

Bits of Bytes

Newsletter of the Pikes Peak Computer Application Society, Colorado Springs, CO

Volume XLII

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Issue 3



The Prez Sez

by Cary Quinn,
President,
P*PCompAS

Spring is almost here; time to get the gardens ready and prepare for the change to daylight savings time for most of the U.S. May the longer days be filled with opportunities.

I came across a video titled "10 crazy facts about the Apollo Missions" that would make for an interesting fill-in between the meeting and Around the Room.

For our main presentation, we will have a video segment on the pros and cons of regular backups, and hopefully a follow-up discussion on some of the latest technologies available. ☺



Meeting Minutes

by Greg Lenihan,
P*PCompAS
Secretary

President Cary Quinn started the 5 February 2022 membership meeting at 9:10 am, after trying to get a Zoom connection established. He finally succeeded after the first break, but by then it was too late; those online had given up. David George provided coffee and President Quinn brought doughnuts and his father (Johnny Quinn). A motion was made to approve the minutes from January and they were approved.

OFFICER REPORTS

Vice-President Jeff Towne was not present due to a death in the

Next P*PCompAS meeting: Saturday, 5 March 2022

The planned presentation is about backups.

family. Next month a presentation on backups is planned, as suggested by Ann Titus.

Secretary/Newsletter Editor Greg Lenihan announced the next newsletter deadline is 19 February.

Treasurer Toni Logan stated we received another 12 cents in interest last month and added four dollars. We have \$114.29 in checking, \$2932.65 in savings, for a total of \$3046.34.

Membership Chair Ann Titus said one more member rejoined. Ann reached out to all who did not renew memberships, and only one responded.

Librarian Paul Godfrey had nothing to report.

APCUG Rep/Webmaster Joe Nuvolini filed the club tax return on 24 January. Joe bought a new USB cord for the sound system and it works. Joe reported that Ilene Steinkruger sent condolences to Stan Rapaport's wife and to Jeff Towne for his wife.

BOD Chairperson Ann Titus said she would hold her first meeting via Zoom.

OLD BUSINESS:

Cary Quinn is still looking at improving Zoom audio and investigating some microphones.

NEW BUSINESS: None

ANNOUNCEMENTS

Our next membership meeting is Saturday, 5 March.

The Volunteers Luncheon is scheduled for 12 February at Fargo at noon.

The next social breakfast meeting will be Saturday, 19 February, at Perkins, starting at 8:00 am.

Joe Nuvolini reported that a 30 second Super Bowl commercial is going for \$7 million.

AROUND THE ROOM

Paul Godfrey helped a friend who forgot her Windows password. He was able to help with a Linux program called Rufus. Nuvo says he does not use a password, however, when the computer sleeps, a login prompt comes up and asks for a password. People suggest he just use the Enter key. Paul heard that Walmart was selling a 1 TB external USB drive for \$25.

Cary Quinn thought he had Epson printer ink but could not find it, so he went to JetEx (on Circle Drive), bought some, and it worked.

Joe Nuvolini has an old PhotoSmart printer and the cartridges get locked up on the right side. The printer is good for

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Publicity: Jeff Towne

Nominating: Vacant

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Harvey McMinn

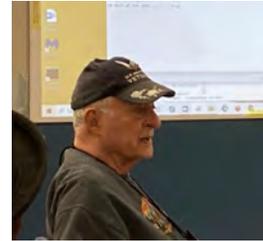
Jeff Towne

A.J. Whelan

John Pearce



President Cary Quinn presiding at the February membership meeting.



Joe Nuvolini giving the February presentation on CES 2022



The Volunteer's Luncheon was held at Fargo's on February 12th. Present, but missing from this photo, are Ilene Steinkruger and John Pearce.



The Digerati breakfast at Perkins on February 19th

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Why You Need to Own an External SSD

by Dave McQuilling, reprinted with permission from [ReviewGeek.com](https://www.reviewgeek.com)

Original article at: <https://www.reviewgeek.com/106962/why-you-need-to-own-an-external-ssd/>



If you're shopping for computer peripherals, an external solid-state drive (SSD) probably isn't at the top of your shopping list. While your PC or laptop will function without one, the benefits really outweigh the price, and a good external SSD should be a priority for everyone.

