Bits of Bytes

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

Volume XLIV July 2024 Issue 7

**Next P*PCompAS meeting: Saturday, 6 July 2024**
The July presentation *may* be about your digital legacy.

Created by Windows Copilot

## Meeting Minutes

**by Greg Lenihan, P*PCompAS Secretary**

Vice President Cary Quinn called the 1 June 2024 meeting to order at 9:02 am, and President Paul Godfrey arrived soon after. David George made coffee, and Greg Lenihan brought doughnuts. There were no guests. A $1 donation was requested for the refreshments. A motion was made to approve the meeting minutes for May and the motion passed.

OFFICER REPORTS

VP Cary Quinn said the presentation today would be on backups and the topic for next month should be Joe Kissel from APCUG on your digital legacy.

Treasurer Toni Logan said we had $2015.01 in savings (a 9-cent increase), and $43.51 in checking, for a total of $2058.52.

Secretary/Newsletter Editor Greg Lenihan announced the next newsletter deadline is 22 June.

Membership Chair Ann Titus had nothing to report.

Librarian Paul Godfrey had nothing to report.

Hospitality Chair Toni Logan had nothing to report.

APCUG Rep/Webmaster Joe Nuvolini said his desktop PC is broken so he is maintaining our site with his laptop.

BOD Chair AJ Whelan had nothing to report.

OLD BUSINESS:

Some thinking is still being done on whether we will pursue some cloud storage for club files.

Batteries are still needed for the meeting microphone.

NEW BUSINESS: None

ANNOUNCEMENTS

The next social breakfast meeting will be on Saturday, 15 June, at the Golden Corral, starting at 8:00 am.

Our next membership meeting is on Saturday, 6 July 2024.

AROUND THE ROOM

Cary Quinn said we have another year before Microsoft ends support for Windows 10, so install your updates.

Bob Kotz uses Windows 11 on a Dell Inspiron and is getting a message that his memory is failing. Cary Quinn said you can go into the BIOS and run a memory test. There is a diagnostic tool that is accessible through a command prompt by typing mdsched.exe as an administrator. He can also take it to a shop to get the PC checked out.

Greg Lenihan installed EaseUS Todo Backup Free on a Windows 11 computer and it kept failing once it hit 23% complete. He uninstalled and reinstalled it to no avail. He then tried it on a Windows 10 computer and it seems to work.

Toni Logan has been having issues with Microsoft transitioning from the old Mail program to the newer Outlook.com. When opening the old program, she sees a flash, then the newer Outlook would open. For a while, she could not get the Outlook mail to come up and that is where her e-mail is now stored. But it started working again. Toni is also noticing the Copilot button in Windows 11 and thinks she'll experiment with it. She said that Gene Barlow is still sending out a newsletter because she just received one. He has some health issues and is now in Arizona.

Warren Hill reported his monitor flickering several months ago. He bought a new monitor but the flickering is back. He happened to run CCleaner a day or two ago and the flickering went away briefly. It could have had an effect on the drivers. It could be a graphics card problem or a chip on the motherboard. It may also be heat flow in the computer.

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### In This Issue

Articles

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**Bob Logan**
**Barbara McMinn**
**David George**

**Members attending the June 2024 meeting via Zoom.**

**Members in attendance at the June 2024 meeting.**

**Digerati at the Golden Corral for the June monthly breakfast.**

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## *How Your Printer Leaves Invisible Tracking Codes on Every Page*

***by Jason Dookeran, reprinted with permission from HowToGeek.com***

***Original article at https://www.howtogeek.com/how-your-printer-leaves-invisible-tracking-codes-on-every-page/***

**Key Takeaways**

- Printers embed yellow dots into documents, impacting privacy and raising potential concerns.
- Tracking codes in printers are created by firmwave and reveal printer info and timestamps.
- Tracking codes, present since the ‘80s, facilitate law enforcement but pose privacy risks.

