

Los Angeles Computer Society  
June 2026

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LACS

A Computer and  
Technology User Group

# User Friendly

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## TUESDAY, JUNE 9, 2026 GENERAL MEETING

**Meeting Time: 7:00 to 9:00 PM - via Zoom**  
**Socializing, Questions & Answers: 6:30-7:00**  
**Topic: The AI Toolbox, My Favorite New Discoveries of the Year**  
**Speaker: Hewie Poplock, APCUG Speaker**

**H**ewie Poplock returns to LACS with a fun and practical look at how artificial intelligence is changing everyday life for seniors. Building on his earlier AI presentations, Hewie will demonstrate some of the newest and most useful AI tools available today, including applications that can summarize videos, create presentations instantly, animate old photos, generate images, and even create realistic AI avatars.

**Hewie Poplock** is a retired teacher, business owner, IT manager, and long-time technology educator. Hewie has been active in computer user groups since 1982



He currently co-hosts the popular weekly *Tech for Seniors* program with Ron Brown. He also leads monthly Windows and AI discussion groups for people and technology enthusiasts across the country.

Known for his warm teaching style and easy-to-understand demonstrations, Hewie makes even advanced technology approachable and entertaining. Whether you are completely new to AI or already experimenting with it, this presentation promises to amaze, educate, and inspire. If you want to see how AI can make life easier, more creative, and more enjoyable, you will not want to miss this special program.

You can read the articles Leah wrote in User Friendly in July 2025 for Hewie and in December 2025 for Chris Taylor. Get them on our website ([www.lacspc.org](http://www.lacspc.org)).

# HAPPY SUMMER

### LACS WEBSITE

For information about LACS, go to <https://www.lacspc.org>

Watch your email for APCUG workshops and other upcoming events.

**LACS IS A MEMBER OF APCUG**  
An International  
Association of Technology  
and Computer User Groups

<http://www.apcug2.org>  
[www.facebook.com/APCUG](http://www.facebook.com/APCUG)  
[www.X.com/apcug](http://www.X.com/apcug) (Twitter)



### TO JOIN A LACS GENERAL MEETING

LACS members on the PC Groups.IO list will receive the Zoom link to meetings two days before the meeting. Click on it to enter.

Guests may ask for the link two days before at Leahjc (at) sbcglobal.net.

### FROM YOUR PRESIDENT/EDITOR

#### LACS MEMBERSHIP ROSTER

A new roster is inserted in the center of the June 2026 issue of User Friendly.

All LACS members will receive the black-and-white version of the June issue by snail mail, including those who opted for only the online version, which will not contain the roster.

**Please be sure to keep it because it will never be online for security reasons.** Only LACS members will have access to it. It may be printed and filed or scanned and saved in a folder on your computer.

#### QUANTUM COMPUTING

After publishing the article on page 5 of this issue on quantum computing, which is above my head, I asked ChatGPT for some simple definitions.

**Quantum computing** is a new type of computing that uses the principles of Quantum Mechanics to process information. Instead of using bits that are either 0 or 1, quantum computers use **qubits**, which can be 0, 1, or both at the same time (a state called **superposition**). This allows quantum computers to solve certain complex problems much faster than traditional computers.

**Quantum Mechanics** is the branch of physics that explains how matter and energy behave at the atomic and subatomic level, where particles can exist in multiple states at once and influence one another in unusual ways.

#### HAPPY FATHER'S DAY TO ALL LACS FATHERS.

We celebrate the LACS fathers, grandfathers, and father figures.

Thank you for your love, guidance, patience, and support. Your dedication to your **families** makes a lasting difference. May your Father's Day be filled with joy, laughter, and the appreciation you so richly deserve.

**We wish you a wonderful and blessed Father's Day!**

#### RAFFLE PRIZES

Some APCUG user groups give raffle prizes to meeting attendees in the form of gift cards. Would LACS members be interested in doing this? Would it increase attendance at the general meetings? Let me know what you think.

#### YOUTUBE HISTORY

Approximately 720,000 hours of video are uploaded to YouTube every single day. Even if you wanted to, you could never watch everything on the site. It all began with an 18-second video in 2005 titled "Me at the Zoo." The clip shows YouTube co-founder Jawed Karim in front of some elephants. Perhaps not the most auspicious start, but just one year later, YouTube was sold to Google for \$1.65 billion.

### GENERAL MEETING REPORT

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

**Topic:** How to Identify Fake News & Political Tricks

**Speaker:** Judy Taylour, APCUG  
May 12, 2026

Judy taught us how to distinguish true from false political content and how to protect our vote, our voice, and our peace of mind. We need to be informed, kind, and smart online. Think before you click.

False or inaccurate information is spread through social media by human error or misunderstanding. And fake news that's deliberately untrue or misleading is spread with specific intent to mislead. Online false information is deliberately spread to cause harm or negative consequences.

Older adults are targeted more. They vote reliably, so are targeted with false information, fake quotes, and distorted facts.

#### Spotting Fake Political Ads

##### Warning Signs

- No clear sponsor
- Emotional manipulation
- Claims that sound too perfect
- Claims with no credible source
- Ads that seem to know you
- Calls to action with no substance

##### What To Do

- Look for the official sponsor
- Check if the sponsor is real
- Search the same claim on multiple sites
- Compare the ad's message with the candidate's
- Reverse-image search photos used in the ad
- Ask: Does this ad seem fake?