Backing up the files you value is important. While accidents happen and electronics die, it's still reassuring to know that your irreplaceable photos, videos, and documents won't die with a single device when that does happen.

Price is also a big factor. A few years ago, SSDs were expensive and offered limited storage capacity. Now, they're better and cheaper than ever. But those aren't the only reasons why you should have one.

Why Not Choose An External Hard Drive or a Flash Drive?

Solid-state drives have several advantages over both flash drives and external hard disk drives (HDD), the biggest of which is speed. They can [write up to 10 times faster and read data up to 20 times faster](#) than a disk—so you could save hours while moving data to and from the drive. The raw speed of the SSD may also make you more likely to back things up. Something that takes hours is a chore; something that takes a few minutes might not be a problem.

Durability is also a key factor. While external hard disk drives are designed to take more of a punch than the drive you may have screwed into your desktop, they are still fragile. A good knock may render the drive inoperable, or worse, damage the disk itself and the data stored on it. Alternatively, an SSD has no moving parts, and you would need to utterly destroy the thing to wipe out the data stored on it.

This is where weight comes into things. Chances are, the few ounces of difference between an SSD and an HDD won't

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Meeting Minutes (Cont. from page 1)

making copies. He has to fight to get the cartridges to the middle to take them out. Toni Logan thought there may be a function in printer software to move the cartridge, but the printer is old. Joe showed us some \$37 ear buds he likes and bought at Walmart (there was no brand name on the box).

John Pearce bought a 512 GB thumb drive and used a free program called Etcher to create a bootable flash drive. For some reason, when he boots to Linux, his time clock is wrong, but if he boots to Windows, the time is correct. It must not be getting time from the CMOS clock. There is a Linux patch out, and John needs to find out how

to update the thumb drive without creating a new image.

Toni Logan mentioned the obituary for Ralph Redinger that was in the Gazette and our newsletter. He was one of the founding members of our group (before we broke apart into an IBM group). Paul Godfrey was on the board with him.

PRESENTATION

Joe Nuvolini showed videos of a lot of cool products introduced at CES 2022 in January. If you want to see a link to many of these videos, Joe provided one at: <https://www.youtube.com/hashtag/ces2022> ☺

BOD Met in February

The Board of Directors met virtually on February 17, 2022. In attendance: Ann Titus, Harvey McMinn, AJ Whelan, and John Pearce.

The BOD discussed what information is needed to assure the continuity of P*PCompAS should key personnel become unavailable for whatever reason. The discussion included contact information for APCUG and Springs Community Church along with information on regulatory filings which must be done. The BOD will work to collect information on matters such as unlocking/locking the church building, deactivate/activate the church security system, and required regulatory filings with their frequency. ☺

Paint By Numbers

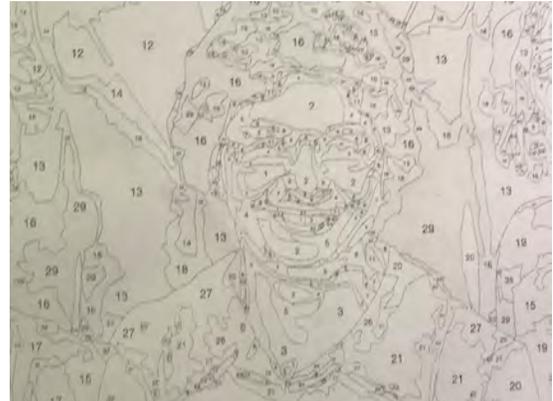
By Toni Logan, P*PCompAS

At Christmas, I received a very interesting gift. My son and daughter-in-law sent me a kit to paint-by-the-numbers photo of our family taken in 1974. The kit consisted of a canvas with the imprint of the picture with all the numbers, 36 paint pots, three brushes, a paper copy of the picture with the numbers, and a copy of the photo.