Printers embed hidden yellow dots on pages, revealing who printed what and when. This tracking tech, existing for over 20 years, aids in preventing counterfeiting but raises privacy concerns.

### Tracking Codes in Detail

If you add a printer to Windows 11, you’ll still be getting tracking codes printed on your pages. Even though you could theoretically change the settings to adjust the privacy in Windows 11, you can’t change dots from going on your printed pages. Tracking codes are a form of steganography that involves hiding information within another medium, such as an image or document. In the case of printers, tracking codes are used to embed identifying information about the printer and the printed document within the document itself. The most well-known type of printer tracking code is the yellow dot pattern, where tiny, barely visible yellow dots are arranged in a grid to encode data.

Tracking codes are typically created by the printer firmware and embedded in the document as it is being printed. The firmware contains algorithms that generate the specific pattern of dots or other steganographic markings based on the printer’s identifying information and the timestamp of the printing job. This process is automatic and does not require any user intervention. In fact, most users don’t even know their printers are printing information that can track them.

### How Did These Codes Come About?

Printer tracking codes, also known as machine identification codes (MIC) or yellow dots, have been used by printer manufacturers since the mid-1980s. The patent for this technology was originally granted in 1993 but has expired. The origin of printer tracking codes can be traced back to the cooperation between the U.S. government and printer manufacturers to prevent counterfeiting. In the 1980s, the U.S. Secret Service approached the Japanese Ministry of Finance to address the issue of counterfeit currencies produced using color copiers. As a result, copier manufacturers

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*Meeting Minutes (Cont. from page 1)*

Joe Nuvolini installed Windows 11 on his laptop some time ago, and says his biggest mistake is doing a reversal back to Windows 10 instead of restoring a backup. Joe said he had programs that were gone, like those on his desktop folder, so had to go to his backup and find those programs.

Ilene Steinkruger bought a new HP printer from Amazon and had someone at MacKenzie Place try to set it up. He could not get it working before he had to go. She does not have her own router now and uses the one at MacKenzie. The printer did recognize the wi-fi signal. One suggestion is to use a USB cable for a direct connection to the PC.

PRESENTATION

An APCUG video on EaseUS Todo Backup was shown along with a short video by Leo Notenboom on using the program to create an image backup. ☺

*Tracking Codes (Continued from page 3)*

agreed to implement machine identification codes.

Printer manufacturers have stated that the primary reason for implementing tracking codes is to assist law enforcement in tracing the origin of counterfeit currency and other illegal documents. However, privacy advocates have expressed concerns about the potential abuse of this technology, as it enables the tracking of individuals based on the documents they print.

Despite the controversies surrounding printer tracking codes, they continue to be a standard feature in most modern printers. There used to be a list of printers where this stenography showed up, but it was last updated in 2017 and hasn't been kept running since then. The list notes that almost all modern laser printers have some form of steganography tracking, even if they don't print yellow dots.

### How Printer Tracking Codes Function

When someone prints a sheet of paper on a color printer, a grid of 15 by 8 yellow dots is embedded within the sheet. The grid is repeated throughout the printed page, and the grids are offset to ensure that each grid print doesn't run into another. The grids are also parallel to the edges of the page. The dots form a series of data, much like punch cards used on the earliest computers.

The tracking codes are encoded using a binary system, where each dot represents a bit of information. The presence or absence of a dot at a specific location in the pattern corresponds to a "1" or "0" in binary code. The dots are organized in a grid, and each row of the grid encodes a specific piece of information, such as the printer's serial number, manufacturing date, and the timestamp of the printed document.

To decode the tracking information, the printed page is first illuminated with blue light, which makes the yellow dots more visible. The page is then photographed or scanned at a high resolution, typically 600 dpi or higher. The resulting image is processed using specialized software that analyzes the dot pattern and converts it into binary code. The binary code is then translated into human-readable information based on the known structure of the tracking code grid.