#### What To Look For

- Lip movements that don't match the audio
- Blurry edges around a face or hair
- Strange blinking or facial expressions
- Sudden lighting or skin-tone changes
- Audio that sounds spliced or mismatched
- Posted by unrecognized or anonymous accounts
- Comments are turned off
- Search for the original source

#### Spotting Fake News

##### Warning Signs

- Sensational All-Caps headlines
- No author name or suspicious byline
- Poor grammar, typos, or odd formatting
- Website mimics a real news outlet
- Vague sourcing: "Experts say..."
- No date on the article
- Only one source reports it
- Confirmation bias bait

##### What To Do

- Search the title or a key quote
- Check when and where it was originally posted
- Look at who posted it
- Check if trusted outlets have reported it
- Ask: Who benefits if I believe this

#### Avoid Voting Scams and Safeguarding Elections

##### Warning Signs

- Spoofed election websites
- Voter suppression tactics
- Fake voter registration drives
- Robocalls and phone scams

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## What To Do

- Report any suspected election-related activity
- Teach others about voting scams
- Call 1-800-253-3931 or file a report online with the U.S. DOJ, Civil Rights Division, Voting Section at <https://ti-nyurl.com/2pyhbswp>
- Contact your state or election office.

TRUSTED VERIFICATION RESOURCES		
FACT-CHECKING	IMAGE & VIDEO	SOURCE BIAS
<ul style="list-style-type: none"><li>• PolitiFact.com — rates political statements</li><li>• FactCheck.org — nonpartisan political facts</li><li>• Snopes.com — myths, rumors, viral claims</li><li>• AP Fact Check — <a href="http://apnews.com/APFactCheck">apnews.com/APFactCheck</a></li></ul>	<ul style="list-style-type: none"><li>• Google Reverse Image Search</li><li>• TinEye.com — advanced reverse image search</li><li>• InVID / WeVerify browser extension</li><li>• TrueMedia.org — AI deepfake detection</li></ul>	<ul style="list-style-type: none"><li>• AllSides.com — media bias ratings</li><li>• MediaBiasFactCheck.com — outlet credibility</li><li>• Ad Fontes Media Bias Chart</li><li>• NewsGuard browser extension</li></ul>

## THE “SIFT” METHOD

**STOP:** Before you believe a claim, pause. Don't let strong emotions rush you into spreading misinformation.

**INVESTIGATE:** Look up the outlet or author. Is it reputable?

**FIND:** Look for other sources reporting the same story.

**TRACE:** Find the original source of a quote, statistic, or image.

## Before You Share

- Can I find this on more than two credible, independent websites?
- Does the headline match what the article actually says?
- Is there a clear author, date, and named source?

- Did I check the claim on PolitiFact, FaceCheck.org, or Snopes?
- Is the website URL legitimate?
- Does the political ad include a “Paid for by” disclosure?
- Have I searched to confirm this video is not out of context?
- Am I sharing this because it's true or because it conforms to my views?

## You Don't Need To Be a Tech Expert

- Simple checks work.
- Ask: Who, What, When, Where, and Why, and How.
- Be skeptical.
- Be cautious of unknown sources.
- Verify anything on social media.

### **An Informed Citizen Is Democracy's Best Defense**

#### **Pause — Verify — Question — Check**

After this presentation, there were many questions and much discussion. They included warnings not to answer your phone if you don't know who is calling. Wait for the voicemail to identify the caller.

Some groups give raffle prizes to meeting attendees in the form of gift cards.

Judy recommended that we investigate California's DROP program. This program disallows data brokers from selling your information. California is the only state with this legislation. For more information, go to:

[California's DELETE Act and DROP Platform Explained | PrivacyOn | PrivacyOn.](#)

LACS members and guests received the link to the recording of this presentation so they can refer to it for details not covered in the above report. ❖

### **QUANTUM COMPUTING 2026**

By: **Tom Burt**, Vice President  
Sun City Summerlin Computer Club  
Las Vegas, NV  
<https://www.scscclub>  
tomburt89134 (at) cox.net

There's been some evolution in the Quantum Computing field since we last published about it. I refer you to two articles by David Kretchmar that appeared in the October 2024 and January 2025 issues of the Gigabyte Gazette for some background.

As part of my research for this article, I asked Google's Gemini 3 to generate a 1000-word summary of the state of Quantum Computing in early 2026. I was surprised by some of the advances.

For those not familiar with quantum computing, I offer a brief comparison of classical digital computing and quantum computing.

#### **Classical Digital Computing**

Digital computing uses billions of microscopic transistors linked together to create logic elements that can carry out primitive instructions, such as adding, multiplying, dividing, comparing, and so on. A digital computer program typically has millions of such instructions. The instructions are fetched from memory and executed in sequence by a processor.

The processor and all its logical elements are driven by a master clock that pulses several billion times a second. Each clock pulse flows to all the logic elements to drive them to the next step in executing the instructions. On modern multi-core processor chips, thousands of logic elements may operate in parallel. At each clock pulse, every logical element is either on (1) or off (0).

A typical digital processor, like the AMD Ryzen 7 8-core CPU, can run 16 concurrent instruction streams at a clock rate of up to 5 billion cycles per second. The picture is about half actual size. The average instruction requires two clock ticks to complete. So, running at full capacity, that processor could execute  $8 \times 2 \times 5 \text{ billion} / 2 = 40 \text{ billion}$  instructions per second. More realistically, such a processor might sustain 10 billion operations per second if all 16 possible instruction streams could run continuously without conflicts. But it's rare for those conditions to persist for long.

In digital computing, the key idea is that, at every clock pulse, every logic element is in

exactly one of two possible states: on (1) or off (0). Digital computers work with binary logic.

