is scheduled for 7:00 PM on Monday, January 25, 2021.

John Fair

Four iPhone 12 Models:

Secretary's Report for 11/19/20 CUE Meeting

The members of Computer Users Of Erie (CUE) met remotely on the web with a Zoom video conferencing link.

There were 21 people in attendance. Their names on screen were names they chose as login names. Their names on screen were John Fair, Beverly, Pat Mickel, barbaraguelcher, Paul Francis, George Younkin, annerosthauser, Sam Fletcher, Lee Williams, Don Rhodes, Carol Korn, Suzanne Matthews, Conrad, Hal Kelley, Rick Godzwa, Saaman Khalilollahi , Nancy Group, Janice Castro, jrobert, Elizabeth Wisniewski, and DonWithGalaxy.

At 7:05 PM, John Fair gave a presentation on "Password Managers Revisited" which included information and an "Ask Leo" video on the subject. That followed with a Q&A session from about 8:01 to 8:08.

John Fair mentioned that there will be no CUE general meeting in December and there will be no CUE Holiday Party in December. John plans to make a link available with pass phrases tips.

Paul Francis started the CUE meeting at 8:13 PM. The latest minutes from the newsletter were accepted, with first and second motions by Janice Castro and Lee Williams.

Treasurer Janice Castro gave a report on the CUE treasury with a current balance of $3,820.46 compared to a balance of $3,677.24 last month. The change of $143.22 includes $175.00 in deposits and $31.78 for an expense on the use of Zoom. Janice also mentioned that 7 people dropped from membership by not paying dues.

Lou Cioccio was not in attendance to talk about his Special Interest Groups.

John Fair talked about the Smartphone & Tablet Special Interest Group. Their group talked about the OS 14 system including improved message options, new functions for the camera, and map improvements. John related a story about someone who could not text with his iPhone SE Verizon phone with an Android phone until SMS (short message service) texting was disabled, as a fix. There was also discussion in the SIG meeting about Back Tab programming for taking screen shots, and Apple and Google joining to organize Covid information.

Paul Francis reminded us that there will be no CUE meeting and no CUE Holiday Party in December. The meeting was closed at about 8:30 with motions from Lee Williams and Janice Castro.

Respectfully Submitted,
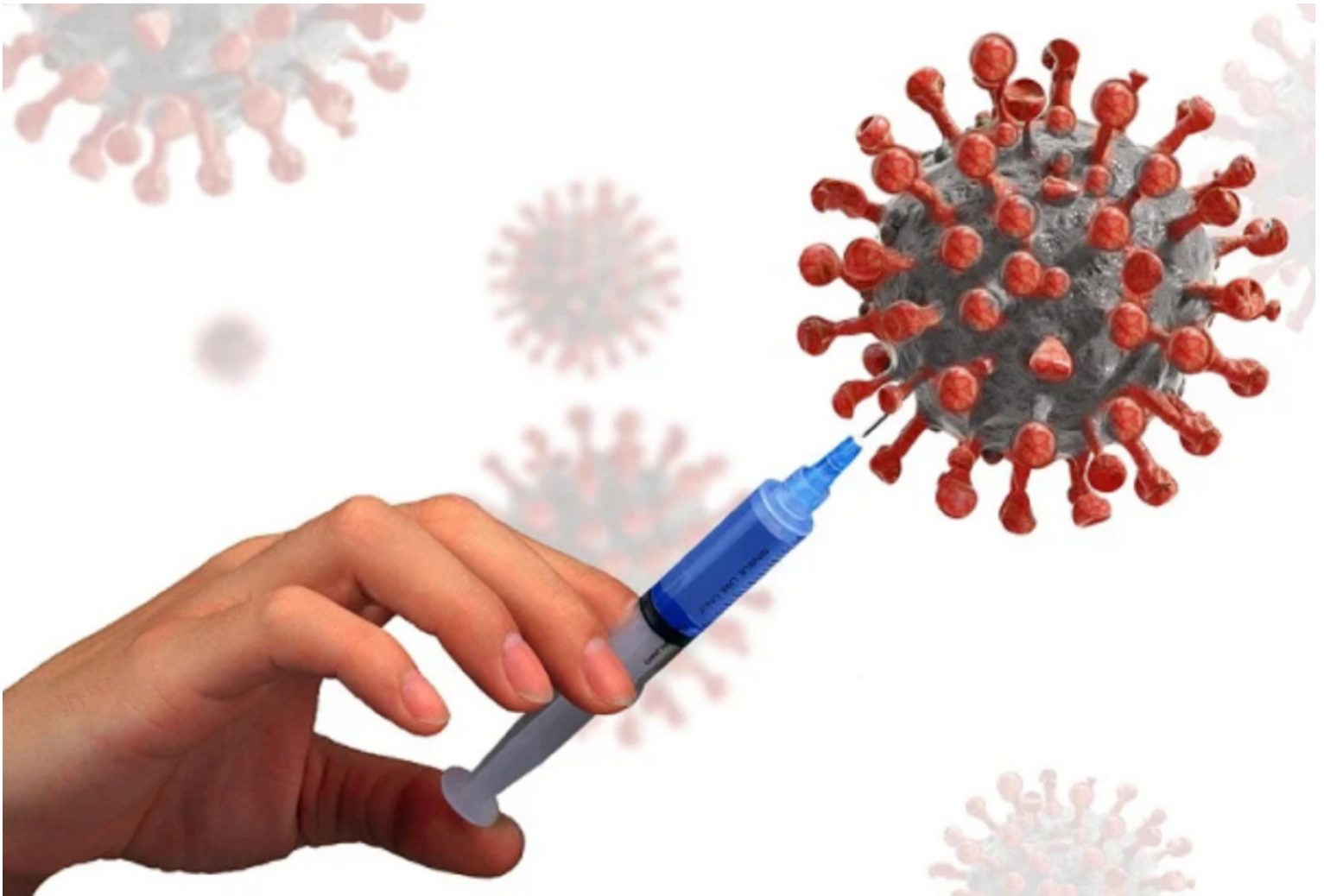Don Grim, Secretary