If you can get the dots to show up, you can potentially read what they encode. This is the data each row represents:

- Byte 15 is often zero, but its value may be constant for each printer and convey non-user-visible information about the printer's model or configuration.
- Byte 10 acts as a separator and typically consists of all ones. It does not appear to encode any information.
- The year the page was printed (without the century) is encoded in byte 8. For example, the year 2005 is coded as 5.
- The month and day the page was printed are encoded in bytes 7 and 6, respectively.
- The hour the page was printed is encoded in byte 5. This may be in the UTC time zone or set inaccurately within the printer.
- The minute the page was printed is encoded in byte 2.
- Bytes 9, 4, and 3 are unused.
- Byte 1 is a row parity bit, which is set to ensure an odd number of dots are present per row.

Instead of reading all of this information, if you want to decode this, there's a handy website that can attempt to process the data and give you a result.

### Could This Feature Be Abused?

Like many features installed for security reasons (like Microsoft's upcoming Recall feature), steganography can be used for nefarious purposes. One of the main concerns is the lack of transparency surrounding the use of tracking codes. Many users are unaware that their printed documents contain hidden identifying information, and printer manufacturers have not always been forthcoming about the presence or purpose of these codes.

The potential for misuse and abuse of printer tracking codes is another significant concern. While the technology is intended to assist law enforcement in investigating crimes such as counterfeiting, there is a risk that it could be used

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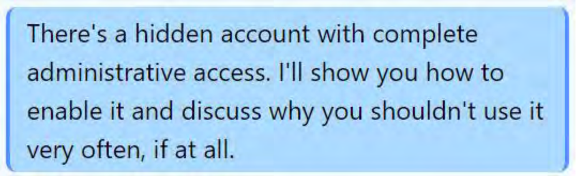
# How to Enable the Administrator Account in Windows

## The secret administrator account, that is.

By Leo A. Notenboom, https://newsletter.askleo.com; published under the Creative Commons License

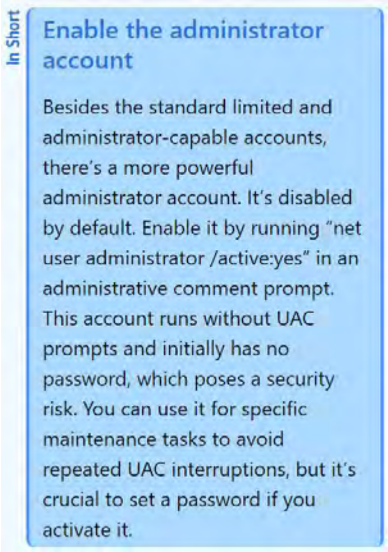


There's a hidden account with complete administrative access. I'll show you how to enable it and discuss why you shouldn't use it very often, if at all.

We tend to think of accounts on your Windows PC as being either administrator or limited. There are reasons to use both in various situations.

But what you think of as an administrator account isn't really THE administrator account. Some computers have another account that has been referred to as a super-administrator mode.

Computers can run in limited, administrator-capable, or administrator accounts. I'll describe the differences between the three and how to access the most powerful account of all.



In Short

Enable the administrator account

Besides the standard limited and administrator-capable accounts, there's a more powerful administrator account. It's disabled by default. Enable it by running "net user administrator /active:yes" in an administrative comment prompt. This account runs without UAC prompts and initially has no password, which poses a security risk. You can use it for specific maintenance tasks to avoid repeated UAC interruptions, but it's crucial to set a password if you activate it.

### Limited user accounts

Limited user accounts (LUA) run with restricted privileges. This

Continued on page 6

Tracking Codes ( Continued from page 4)

for other, less legitimate purposes. For example, tracking codes could be used to monitor and suppress political dissent, track whistleblowers, or target individuals based on their beliefs or associations.

This is a significant red flag for any individual who's concerned about the privacy of their information. Its use in some cases to prosecute whistleblowers who have leaked documents is well-documented.