### Quantum Computing

Quantum computing uses logic elements whose sizes are extremely small. Called qubits (quantum bits), these elements can simultaneously represent both states: 0 and 1, with the probability of measuring either value being controlled by a quantum gate. Quantum gates can also act as Boolean operators (And, Or, Xor, Not, ...). This multi-valued behavior reflects quantum superposition. By connecting multiple qubits together, it's possible to simultaneously represent multiple states concurrently.

The connections in this case are not via wires, but via quantum entanglement. In entanglement, when the state of one entangled element is measured, the state of the other is instantaneously determined as well, no matter how far the two are apart.

For example, connecting 3 qubits together would allow them to represent  $2^3=8$  states simultaneously. In general, entangling  $n$  qubits allows them to represent  $2^n$  simultaneous states.

There are various physical implementations of a qubit; for example, IBM has used a capacitor and a Josephson junction in a parallel circuit. These can be assigned a superposition state and be entangled by pulsing them with a laser tuned to a precise frequency. Quantum computers like the one in the image on the right tend to look like chandeliers because of all the cryogenic cooling tubes.



Programming a quantum computer involves setting up the quantum gate values to create constructive and destructive

interference paths so that when the entangled network is measured, the probability is very high that the correct solution has been attained.

### Reliability and Error Correction

A persistent problem with Quantum Computers is that the superposition and entanglement states of the qubits are easily disturbed by macroscopic influences such as electromagnetic fields, random atomic motion due to temperature, interactions with cosmic rays and other background radiation, and random fluctuations of the universal quantum background field. Also, all quantum interactions are probabilistic.

Even if the qubits and gates are all set up correctly, it's possible the final measurement may converge on a low-probability state, giving an incorrect answer.

To compensate for this behavior, most quantum computers operate at extremely low temperatures and in shielded, isolated rooms to minimize disturbances. To improve accuracy, quantum computer chips now implement "logical" qubits as collections of physical qubits. This allows errors to be detected when measurements are taken. One approach might be to use consensus, taking the final result to be that of the majority of the physical qubits implementing that logical qubit.

### Power Consumption and Other Issues

Because they operate at near-absolute-zero temperatures, quantum computers require extensive, expensive cooling, which in turn requires a lot of power. Also, the "programming" of the quantum computer is done using a classical digital computer. The problem question must be analyzed, and the qubit and gate setup must be precisely worked out using specialized software.

### Some Real-World Applications

In 2026, quantum computing has reached a point of scale and stability where it can be used to tackle real-world problems, rather than contrived academic experiments. The following examples are excerpted from Gemini 3's aforementioned article.

#### Pharmaceuticals and Materials Science

This is the "billion-dollar" use case. Simulating the electronic structure of a new molecule is a "quantum-native" problem.

**VQE (Variational Quantum Eigensolver):** Used to find the ground state energy of molecules. In early 2026, companies like the Cleveland Clinic and Boeing are using quantum systems to discover more efficient battery materials and nitrogen-fixing catalysts for sustainable agriculture.

#### Financial Modeling

Quantum algorithms are proving superior in **Monte Carlo simulations** and **Portfolio Optimization**.

**Risk Analysis:** Banks are piloting "Quantum-Classical Hybrid" models to calculate Value-at-Risk (VaR) with higher precision and lower latency than classical clusters, specifically in volatile market conditions.

**Logistics and Supply Chain:** The "Traveling Salesperson Problem" at a global scale remains classically impossible. Quantum-inspired and true quantum annealing (via D-Wave and others) are being used for real-time fleet routing and port logic optimization, reducing fuel consumption by an estimated **3% to 5%** for early adopters.

#### Code Cracking

The most urgent development in 2026

isn't a new computer, but the defense against one. A quantum algorithm developed in 1994 by mathematician Peter Shor theoretically allows a sufficiently powerful quantum computer to factor large prime numbers, breaking the RSA and ECC encryption that secures the modern internet.

In response, the **National Institute of Standards and Technology (NIST)** has finalized its first set of **Post-Quantum Cryptography (PQC)** standards.

- **The Transition:** Governments and financial institutions are now in the midst of a massive "crypto-agility" migration.
- **The Threat:** The "Harvest Now, Decrypt Later" strategy—where adversaries steal encrypted data today to decrypt it once a large-scale quantum computer exists—has forced organizations to adopt lattice-based encryption immediately.

### Conclusions

Quantum computing is evolving quickly as a tool for solving certain classes of problems that are intractable for classical digital computers. As with many emerging technologies, there's a lot of hype, and it's often not easy to determine how well it really works and whether the benefits outweigh the costs. The last video link in the set below discusses some of those concerns.

For those who wish to learn more, here are some links to articles and tutorial videos:

[https://en.wikipedia.org/wiki/Quantum\\_computing](https://en.wikipedia.org/wiki/Quantum_computing)

<https://www.youtube.com/watch?v=B3U1NDUiwSA>

<https://www.youtube.com/watch?v=Kv8N9alyYNc>

<https://www.youtube.com/watch?v=N-9muK0mv5w> ❖

# Los Angeles Computer Society

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## LACS INFORMATION

### HOW TO JOIN LACS' MAIL LIST

LACS has an active, general email list, [PC@LACS.Groups.IO](mailto:PC@LACS.Groups.IO), that goes to all members on the list. Members will receive meeting notices and Zoom links via this list. Members can also ask questions, offer suggestions, and help others.

New LACS members will receive an invitation from Groups.IO to join this list with two weeks to accept. Other LACS members may join the list by sending an email to Larry McDavid, Groups.IO Manager. See the roster for contact information. They will receive an invitation to join. Contact Larry with any questions about joining.