A Note from the Editor

As usual, feel free to contribute information for the CUE newsletter. Whether it is small, large, an article, a tip, information, or pictures, you can send it to me and I will plan to include it in the newsletter. You can reach me at grimcyber@yahoo.com.

Remember that you can find recent news at the CUE website (cuerie.com). At times, the website will have more recent news than the CUE newsletter since the website is updated continuously and the newsletter is updated monthly.

Stay Safe!

Editorially Speaking, Don Grim

Be Safe!   Looking for a Vaccine to Arrive Soon!

COMPUTER USERS OF ERIE

MEMBERSHIP APPLICATION

Today's Date_____

Last Name	First Name
Address	
City, State	Zip
Home Phone	Cell Phone
Your Email	

The yearly dues are payable in August of each year. The dues are $24 annual.

For NEW members only, when you join outside the annual cycle your initial dues are based upon the month you join. Follow the schedule below.

August $24	September $22	October $20	November $18
December $16	January $14	February $12	March $10
April $8	May $6	June $4	July $2

Information provided on this form will be placed into a CUE Membership Directory

What is your Computer or Device: (Circle)

Windows   Mac   Android   iPhone   iPad

Tablet   Linux   Other

What is you level of expertise? (Circle)

Novice   I know some   I want to learn more

Expert   Geek

Send your completed application to:

Computer Users of Erie

PO BOX 8941

Erie, Pa 16505-0941

What do you wish to gain by joining Computer Users of Erie?

Student membership is just $15 per year (provide proof of student status)

CUE Officer Information

Officers

President	Paul Francis	pdfflyer@roadrunner.com	814-882-1175
Vice President	John Fair	johncfair@gmail.com	814-474-3055
Secretary	Don Grim	grimcyber@yahoo.com	814-461-8289
Treasurer	Janice Castro	jcastrocue@outlook.com	312-543-9128

At-Large Board

Hal Kelley	hal_kelley@outlook.com	814-836-1803
Suzanne Matthews	pdxmatthews@aol.com	814-790-4185
Susan Mueller	suepasta@roadrunner.com	814-622-1262
David Runser	ml350djr@gmail.com	814-873-1740
Conrad Sobczak	hatsob@verizon.net	814-899-9699