### Can You Disable This Tracking?

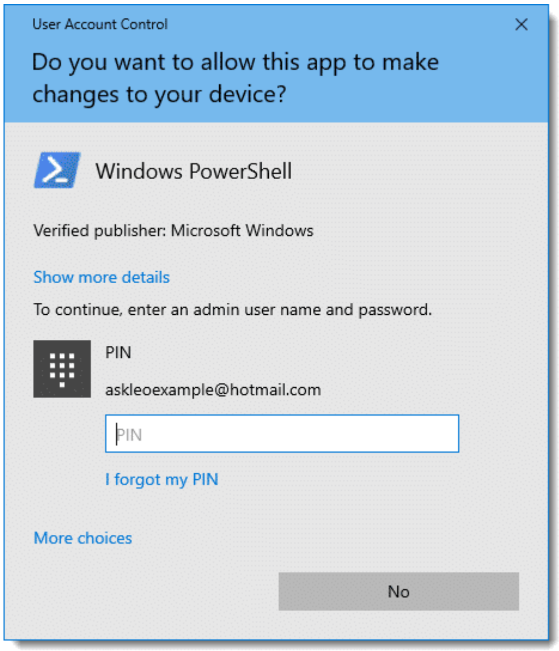
To date, it is impossible to remove the document tracking dots unless you decide to print on a dot-matrix printer. The instructions for printing these tracking dots are embedded in the firmware for the printer. The only solution some people have come up with is printing on yellow paper to make the dots even less visible. However, under a blue LED light, you'll still see the gridlike patterns printed on every sheet. It's funny that you can even optimize Microsoft Edge for increased privacy, but not your old-technology printer.

These days, not many people use printed sheets for anything other than permanent documentation. With so much cloud storage available to whoever wants it, it's unlikely that people will continue using printers at the same scale that they did in the '90s and early '00s. However, these dots still exist, and it doesn't take a rocket scientist to read them. When printing something sensitive, be aware that the date and time of the document are also recorded. It could be used to prove the existence of a printed page for time-specific issues. ☺

*Enable Admin Acct (Cont. from page 5)*

prevents malware from being able to do whatever it might want to on your machine. When running with an LUA account you, and malware, don't have the privileges to make system-level changes to you machine. In some corporate environments, it prevents you from making changes to your system contrary to your IT department's wishes… but that doesn't mean you can't try.

When you attempt to make system-level changes while signed into a LUA, or try to run an application that requires true administrative access from the get-go, you're likely to be presented with the UAC, or "User Account Control", message.



Do you want to allow this app to make changes to your device?

Verified publisher: Microsoft Windows

To continue, enter an admin user name and password.

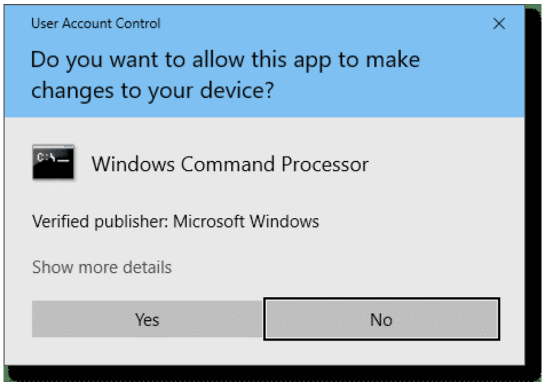
askleoexample@hotmail.com

In order to proceed, you must prove you are authorized to do so by providing the credentials for an administrator-capable account on that machine. Otherwise, you can't do whatever you are trying to do.

### Administrator-capable accounts

This is the default type of account created when you set up Windows. While we call them administrator accounts, they're really not; they're what I refer to as administrator-capable.

When running normally, they run much like an LUA. And like an LUA, when administrative access is required, you'll see the UAC prompt.



Do you want to allow this app to make changes to your device?

Verified publisher: Microsoft Windows

The difference is simply that you don't need to authenticate any further. All you need do is say "yes". When using an administrator-capable account, no further authorization is required.

That's the primary difference between LUA and administrator-capable accounts: whether or not UAC requires more authorization or you can just click on Yes.