### 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 [www.jimopi.net](http://www.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.

### USING PAYPAL OR ZELLE

**To pay LACS by Zelle**, log into your bank with your username and password.

Select **Transfer Money > Send Money with Zelle**. Follow the instructions. The recipient is **Los Angeles Computer Society**. Select **Send by email**. Enter **lacomersociety@gmail.com**

Add a note telling what the payment is for and your contact information.

The wording may be a little different on your bank's site.

**To pay LACS by PayPal**, go to this link: [www.paypal.com/paypalme/00001024](http://www.paypal.com/paypalme/00001024), and then click on **Send**. Log in to your PayPal account or sign up for an account so that PayPal knows where to get the money to send. Follow the prompts. Enter the amount to pay, then click on **Add a note**. Say what the payment is for. If it is for dues, add your physical and email addresses, preferred phone number, and if you want a hard copy or an electronic copy of *User Friendly*.

### CHANGE CONTACT INFORMATION

Go to [www.lacspc.org](http://www.lacspc.org). Click on **Join LACS** in the bar under the picture. Under **Membership Update**, select **Click Here** to select either the DOC or PDF form. Fill it out; email it with your changes to Leah Clark. See the LACS roster. Or mail it to

Los Angeles Computer Society  
6201 W. 87<sup>th</sup> St. # 4095  
Los Angeles, CA 90045

### HYPERLINKS

Underlined text (blue in the color edition) in *User Friendly* usually means it's a hyperlink to a website. Click the link in the online version ([www.lacspc.org](http://www.lacspc.org)) to see the referenced place. You can also copy and paste it into your browser's search or address bar.

### USER FRIENDLY BACK ISSUES AND INDEXES

See back issues and indexes of *User Friendly* at <https://www.lacspc.org>

### LACS CALENDAR



#### LACS Board Meeting

Monday, June 1

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

Place: Wherever you are via Zoom

#### LACS General Meeting

Tuesday, June 9

Time: 7:00 PM. (Open from 6:30)

Place: Wherever you are via Zoom

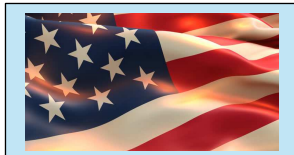
June 1: LACS Board Meeting

June 9: LACS General Meeting

June 14: Flag Day

June 19: Juneteenth

June 21: Father's Day



**HAPPY  
FATHER'S DAY**

**JUNETEENTH  
FREEDOM DAY**

#### VISIT OTHER APCUG COMPUTER USER GROUPS AND SEE THEIR NEWSLETTERS

LACS heartily welcomes visitors from other user groups, and we are welcome to join other groups' meetings.

Go to [www.APCUG2.org](http://www.APCUG2.org). Click on **Member Benefits**, then on **Groups Sharing Meetings** or on **Newsletters Online**.

#### UPCOMING MEETINGS

**June 9:** The AI Toolbox, My Favorite New Discoveries of the Year

**July 14:** Discovering Your Family History

Please watch your email and User Friendly for updates and changes.

#### ATTENDING A ZOOM MEETING

LACS members who are on our PC email list and guests will receive a link, meeting ID, passcode, and instructions to attend the LACS general meetings a few days before the meeting. **Please let Leah Clark know by the morning of the meeting if you don't have it or have any problems.**

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

**You can put an icon to the link to a meeting 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.
7. Click **Finish**.

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## MEMBERS HELPING MEMBERS

LACS members volunteer to help other members solve hardware and software problems by telephone or during the hours listed below. Please select a topic from the list below 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, email Leah Clark at the address below. Only members in good standing may receive a roster. We hope 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, to make corrections, or to ask questions, please email Leah Clark at leahjc (at) sbcglobal.net

Android Smartphones — 5	Mozilla Firefox — 3, 7	Photoshop Elements — 2
Apple devices — 7	MS Excel — 5, 7, 8	Quicken — 5
Anti-Malware and Backup — 3, 5	MS Word — 1, 5, 8	Thunderbird — 3
Genealogy — 5	MS Outlook — 1, 5	Utilities — 3, 5
Groups.IO — 4	MS PowerPoint — 5, 7	Windows — 3, 5
Hardware — 3	PDF — 5, 8	WordPerfect — 5
Lotus Word Pro, Approach — 3		Zoom — 2, 6

Preferred Time for Phone Calls			
Number	Name	From	To
1	Loling Beckman	10:00 AM	6:00 PM
2	Leah Clark	7:00 AM	5:00 PM
3	Jim McKnight	8:00 AM	7:00 PM
4	Larry McDavid	Contact by email	
5	Stephanie Nordlinger	9:00 AM	9:00 PM
6	Mark Presky	Any	Any
7	Paula Van Berkomp	9:00 AM	5:00 PM
8	Joan Wilder	9:00 AM	9:00 PM

**Note:** Times are Pacific Times

# Los Angeles Computer Society

June 2026

## OFFICERS, DIRECTORS, AND LEADERS

POSITION	NAME	TERM
President	Leah Clark	2026
Vice President	Stephanie Nordlinger	2026
Acting Secretary	Stephanie Nordlinger	2026
Treasurer	Gavin Faught	2026
Director	Loling Beckman	2027
Director	Donna Barton	2027
Director	Howard Krivoy	2027
Director	Mark Presky	2027
Director	Jim McKnight	2026
Director	Paula Van Berkon	2026
Director	<b>Open</b>	2026
APCUG Representative	Leah Clark	
Corporate Counsel	Stephanie Nordlinger	
Database Manager	Loling Beckman	
Groups.io Manager	Larry McDavid	
Newsletter Editor	Leah Clark	
Program Chair	Stephanie Nordlinger	
Publicity	Mark Presky	
Quick Consultants	Leah Clark	
Webmaster	Paula Van Berkon	