Alternate At-Large Board

Lou Cioccio	lcioccio@mac.com	814-868-1320
Marsha Keller	dekmak43@gmail.com	814-449-4682

Special Interest Groups

Beginner's (BUG)	Lou Cioccio	lcioccio@mac.com	814-868-1320
Digital Photo	Lou Cioccio	lcioccio@mac.com	814-868-1320
Genealogy	Susan Mueller	suepasta@roadrunner.com	814-622-1262
MAC	Lou Cioccio	lcioccio@mac.com	814-868-1320
Smartphone & Tablet	John Fair	johncfair@gmail.com	814-474-3055
Windows	Lou Cioccio	lcioccio@mac.com	814-868-1320

Other Resources:

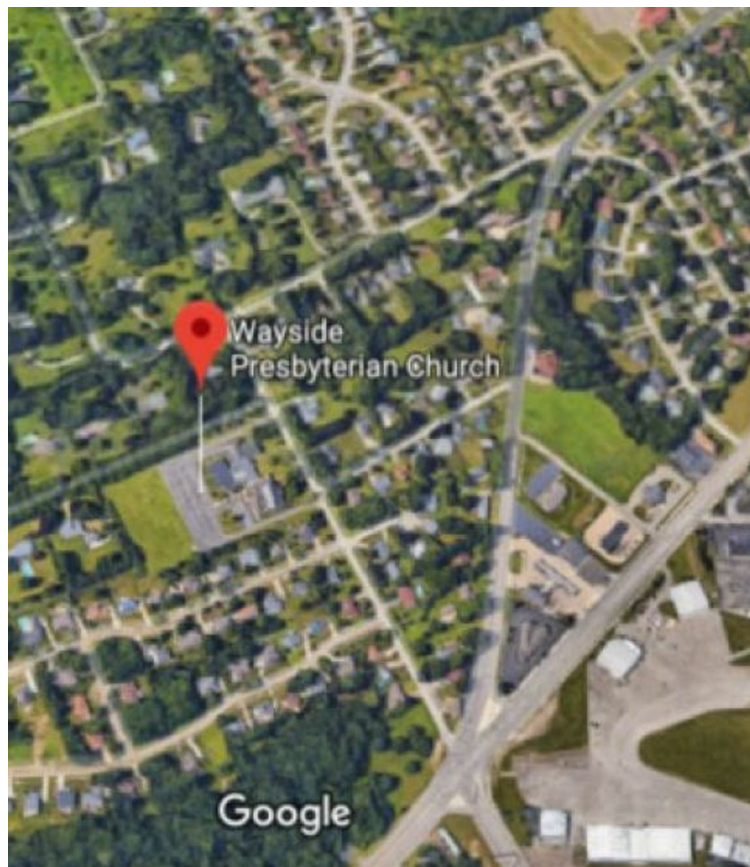|			
CUE Historian	Tom Kuklinski	tkuklinski@gmail.com	814-746-9165
DOS Information	Don Grim	grimcyber@yahoo.com	814-461-8289
Editor	Don Grim	grimcyber@yahoo.com	814-461-8289
Librarian	Tanya Mattson	449tlm@gmail.com	814-833-1404
Membership Chair	John Fair	johncfair@gmail.com	814-474-3055
Webmaster	Tom Kuklinski	tkuklinski@gmail.com	814-746-9165

CUE Disclaimer

Directions to Wayside Presbyterian Church for CUE Meetings

Wayside Presbyterian Church, at 1208 Asbury Road, is approximately three blocks north of the intersection of Asbury Road and Route 5. This intersection is at the northwest corner of the Erie International Airport property. Following Asbury, turn left at the first marked driveway for the church. During the afternoon winter schedule (10:00 AM for the months of November, January, February and March), entry is through the two sets of blue double doors. Use the buzzer to gain entry if the doors are locked. During the normal evening schedule (7:00 PM the remaining months) use the double doors on the south side of the Christian Education wing. Signs are posted in the building to direct you to the meeting room.

From West of Erie International Airport: Follow Route 5 to the intersection of Asbury and Route 5. Turn hard left onto Asbury Road. Look for the church on the left approximately 3 blocks north of the intersection.