I have been painting using the paint by numbers system for many years. I purchased the kits with the canvas board, paints, and brush, with the picture being of any subject. But I had never seen this type of painting opportunity. The company that they used is VATO Custom Paint by Numbers for Adults. But there are many other companies that have the same service.

VATO is the world's largest paint by numbers and diamond painting factory. Since 2010 they have supplied retail companies and in 2015 they became the largest paint by numbers factory. With the COVID-19 pandemic, the company decided to supply directly to every customer. Then, in the second half of 2020, they started selling on Amazon and they registered the VATO brand.

There seems to be several ways to get a painting from a personal picture. You can do the paint-by-numbers yourself or have a professional artist paint it. You can send photos of people that are not in the same photo and the artist will combine them and send you the painting. I found a custom house portrait service on Etsy where you send a photo of your house and it can be rendered as a sketch or watercolor and sent digitally or printed and shipped. I enjoyed painting the picture very much and am happy with the outcome. 😊



External SSD (Cont. from page 3)

bother you, and you won't even feel the difference in something like a bag. But consider dropping both drives or knocking them from the edge of a table. The lighter, more durable solid-state drive will almost certainly be fine, whereas the heavier, more fragile hard disk drive may not fare so well.

So what about flash drives? They're smaller than SSDs, more durable than HDDs, and pretty fast. You can connect an external SSD

via a SATA port, but the chances are you'll be using one of the same USB ports you'd plug a flash drive into. If you're shopping for around 1TB of storage, there isn't even a huge price gap either. So what's the difference?

SSDs are still faster. Both devices are similar, but many SSDs use a [DRAM cache](#) to speed up how commonly accessed data is delivered. DRAM doesn't wear out either, unlike [flash memory](#). So even though your SSD still uses

flash memory to store the bulk of your files, the wear on that memory will be greatly reduced, and your drive will have a significantly longer lifespan.

Flash drives are also easier to lose and harder to find. I've lost count of the number of flash drives that I've left plugged into a college computer, left in my jeans on wash day, or just misplaced and never saw again over the years. I don't recall ever misplacing an external HDD or SSD.

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External SSD (Cont. from page 4)

Solid-State Drives Provide an Extra Level of Security

If you're concerned about personal information, an SSD can provide an extra layer of security. Even if someone had remote access to your computer, they can't get at your personal data if it is on an external drive you have stashed in a drawer. Cloud services [have repeatedly been hacked](#), and vulnerabilities are [constantly being discovered](#).

If the device you store your data on isn't connected to the internet, someone would have to break into your house and physically steal it to get at the data. Even then, you can still password protect and encrypt the data stored on your external SSD, or take it one step further by choosing an SSD with a built-in biometric security factor, as [this option](#) does).

This isn't to say you should avoid cloud services. They're great for storing images, videos, and files. But data [can be lost from the cloud too](#). There's no such thing as too many backups, so why not use both?

You Don't Need the Internet to Access Your Data

The other problem with cloud-based data is you need the internet to access it. While this isn't a problem 99% of the time, many things can go wrong between your computer and the place where your data is stored.

Most likely is that your Internet service may be down. Most people will know this feeling; it happens to me a couple of times a year. No internet access, no cloud access, no data access. Equally, whichever cloud service you're using could experience server issues, once again cutting you off from your data.

All in all, modern internet and cloud services are reliable for most of their users most of the time. But it's not outlandish to suggest you might not be able to access a piece of stored data at a time you really need it. To put it in perspective, if you own a laptop with some charge in its battery, you can access anything on an external SSD at any time—even during a power outage.

So, Do You Really Need an External SSD?

You can pick a good [1TB external SSD for just over \\$100](#) and use it to securely store anything you really don't want to lose or might need access to at any time. You can get [2TB of cloud storage for around the same price](#), but you'll be paying that repeatedly—and the cost of your cloud storage could always go up.

Writing and rewriting data is the only thing that really impacts an SSD's lifespan, so if you buy one, back up everything you hold dear, and leave it in a cupboard—it should last indefinitely.