### The real administrator account

There is another account, called the administrator account, in every version of Windows. Using that account, you are running in administrator mode all the time. There are no UAC prompts to get in the way.

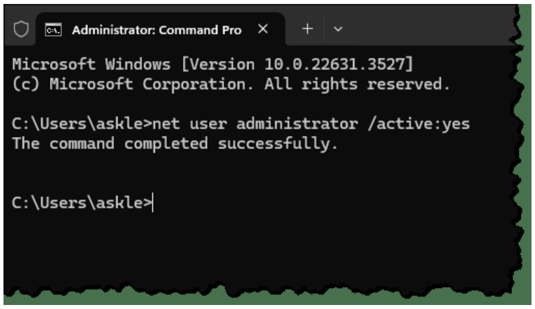
By default, it even has no password!

Also by default, you have to enable it before you can use it.

In an administrative command prompt, run:

*net user administrator /active:yes*

The output will be very boring.



```
Microsoft Windows [Version 10.0.22631.3527]
(c) Microsoft Corporation. All rights reserved.

C:\Users\askle>net user administrator /active:yes
The command completed successfully.


C:\Users\askle>
```

Sign out of Windows.

On the sign-in screen, you'll now see the Administrator account listed as an option.

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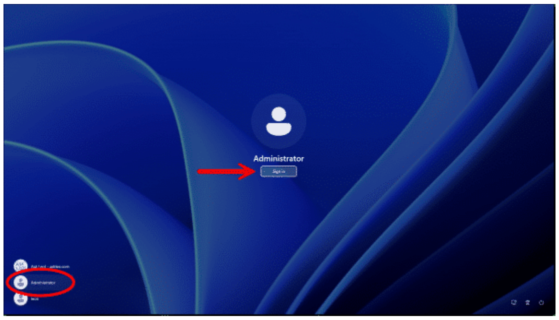
*Enable Admin Acct (Cont. from page 6)*



Click Sign in, and you're in as administrator. You have full control.

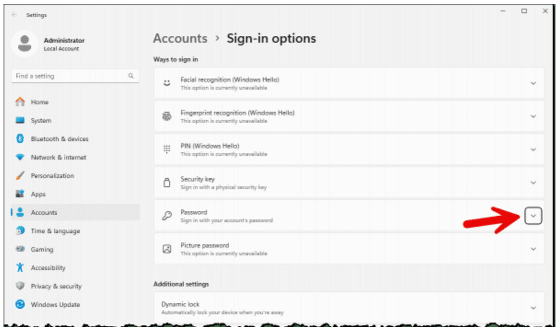
### The built-in security hole

But wait: all you had to do was click **Sign in**. No password was required.

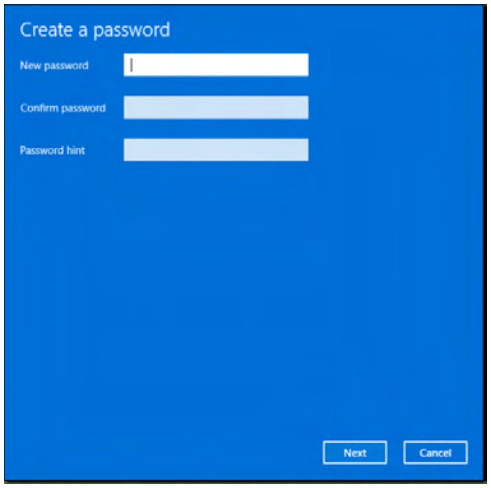
That's a huge security issue.

So the first thing you should do is set a password.

Hit the Start button, and search for "password". Click on **Change your password** when it appears. This will take you to the Sign-in options page of the Settings app.