**LACS Mailing Address: 6201 W. 87<sup>th</sup> St. # 4095, Los Angeles, CA 90045**

**LACS Website: <https://www.lacspc.org>**

Please use your LACS roster for email addresses and phone numbers to contact any officer, board member, or other member. **Only LACS members may receive a roster.**

**Please note:** The 2025 roster was in the middle pages of the May User Friendly. It was mailed to all LACS members, including those who usually receive only the electronic version. The roster will not be sent electronically to anyone. Be sure to keep it where you can easily find it when you need it. If you don't have the roster, please contact Leah Clark at < leahjc (at) sbcglobal.net >.

### PASSKEYS — WHAT ARE THEY?

By **Tom Burt**, Vice President  
Sun City Summerlin Computer Club  
<https://www.scscclub>  
tomburt89134 (at) cox.net



Some of the material in the following was generated by Google's Gemini AI in response to my prompt: "Tell me about how digital passkeys work". I've been meaning to do an article on passkeys for some time. Public-key cryptography has been around since the mid-1970s. An article by Martin E. Hellman in the August 1979 issue of Scientific American brought awareness to a broad audience. The "keys" referenced are very large numbers and work together in pairs: a "public" key that can be widely shared, and a "private" key known only to the owner. Here's a link for those wanting to dig in deeper: [https://en.wikipedia.org/wiki/Public-key\\_cryptography](https://en.wikipedia.org/wiki/Public-key_cryptography).

The main idea is that even though your "public" key is accessible, a hacker cannot use it to guess your associated private key, which only you (actually your device) know. For each website or account that you connect to, a different passkey pair will be generated and remembered. Here's a link to an excellent series of 6 ZD-Net articles that discuss passkeys in depth: <https://www.zdnet.com/article/how-passkeys-work-the-complete-guide-to-your-inevitable-passwordless-future/>. These are lengthy, but very informative.

I must confess, after reading Gemini's synopsis, I was initially inclined to advocate switching to passkeys, but after reading the ZD-Net articles, my opinion *evolved*.

#### Here's the information produced by Gemini

Digital passkeys represent a significant leap forward in online security and user convenience, designed to eventually replace traditional passwords. Here's a breakdown of how they work:

#### The Core Concept: Public-Key Cryptography

At the heart of passkeys is a robust security mechanism called **public-key cryptography** (also known as asymmetric cryptography). Here's how it applies:

- **Key Pair Generation:** When you create a passkey for a website or application, your device (smartphone, computer, security key, etc.) generates a unique pair of cryptographic keys:
- **Private Key (the actual passkey):** This key is kept **securely on your device** and never leaves it. It's often stored in a dedicated, isolated hardware component such as a Secure Enclave (Apple), a Trusted Platform Module (TPM) (Windows/Android), or Samsung Knox. This isolation makes it extremely difficult for malware or attackers to access.
- **Public Key:** This key is sent to and stored by the website or application you're creating the passkey for. Importantly, the public key alone is useless to an attacker; it cannot be used to access your account.

#### Authentication Process

- **Challenge:** When you try to log in to an account that uses a passkey, the website sends a "challenge" (a random piece of data) to your device.
- **Local User Verification:** Your device then prompts you to verify your identity locally. This is typically done using the same methods you use to unlock your device: biometrics (fingerprint, facial recognition) or a PIN/pattern. **Crucially, your biometric data never leaves your device.** It's only used to unlock the private key stored on your device.

- **Digital Signature:** Once your identity is verified, your device uses your private key to "sign" the challenge. This creates a unique digital signature.
- **Verification:** Your device sends this digital signature back to the website. The website then uses the public key it has stored for your account to verify that the signature is legitimate. If it matches, you are authenticated and granted access.

### Key Advantages of Passkeys

- **Phishing Resistance:** This is one of the biggest benefits. Because the private key never leaves your device and is cryptographically bound to the specific website or app, a fake website (phishing site) cannot trick you into giving away your passkey.<sup>9</sup> Your device and browser know the legitimate site and won't authenticate on a fraudulent one.
- **Stronger Security:** Passkeys are inherently much more secure than passwords. They eliminate vulnerabilities like:
  - **Weak/Reused Passwords:** You don't need to create or remember complex passwords, so there's no risk of using easy-to-guess ones or reusing the same password across multiple sites.
  - **Credential Stuffing:** Since there are no passwords to steal, attackers can't use breached credentials from one site to gain access to others.

- **Data Breaches:** Even if a website's server is breached, only your public key is exposed, which is useless to attackers without your private key.

### Improved User Experience

- **No More Remembering Passwords:** This is a huge convenience factor.
- **Faster and Seamless Logins:** You use your device's unlock method (biometric scan or PIN) to log in, making the process much quicker and smoother.
- **Cross-Device Functionality:** Passkeys can be securely synced across your devices (e.g., via iCloud Keychain for Apple, Google Password Manager for Android/Chrome) within the same ecosystem. You can also use a passkey on one device to log in to another nearby device (e.g., scanning a QR code with your phone to log in on a laptop).
- **Replacement for MFA:** In many cases, passkeys can replace the need for traditional multi-factor authentication (MFA) methods like SMS OTPs, offering a single, secure step for authentication.