From South of Erie: Take Interstate 79 north to the 26th Street (Route 20) Exit. Bear left onto 26th Street (Route 20) west. Follow Route 20 about 3.4 miles west to Asbury Road. Turn right (at the Sheetz Gas Station) onto Asbury and follow it straight across Route 5. Look for the church on the left approximately 3 blocks north of the intersection.

From East of Erie International Airport: Follow 26th Street (Route 20) west to Asbury Road. Turn right onto Asbury and follow it straight across Route 5. Look for the church on the left approximately 3 blocks north of the intersection. OR, follow 12th Street (Route 5) west past the airport to Asbury Road. Turn right onto Asbury Road. Look for the church on the left approximately 3 blocks north of the intersection.

About the Newsletter

The CUE Newsletter is published monthly by the Computer Users of Erie (CUE), an independent nonprofit computer user group, dedicated to the education and support of our members. The opinions expressed herein are those of the individual authors or the editor, and do not necessarily reflect the opinions of CUE. This publication is Copyright © 2018 by the Computer Users of Erie. All rights reserved. Permission to reprint is hereby granted to any Nonprofit Organization, as long as proper credit is given, or not restricted by the original author or source. **Advertising:** Advertising is welcome from both our members and commercial sources. For current advertising rates, please send an email to the Editor requesting a copy of the Ad Rates file. **Address Changes:** Any recipient of the newsletter is urged to submit a change of address notification to the Editor, either via US Mail to the address shown below, or (preferably) via email, so we may keep our records accurate. **Newsletter Exchange:** CUE welcomes newsletters from other user groups. If you would like to exchange newsletters, either by US Mail or via electronic (Internet) delivery, please send your newsletter to the address listed below. We will add your name to our mailing list and send you our newsletter in return. **Submissions:** Submissions are always welcome from our members or outside sources. Submissions may be articles, images, cartoons, etc. For first time authors, please request a copy of our Submissions Guidelines from the Editor, prior to submitting any items. This will help to eliminate publication delays. Submissions are due by the 5th of each month. **Correspondence:** General correspondence to CUE may be sent via US Mail to: Computer Users of Erie, PO Box 8941, Erie, PA 16505-0941 USA. Email to: cuerie@gmail.com. Editor Email to: grimcyber@yahoo.com.

CUE Membership Benefits

As the largest computer users group in northwest Pennsylvania, CUE has served Erie and surrounding communities since 1982. CUE provides a forum for people to learn about computers and have fun doing so. The group meets the third Thursday each month, with the exception of the months of July and December. In July the group gathers for a picnic and December is the annual holiday party (dates vary). CUE meetings are at Wayside Presbyterian Church, 1205 Asbury Road, Erie. Meetings from April through October are at 7:00 p.m. From November through March, the meetings are at 10:00 AM in the morning, except it will stay at 7:00 p.m. during the Caronavirus Pandemic.

Our monthly meetings are open to the public regardless of age or ability. Many of our members are senior citizens who span a wide range of capabilities and interests but share a desire to know more about how to use computer related technology. Our role is to provide a forum for continuous learning from each other. CUE has a closed Google gmail group that is used to communicate with members and to post questions/problems to seek answers from the membership. Members pay an annual membership fee of $24 to receive a membership directory, monthly newsletter, availability to monthly general meetings, and any of the Special Interest Group (SIGs) meetings, usually held in a member's home. Locations and times vary, so check the online EVENTS Calendar on the website for the latest information. SIG topics include:

- Digital photography [and photo safari]
- Genealogy
- Macintosh computers
- Computer troubleshooting
- Beginners users group (BUG)
- Handheld smartphones and tablets

CUE is a member of the Association of Personal Computer User Groups (APCUG). APCUG is an International, platform-independent, volunteer-run, non-profit organization devoted to helping member User Groups offer enhanced services to their members. Some of the membership benefits include:

- Speakers bureau
- Free virtual technology conferences
- Regional conference
- Push newsletter articles
- Discounts and special offers from vendors
- User group newsletters online

Find us online at http://www.cuerie.com/. And Facebook @curerie

---

Computer Users of Erie
PO Box 8941
Erie, PA 16505-0941

Postage Here

Postmaster:
Address Service Requested

Address label here