Settings
Administrator
Local Account
Find a setting
Home
System
Bluetooth & devices
Network & internet
Personalization
Apps
Accounts
Time & language
Gaming
Accessibility
Privacy & security
Windows Update
Accounts › Sign-in options
Ways to sign in
Facial recognition (Windows Hello)
This option is currently unavailable
Fingerprint recognition (Windows Hello)
This option is currently unavailable
PIN (Windows Hello)
This option is currently unavailable
Security key
Sign in with a physical security key
Password
Sign in with your account's password
Picture password
This option is currently unavailable
Additional settings
Dynamic lock
Automatically lock your device when you're away

Click on the down-arrow to the right of the "Password" item. Then click the "Add" button that appears.



Enter your new password, add a password hint, and you're done.

### So why would you want this account?

Normally, you don't need to operate your computer from the administrative account. That's one reason it's disabled by default. Your administrator-capable account is all you need for day-to-day computing.

However, in some situations — perhaps involving maintenance or other situations where you'd end up facing UAC over and over again — it might be a useful way to streamline your work.

Do not use the administrator account as your regular work account. Any accidental system changes would not require confirmation. Even more troubling, malware could install itself without notice.

I recommend living with the occasional UAC.

### Do this

Live with UAC.

But if you can't, or have a scenario where being the One True Administrator for your machine would be helpful, you can turn it on. Just be sure to add a password. Sign back into your normal account when you're done. ☺

## *Unchecky: A Review—Stop Installing Unwanted Software*

**By Jasmine Blue D'Katz, Lake County Area Computer Enthusiasts, http://www.lcace.org, cynthia.g.simmons @ gmail.com**

I have been using several programs suggested by Bob Gostischa (Tech for Senior) and Judy Taylour (APCUG), and recently, I had to rebuild one of my computers, and the program Unchecky gave me lots of help reinstalling the software.

Unchecky is a free, open-source program that automatically unchecks unwanted, preselected boxes during software installation. It is a lifesaver for anyone who has ever been frustrated by the sneaky tactics used by some installers to trick users into installing additional software or signing up for unwanted services.

### How it Works

Unchecky works by monitoring your computer for software installation processes. When it detects an installer, it automatically scans the installer for pre-selected boxes. If it finds any, it unchecks them for you. This way, you can be sure that you are only installing the

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## *How to Become a Tech Support Superhero*

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

A well-prepared adventurer never leaves home without his trusty Swiss Army knife. Similarly, you need a portable arsenal of troubleshooting tools to solve the most common computer problems. Load these tech support utilities on a USB flash drive and your friends and family will think you're a tech support superhero! Read on for your tech support toolkit...

**Your Tech Support Toolkit**

When writing this article, I was reminded of an old friend at IBM who was an avid spelunker (cave explorer). He always wore boots to work, because, he said, "You never know when a cave might pop up in the machine room!" It's also true that you never know when your laptop, or a friend's computer, may start acting up.

All of these handy programs are free, but they also share another important common factor. They don't require any installation, because they're designed to be portable. The ability to run them directly from the USB drive is important for several reasons. First, on a badly infected system, sometimes you can't even install new software. A virus may be blocking the introduction of new software, or the Windows installer may be broken. Also, some programs require administrator privileges to install, which presents a hurdle if the admin password is unknown.

**#1 --** Malware infection (viruses, spyware and other nasties) is one of the most common problems. Some malware even disables the security software found on the infected hard drive. In such cases, a portable antimalware program stored safely on a USB drive is a lifesaver. Emsisoft Emergency Kit Portable is a free malware scanner and remover for Windows 7-11 that can be run from a USB drive without installing it on the target system. Emsisoft Emergency Kit will scan your computer for viruses, spyware, adware, keyloggers and other malicious programs.

**#2 --** If you run into a problem that Emsisoft Emergency Kit can't fix, check out my article Offline Malware Scanners for details on a class of anti-malware tools that will clean up malware infections on systems that won't even start Windows.

**#3 --** One form of malware that's particulary difficult to detect and remove is the rootkit. On infected systems, it can't hurt to use a dedicated rootkit removal tool such as Kaspersky's TDSSKiller Portable. Just remember this isn't a substitute for a full anti-virus tool.