### Underlying Standards

Passkeys are built upon open industry standards developed by the **FIDO Alliance**, primarily:

- **WebAuthn (Web Authentication):** This specification defines how browsers and websites interact to enable secure authentication using cryptographic credentials like passkeys.

- **CTAP (Client to Authenticator Protocol):** This defines how devices (authenticators) communicate with hardware or software responsible for generating and managing the keys.

In essence, passkeys shift the burden of security from human memory (passwords) to hardware-backed cryptography and convenient on-device user verification, making online authentication significantly safer and easier.

### ***That ends the Gemini synopsis.***

The above sounds pretty good at first blush. However, the actual underlying technology is quite complex. While there are low-level standards for the cryptographic data exchanges, the implementation of the graphical user experience (UX) is left to the website developers. Every site will have its own way of enrolling a user in its passkey authentication system.

At present, many sites do not support passkeys, so users must use a hybrid of ID/password and passkey logins. Most major financial institutions support passkeys, but it's not always easy for users to find the link to enroll a passkey.

Implicit in Gemini's synopsis above is that the user *must* have installed a software add-on that can generate public/private key pairs and handle the various data exchanges.

Many popular free and paid password managers, such as Bitwarden Personal (which I use: <https://bitwarden.com/>), support the necessary key-pair generation and authentication protocols and store passkey information in an encrypted vault on the user's device. Bitwarden has browser extensions for all the major browsers and runs on Windows, macOS, and Linux. There are also apps for iOS and Android.

The Gemini synopsis above also noted that when you log in with a passkey, you are prompted to reauthenticate with your login credentials for the device you are using. This might be a PIN, a password, a touch pattern, or a biometric, such as a fingerprint or facial scan. That authentication is entirely local to that device and may vary from device to device.

One caution about biometric authentication is not necessarily related to passkeys ... if you're using it, make sure there's a backup *non-biometric* way to log in. Otherwise, if you're incapacitated or have passed on, your family or executor may not be able to log in to your devices or online accounts.

Another consideration, brought about by advances in Quantum Computing, is that passkeys may soon no longer be secure against brute-force cracking attacks if a hacker becomes *interested* in you and can "sniff" and record the packet traffic passing between your router and the Internet.

Quantum computers, because of their massively parallel structure, can solve computational problems in seconds or minutes that would take conventional modern CPUs thousands of years. The security of public-key cryptography depends on the fact that, with conventional computers, it would take thousands of years to factor the public key to determine its corresponding private key. However, a quantum computer could potentially do that factoring job in minutes.

The vastness of the Internet and the incredible speed of packets still make such hacking infeasible today. Still, future advances may make quantum computing a commodity product, making it easy and affordable for hackers to use.

For the present, my take is that passkeys are interesting but, for most users, they may be more trouble than they're worth. However, they're inevitably coming, so be prepared. ❖



### FINDING LICENSE KEYS

By Alan German  
Ottawa PC Users' Group  
<https://opcug.ca/>  
alan.german (at) opcug.ca

When you purchased that latest-and-greatest piece of software, did you keep the box and the paperwork? Was the license key or activation code on a sticker on the back of the box? Did you write it down in the space provided in the user manual? If you have to re-install that application, will you be able to enter the license information when prompted?

If you are like many people and didn't keep careful records of these types of details, you may need a little help from a utility such as **Belarc Advisor** to locate the software license keys that are stored on your computer – somewhere!

Once downloaded and installed, running Belarc Advisor will cause the software to scan your computer for details of installed software, hardware, and networking, and display a detailed report (**Figure 1**, page 16) in your web browser.

The report is structured in sections that detail specific aspects of the operating system, the computer and its components, and the installed software. The report provides

many useful details, including the CPU, memory, disk storage, communication systems, and peripherals.

One section of the report lists the installed programs and, in many cases, the associated license keys. For example, on my laptop, Belarc Advisor identified the license key for the installed version of Microsoft 365 (**Figure 2**, page 16).

It's useful to save the web page as a local HTML file for easy future reference. For example, using *File > Save Page As...* in the Vivaldi browser results in a file named *Belarc Advisor - Computer Profile.html* and an associated folder named *Belarc Advisor - Computer Profile\_files* being stored on the hard disk. The folder contains a CSS file and a number of digital images that are loaded automatically to display the HTML file as if it were being viewed on the Internet.

The license associated with the free version of Belarc Advisor allows personal use only and shows watermarks on the displayed report (partially visible in the screenshots). However, these watermarks are semi-transparent and don't interfere with reading the important data on the page.

The good news is that Belarc Advisor is free to download and use. If you don't currently have a list of the license keys for your software products, now would be a really good time to make one and keep it in a safe place until you need it. ❖



The license associated with the Belarc Advisor product allows for **free personal home use only**. Use on computers in a corporate, educational, military or government installation is prohibited. See the [license agreement](#) for details. The information on this page was created locally on your computer by the Belarc Advisor. Your computer profile was not sent to a web server. [Click here for more info.](#)

**Belarc Advisor** BELARC

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Service Providers  
Your Privacy  
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Scroll to section:  
Software Licenses  
Software Versions and Usage  
Missing Updates  
USB Storage Use  
Hosted Virtual Machines  
Network Map  
Installed Hotfixes  
Back to Top

System Security Status	SECURITY BENCHMARK SCORE	VIRUS PROTECTION	SECURITY UPDATES
No Score*	?	Up-to-date	Status unknown*

\* Logon as an Administrator to see your benchmark score and the full list of missing security updates.