An external SSD will also work with your laptop, desktop, PlayStation, tablet, and most phones. If you have the correct type of USB adapter, you can even store information or switch it between many of your devices.

Equally, if you want an extra layer of security for things like financial documents, ID scans, and the like—you have a device you can completely disconnect from your network. This makes it impossible to remotely access and keeps you safe from bad actors on the big bad internet. For the money, an external SSD is definitely worth having. Ready to pick one out? Check out our guide to [the best external hard drives](#)—we have options for all needs and budgets. ☺

A Pair of YouTube Tips

Watch live events

Many concerts and events are broadcast live on YouTube. You can watch them in real-time along with a global audience. There are a couple of ways to do this:

- Simply type the word “live” after your search phrase.
- You can also browse upcoming and current livestream events. Go to [youtube.com](#) on your computer and select **Live** from the left column.
- Open the YouTube app, tap **Explore**, then tap **Live on a smartphone**.

Find a movie to watch

You can watch feature-length movies on YouTube, but searching for the movie title just like anything else on the platform may not be enough.

It's pretty simple. Just type the word movie in your search query. Try “A Star is Born movie.” You will get the option to buy or rent a movie if it's not available for free. ☺

How to Unsubscribe From E-mails on Gmail

by Mahesh Makvana, reprinted with permission from HowToGeek.com

Original article at: <https://www.howtogeek.com/780811/how-to-unsubscribe-from-emails-on-gmail/>

If you're sick of receiving certain promotional or newsletter emails in your Gmail account, use Gmail's "Unsubscribe" option to [opt-out of all those emails](#). Here's how to do that on your desktop and mobile phone.

Note that once you unsubscribe from an email, it will be a few days until you stop receiving new emails.

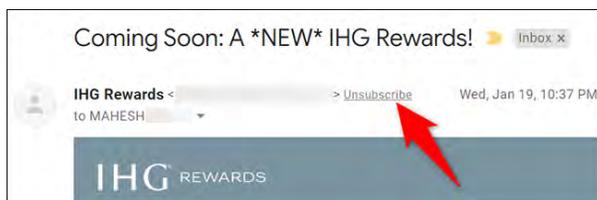
Unsubscribe From Emails on Gmail's Desktop Version

If you are on a Windows, Mac, Linux, or Chromebook computer, [use Gmail](#) on the web to unsubscribe from your emails.

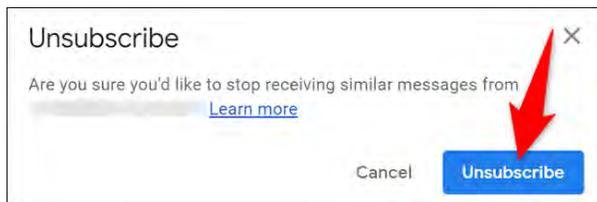
RELATED: [The Complete Guide to Gmail](#)

To do so, first, open your web browser and access [Gmail](#). Sign in to your account if you have not already.

Once you see your emails in Gmail, click the promotional or newsletter email that you want to opt-out of. When your email opens, next to the sender's email address at the top, click the "Unsubscribe" option. If you see "Change Preferences" instead, click it.



You will see an "Unsubscribe" prompt. Click the "Unsubscribe" button to continue.



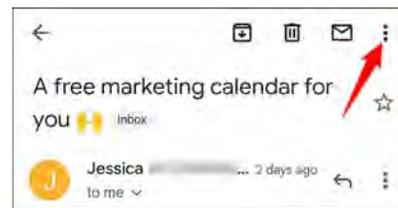
And that's it. Gmail will now ensure you no longer receive emails that you have just unsubscribed from.

Unsubscribe From Emails on Gmail's Mobile App

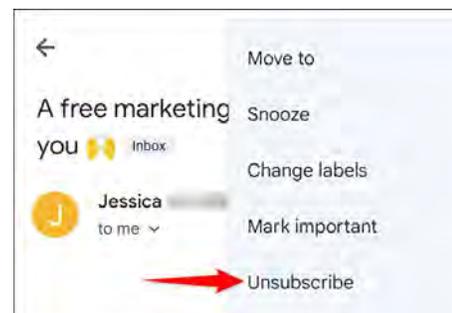
[To opt-out of promotional or newsletter emails](#) using your iPhone, iPad, or Android phone, use the official Gmail app.