### Computer Profile Summary

Computer Name: Dell-Inspiron (in WORKGROUP)  
Profile Date: December 27, 2024 12:15:15 PM  
Advisor Version: 12.1  
Windows Logon: toaster

[Try BelManage, the Enterprise version of the Belarc Advisor](#)

Operating System	System Model
Windows 10 Home (x64) Version 22H2 (build 19045.5247) Install Language: English (United States) System Locale: English (United States) Installed: 2015-09-11 2:27:11 PM Servicing Channel: General Availability Boot Mode: UEFI (please run as administrator to see <a href="#">Secure Boot</a> status)	Dell Inc. Inspiron 7547 System Service Tag: <a href="#">support for this PC</a> Chassis Serial Number: 8KPKY22 Enclosure Type: Portable

Processor <sup>a</sup>	Main Circuit Board <sup>b</sup>
2.60 gigahertz Intel Core i7-4510U 128 kilobyte primary memory cache 512 kilobyte secondary memory cache 4 megabyte tertiary memory cache 64-bit ready Multi-core (2 total) Hyper-threaded (4 total)	Board: Dell Inc. 0AM680 A00 Serial Number: .8KPKY22. Bus Clock: 100 megahertz UEFI: Dell Inc. A08 10/20/2015

Installed Batteries	Made By	Made On	Serial Number	Health*
Dell	SDI		25	74%

Figure 1

Software Licenses	
Allaire - HomeSite4	HS40E-98
Allaire - Studio	HS30E-31
Ashampoo - Burning Studio 2017	B217A5-7
Ashampoo - Burning Studio FREE	BSFRA9-77
Belarc - Advisor	1a3c
Intel - DPTF	FFD10ECE-F715-4ai
Macrium - Reflect	75-UICAT-CW5D-R
Microsoft - 365 Apps for business	00265-600(ivated)
Microsoft - GDR 2101 for SQL Server 2019 (KB5021125) (64-bit)	SQLV15
Microsoft - GDR 2104 for SQL Server 2019 (KB5029377) (64-bit)	SQLV15
Microsoft - GDR 2110 for SQL Server 2019 (KB5035434) (64-bit)	SQLV15
Microsoft - GDR 2116 for SQL Server 2019 (KB5040986) (64-bit)	SQLV15
Microsoft - GDR 2120 for SQL Server 2019 (KB5042214) (64-bit)	SQLV15
Microsoft - GDR 2125 for SQL Server 2019 (KB5046056) (64-bit)	SQLV15
Microsoft - GDR 2130 for SQL Server 2019 (KB5046859) (64-bit)	SQLV15
Microsoft - Internet Explorer	00326-100 (Key: YTMG3-I

Figure 2

## WHAT IS AN INK TANK?

By **Bian Steckler**

brian\_2020 (at) yahoo.com

**Ink Tank** printers represent a relatively new innovation in the printing world. These printers feature built-in, refillable reservoirs that hold a large quantity of ink.

Ink tanks don't have an inbuilt print head. Instead, they use an integrated bulk-ink system that supplies ink directly to the printer.

The concept is simple yet effective. When you need more ink, you refill the tanks using ink bottles. This process is akin to refueling your car – you're adding more of what you need without replacing any components.

The ink is then delivered to the print head via an airtight tube, which helps prevent the ink from drying out when the printer isn't in use.

A significant advantage of [ink tank printers](#) is their high page yield. A single refill can produce an impressive 6,000 to 7,000 pages, far surpassing the capacity of conventional cartridges. This high yield translates into a much lower cost per page, making ink tanks an attractive option for high-volume printing.

However, it's worth noting that ink tank printers typically come with a higher upfront cost. The technology and components required for the integrated bulk ink system contribute to a higher initial purchase price. But for those who print frequently, this higher upfront cost can be offset by long-term ink savings.

### Pros

- Lower cost per page
- High page yield
- Less frequent refills
- Reduced ink drying issues

### Cons

- Higher upfront printer cost
- Potential mess during refills
- Limited printer model options
- Learning curve for refilling

**Ink cartridges** have been the staple of [inkjet printers](#) for decades, and for good reason.

These small, self-contained units house both the ink and the print head in one convenient package. When you buy a cartridge-based printer, you're investing in a tried-and-tested technology that's been refined over the years.

The principle behind ink cartridges is straightforward. Each cartridge contains a reservoir of ink and a print head, which is the component that actually deposits the ink onto the paper.

When you print, the cartridge moves back and forth across the page, precisely releasing tiny droplets of ink to form your text or images.

Cartridge-based printers have a lower initial cost. Because the technology is well-

established and widely produced, manufacturers can offer these printers at more affordable prices. Replacing cartridges is also a breeze. When one runs out, you remove it and click a new one into place.

Note that this convenience comes at a cost. Replacement cartridges can be expensive, especially if you print frequently. Another consideration with ink cartridges is their potential to dry out. Unlike ink tanks, which use an airtight delivery system, cartridges are more susceptible to drying when left unused for extended periods.

### Pros

- Lower upfront printer cost
- Easy cartridge replacement process
- Wide range of printer options
- Familiar, established technology

### Cons

- Higher cost per page
- More frequent replacements needed
- Potential for ink drying
- Concerns with safe disposal

Ink tank printers offer a lower cost per page and higher page yields, making them ideal for high-volume printing. They're a great choice if you print frequently and don't mind a higher upfront cost in exchange for long-term savings.

Cartridge printers are more affordable initially and offer the convenience of easy replacements, but they tend to have higher running costs over time.

Ink tank printers are a game-changer for home offices or small businesses that print hundreds of pages each month. The savings on ink can be substantial, and the reduced need for replacements means less hassle and waste. However, for occasional printers or those who prioritize photo quality, a cartridge-based printer might still be the way to go. ❖

### FOR MANY HELPFUL TIPS AND TRICKS

Go to <https://apcug2.org/> for all aspects of computing and operating systems.

### SPECIAL OFFERS

Go to the APCUG website at [Discounts & Special Offers For User Groups – APCUG](#) for discounts and special offers for members of User Groups on books, media, and training sites, including these:

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Contact: [community@informit.com](mailto:community@informit.com)

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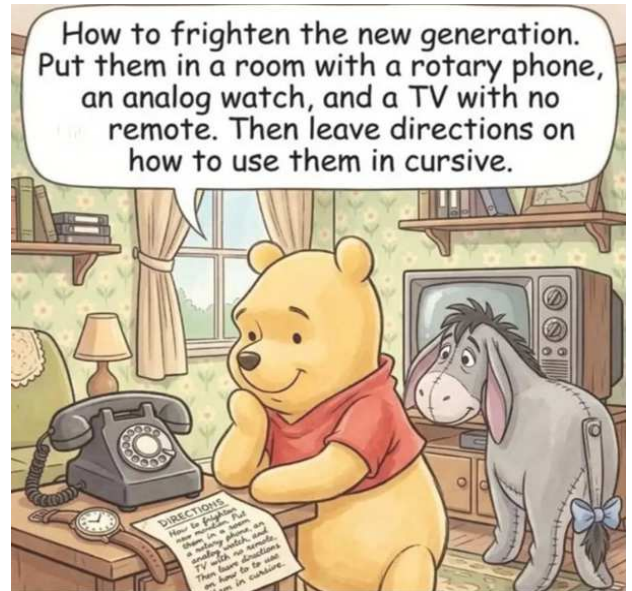
Subject – General

Body of form – Name of your computer club and discount code.

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### LAUGHING OUT LOUD



Submitted by Sylvia Davis, LACS Member



### TECH LIFE UNITY (TechBoomers)

<https://www.techlifeunity.com>

For learning how to use internet-based websites and applications for free.

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The columns, reviews, and other expressions of opinion in *User Friendly* are the opinions of the writers and not necessarily those of the Los Angeles Computer Society. LACS became a California non-profit corporation on July 17, 1991. Its predecessor was the UCLA PC Users Group.

# Los Angeles Computer Society

June 2026

## MEMBERSHIP INFORMATION and BENEFITS of MEMBERSHIP

### Annual Membership Dues

Regular New and Renewal	
Printed Newsletter	\$40
Electronic Newsletter	30
Family-Associate	12
Students	18
Contributor	50
Supporter	75
Benefactor	100
Gift Membership	20

A subscription to *User Friendly* is included with membership.

**Associate members** use the same mailing address as regular members; they do not receive their own subscriptions to *User Friendly* but may read it on the LACS website. **Students** must prove full-time status. A member may give a 1-year, 1-time gift to a non-member.

### Benefits of LACS Membership

**Monthly meetings** with presentations via Zoom.

**Monthly Newsletter, *User Friendly*** — Your article submissions and free ads to sell your computer items

**Free help** by email or phone — See page 10.

**Group mailing list** to contact or ask questions of all members at [PC@LACS.Groups.IO](mailto:PC@LACS.Groups.IO)

**Important news** and announcements via *User Friendly* and LACS's mail list.

**Webinars, virtual conferences, programs, and technical information** free from APCUG, an International Association of Technology and Computer User Groups

### Annual Holiday Party

**Social interaction** with others who have interests in computers and technology

**In-person luncheons** at a restaurant

**Renewals are due in January. New members' dues will be prorated quarterly.**

Check # \_\_\_\_\_ **New or Renewal Membership Application.**

**Date** \_\_\_\_\_ Dues may be paid by Zelle, PayPal, or check. If paying by check, make it out to "Los Angeles Computer Society" and mail it with this form to

**6201 W. 87<sup>th</sup> St., # 4095, Los Angeles, CA 90045**

**Please Print Clearly** [ ] New [ ] Renewal

[ ] New/Renewal with printed newsletter - \$40 [ ] Associate - \$12 [ ] Student - \$18

[ ] New/Renewal with electronic, no paper newsletter - \$30 [ ] Gift membership - \$20

[ ] Contributor - \$50 [ ] Supporter - \$75 [ ] Benefactor - \$100 [ ] Other

Name: First \_\_\_\_\_ Last \_\_\_\_\_

Name of Associate: First \_\_\_\_\_ Last \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City, State, Zip +4 \_\_\_\_\_

Email Address: \_\_\_\_\_ Email of Associate \_\_\_\_\_

Preferred Phone: \_\_\_\_\_ Publish Contact Info in the roster [ ] Yes [ ] No

To Contact in Case of an Emergency: Name: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Did a member of LACS invite you to join? If so, who? If not, how did you hear about LACS?

# Los Angeles Computer Society

June 2026

*First Class Mail*

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**GENERAL MEETINGS ARE ON ZOOM.**

Before each meeting, members and invited guests will receive an email with the URL link to the meeting. **Just click on the link.** If you haven't received it by the morning of the meeting, let Leah Clark know at [leahjc@sbcglobal.net](mailto:leahjc@sbcglobal.net) .

Please try to arrive at least a few minutes before the meeting start time so you don't interrupt the meeting and so any technical problems can be solved. If you need to take a break during a meeting, do not click on Leave or End. If you do, the meeting will be interrupted when you re-enter. You may turn off your video while you are gone.