Start by launching the Gmail app on your phone. In the app, tap the email that you want to unsubscribe from.

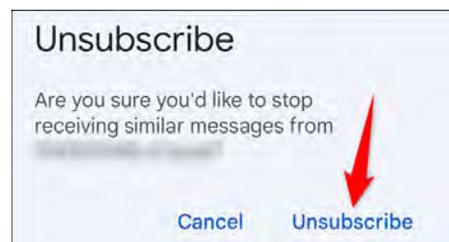
When the email opens, in the top-right corner, tap the three vertical dots. Make sure you tap the three dots that are in your phone's top-right corner and not in the selected email's top-right corner.



In the menu that opens, tap "Unsubscribe."



Tap "Unsubscribe" in the prompt.



And you are all set.

What if You Don't See the "Unsubscribe" Option?

For some emails, Gmail might not display the "Unsubscribe" option. In these

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[SPEEDUP] Are Stealth Programs Slowing Down Your PC?

By Bob Rankin, <http://askbobrankin.com>, published through the APCUG

As part of the startup sequence for your Windows computer, there are a bunch of programs and scheduled tasks that automatically run, before the familiar desktop appears. Most of them are essential; some are dispensable; and others may be malicious. Read on and learn how to tweak your “autoruns” to improve performance and security...

Ready to Tune Up Your Startup?

There are many software tools designed to keep your Windows system tuned-up and running as efficiently as possible; see my article, [Seven Free PC Maintenance Tools](#). Some utilities, like Advanced System Care, are designed for one-click simplicity. Today, I want to discuss a powerful maintenance tool that requires a bit more effort from its user.

[Autoruns for Windows](#) provides information that can reduce Windows launch time, free up memory and other system resources, or help you track down especially stealthy malware. It shows you all programs that automatically run when your PC boots up or a user logs in, and what extensions load into various Windows processes such your browser or Windows Explorer. It works on Windows XP and higher, including 64-bit versions. This free software was created by Mark Russinovich, who currently serves as Chief Technical Officer of Microsoft’s Azure product.

The Windows System Configuration Utility (msconfig.exe) lets you view and disable a number of startup files and services, but it omits a lot of things that Autoruns catches: toolbars, browser helper objects, Windows Explorer shell extensions, to name a few. These items can be hiding places for malware or they may simply be long-forgotten, unnecessary burdens on your system.

To get started, download the Autoruns.zip archive and extract its contents to a folder of your choice. Then just double-click the Autoruns.exe (or Autoruns64.exe) file to start the program; there is no installation required.

Autoruns displays the name and location of each

auto-running item. Double-clicking an entry takes you to its directory or opens its registry entry in the Registry Editor. Unchecking an entry disables its automatic execution. The Del key deletes an item from your system. For registry entries, it shows the exact registry key. For files, it shows the directory path and file name.

Left-Click, Right-Click...

Right-clicking on an entry opens a drop-down menu with several options. “Search online” is one of the handiest drop-down options; it launches a Web search using your default browser and search engine, effectively asking “what is this thing?” The search results can help you decide whether the item should be left alone, deleted, or disabled. After right-clicking an entry, you’ll also see other options, including Delete, Jump to Entry, and Jump to Image. I’ll discuss them in reverse order they appear. Jump to Image will open File Explorer to the folder that contains the item, and highlight it. Jump to Entry will open Registry Editor and highlight the entry that controls the behavior of the item. (If it’s a scheduled task, Task Manager will open and show that item.) Delete will do what you’d expect. If it’s a file, it will be deleted from the hard drive. If it’s a registry entry, it will remove that entry from the Registry.

I would advise against using the Delete option, unless you know for sure what you’re doing. Randomly deleting files or mucking about with the Registry is a bit like doing brain surgery while blindfolded, or shooting mosquitos with a machine gun. Apply your preferred metaphor.

“Check Virus Total” is a new option found in version 14 of Autoruns. VirusTotal.com is

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Unsubscribe E-mails (Cont. from page 6)

cases, manually search for the unsubscribe link in those emails. If you’re on a PC, you can try hitting Ctrl+F and typing “unsubscribe” or “preferences.” Usually, most promotional and newsletter emails

have the unsubscribe link at the bottom of the email.

So, open one of those emails, scroll down to the bottom, and click or tap the “Unsubscribe” option to opt-out of those emails. And you will be all set. ☺



CPU vs. GPU: What's the Difference?

by Fergus O'Sullivan, reprinted with permission from [HowToGeek.com](https://www.howtogeek.com)

Original article at: <https://www.howtogeek.com/774789/cpu-vs-gpu-whats-the-difference/>



If you've ever [built your own computer](#)—or even just read about it—you'll have figured out that a CPU and a GPU are two very different things. But what's the difference exactly, and how does this work in practice?

What Are CPUs and GPUs?

The short answer is that the CPU, short for [central processing unit](#) though also called a "processor," runs your computer. It's the central hub for your device and manages all the processes that make it tick. If you don't have a CPU, you don't have a computer, just a state-of-the-art paperweight.

The GPU, or [graphical processing unit](#), also called a "graphics card," runs the graphics displayed on your screen. GPUs are also vital to the operation

of your computer, without them nothing would show on your screen. That said, they don't always have to be a discrete, or separate, GPU; many CPUs, especially for laptops, have GPUs built-in.

These integrated graphics cards, though, don't have a lot of oomph. If you want to run high-end graphics for games or advanced graphical software like 3D modelers you're going to need a discrete GPU. They just have a lot more power.

Where You'll Find Them

Because a CPU is so, well, central, they're ubiquitous: there's not a single digital device that won't have one. Smartphones and smart devices will generally have very small ones that don't put out a lot of computing power, while [supercomputers](#) will have massive networks of CPUs that can do calculations that would make your phone belch smoke within minutes.

Discrete GPUs are a lot more specialized. They're generally only found in laptops and PCs marketed at gamers—in fact, they're the biggest

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Speedup (Cont. from page 7)

a Web service that scans files or URLs with a total of 57 anti-malware engines. When Autoruns checks Virus Total, you'll see a ratio such as "8/57" to the right of the item selected. That means 8 out of the 57 anti-malware engines flagged this item as malware. Double-click on the Virus Total ratio to see the full results on a VirusTotal.com Web page. Note that a VirusTotal score of 1 or 2 is probably a false positive, and not an indicator of a virus. On my computer, CCleaner and Google Chrome both got a score of 1, but there's no cause for concern there.

The Autoruns screen is a bit busy, possibly overwhelming at first glance. But there's a way to eliminate the items that do not require immediate attention. **The Options button on Autoruns'**

main menu lets you hide or unhide groups of entries, reducing the number of items that you need to examine. Hiding all entries signed by Microsoft, for example, limits your view to third-party software. If you hide both Microsoft-signed and VirusTotal Clean entries, you can focus on items that are either unverified or potentially malware.

I recommend that you click **Scan Options** on the Options menu, then check the boxes labeled "Check VirusTotal" and "Submit Unknown Images", then restart Autoruns. It will then check all items against the VirusTotal database and display the results.

Images highlighted in red are "unverified," meaning no digital signature is attached that enables verification of the author's identity. That doesn't necessarily mean it's malicious, just that it requires that

you check to see if it's something you definitely want or need.

Images highlighted in yellow are missing a target file. You may want to delete such items (after doing a web search) so that Windows doesn't waste start-up time trying to launch programs that aren't there.

Autoruns is a powerful tool for deep troubleshooting. But don't use it casually or you may delete something that your system needs in order to function. If you fear a finger-fumble, create a System Restore point before making any changes, and you'll be able to undo any mistakes. To create a restore point, click the Start button and type, "create a restore point" in the Search box. Click the "create a restore point" link in the search results and then click the "Create" button at the bottom of the System Protection tab that appears. ☺

CPU vs. GPU (Cont. from page 8)

market as most top-of-the-line games nowadays require serious graphical computing power. Visual artists are the other big buyers of GPUs as they need to render images quickly and in detail, something a GPU integrated into a CPU can't do anywhere near as well.

However, it's not just gamers and artists that use GPUs. They're also used a lot in [machine learning](#) and in [crypto mining](#), for reasons we'll get into shortly.

How a CPU Works vs. a GPU

The CPU and GPU do different things because of the way they're built. A CPU runs processes serially—in other words, one after the other—on each of its cores. Most processors have four to eight cores, though high-end CPUs can have up to 64.

When the computer is running, each core will run a process more or less by itself, like registering your keystrokes while typing. While it does that, other cores will be handling all the other processes you see running in your [Windows Task Manager](#) (or they will be waiting to run). Because it manages tasks serially and dedicates a large share of its processing power to each task, it runs—and switches between running different processes—at lightning speed.

A GPU approaches computing differently. When given a task, a GPU will subdivide it into thousands of smaller tasks and then process them all at once, so concurrently rather than serially. This makes GPUs much more suitable for handling large processes that are made up of many small parts, like 3D graphics.

For example, in a game what you see is basically a field of polygons. Each polygon is filled in individually by the GPU at the same time, and, considering there can be thousands of them, it's actually pretty impressive how fluidly GPUs can do it. You can even see it for yourself when your GPU malfunctions while gaming, as you get large blocks of textures on your screen.

When to Use a CPU vs. a GPU

Because they work so differently, CPUs and GPUs have very different applications. Serial processing is what makes a computer tick. If you tried to run a PC using concurrent processes it wouldn't work very well as it's hard to subdivide typing out an essay or running a browser. CPUs can dedicate a lot of power to just a handful of tasks—but, as a result, execute those tasks a lot faster.

GPUs, on the other hand, are a lot more efficient than CPUs and are thus better for large, complex tasks with a lot of repetition, like putting thousands of polygons onto the screen. If you tried to do that with a CPU, it would just stall out, if it even worked at all.

GPUs Aren't Just About Graphics

The idea that CPUs run the computer while the GPU runs the graphics was set in stone until a few years ago. Up until then, you rarely saw a graphics card for anything else other than games or visual processing (3D graphics or image and video editing).

However, that's undergone a drastic shift in the last few years thanks to two important changes in the way we use computers. The first is machine learning (also called deep learning), which requires intensive concurrent processing because of the way it manages data.

As [this article](#) explains in much more detail, every bit of information that's processed by a deep learning algorithm goes through several filters, called weights. Considering there are a lot of filters and a lot of data points, running this through a CPU would take forever. A GPU is much more suited for the task.

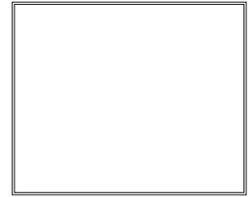
GPUs and Crypto Mining

GPUs are also popular when mining for [cryptocurrency](#), for a similar reason. To get new coins, you usually need to solve a complicated cryptographic equation that will unlock the next section of the [blockchain](#). Brute force is the keyword here, as the more processing power you throw at one of these equations, the better the chance of solving it quickly.

GPUs have a two-fold advantage over CPUs because not only can they bring more processing power to bear thanks to being more efficient, they're also outfitted with specialized math processors, named Arithmetic Logic Units (ALU). ALUs help graphics render more quickly but are also a godsend for anybody looking to solve complicated mathematical problems.

In fact, GPUs became so popular among crypto miners that they caused a [worldwide shortage](#) of graphic cards, one that's barely easing at the time of writing in December 2021. We've come a long way since the days that graphic cards were only used by gamers. ☺

P*PCompAS Newsletter
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Coming Events:

Next Membership Meeting: 5 March beginning at 9 am (see directions below)

Next Breakfast Meeting: 19 March @ 8:00 am, Perkins, 3295 E. Platte Ave.

Newsletter Deadline: 19 March

Check out our Web page at: <http://ppcompas.apcug.org>