**#4,5 --** If your hard drive appears to be mangled, don't give up hope before trying TestDisk. This powerful portable utility can recover lost hard drive partitions, and fix problems with drives that won't boot up. TestDisk will analyze your disk, partitions, boot sector, and can help you recover deleted files, and even rebuild scrambled file systems. Another file recovery program I've found useful is Recuva.

**#6,7** -- Some programs cannot be uninstalled by the Windows "Add/Remove Programs" function. For those stubborn clingers, try the Revo Uninstaller program. If you are trying to rid a brand-new system of all the unnecessary junk programs that came installed on it, try the free Bulk Crap Uninstaller utility.

**#8 --** In cases where Internet Explorer or Edge is not functioning, and no other browser is installed, the portable version of Chrome or Mozilla Firefox will help you get access to the Web, so you can find diagnostic information, updated drivers, or any additional software you may need. Since they run from your flash drive, the portable browser won't leave anything behind (cookies, history,

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*Unchecky (Cont. from page 7)*

software you want, without any unwanted extras.

### Benefits of Using Unchecky

There are many benefits to using Unchecky. Here are just a few:

- Saves time: Unchecky can save you a lot of time by automatically unchecking unwanted boxes. No more clicking through endless installation screens!
- Saves money: Unchecky can help you save money by preventing you from installing unwanted software you might have to pay for.
- Protects your privacy: Unchecky can help protect your privacy by preventing you from installing software that tracks your activity or collects your personal information.
- Easy to use: Unchecky is extremely easy to use. There are no settings to configure, and it runs silently in the background.

### Is Unchecky Safe?

Unchecky is entirely safe to use. It is a reputable program with a large and active community of users. It is also open source, so you can be sure its code is clean and free of malware.

### Overall

Unchecky is an essential tool for anyone who wants to take control of their software installations. It is free, easy to use, and can save you time, money, and frustration. I highly recommend it to everyone.

Here are some additional things to keep in mind about Unchecky:

- Unchecky does not work with all installers. Some installers are designed to bypass Unchecky and other similar programs.
- Unchecky may not always be able to detect all unwanted boxes. Double-checking the installation screens yourself is always a clever idea before clicking “Install.”
- Unchecky is not a replacement for common sense. It is important to be careful about what software you install, even if Unchecky can uncheck the unwanted boxes.

I would also like to add that Unchecky is an excellent program for anyone concerned about their privacy. By preventing you from installing unwanted software, Unchecky can help protect your personal information from being collected and used by third parties. ☺

*Tech Superhero (Cont. from page 8)*

cache) on the machine where you run it. You can also customize the portable version with your bookmarks and extensions.

**#9 --** In a similar vein, if Microsoft Word or Excel is totally hosed (or no office suite is installed) the portable Libre Office will do very nicely as a substitute. Libre Office is drop-in replacement for MS Office, including a word processor, spreadsheet, presentation tool and other utilities. It can even read and write MS Office files.

**#10 --** I can’t count the number of times I’ve been away from my computer, and needed to edit a photo or other type of image file. IrfanView is a handy graphic viewer and editor, supporting many file formats, basic editing (crop, resize), effects (sharpen, blur), screen capture and other image management features.

**#11 --** CCleaner helps you clean up unused files, settings, resource-hogging applications, and out-of-date drivers which can make your PC faster.

**#12 --** TeamViewer is an app for remote support, remote access, allowing you to assist friends and family members remotely.

**#13 --** Speccy Portable is a helpful system information tool that can tell you what’s under the hood of your computer. Knowing the specs of your processor, RAM memory, video card, hard drive and more can sometimes help with diagnosing a problem.

**#14 --** And just for completeness, I recommend that you add NirLauncher to your tech support arsenal. It includes over 200 portable freeware utilities, such as AppCrashView (Displays the details of all application crashes), BlueScreenView (Shows information about blue screen crashes), CurrProcess (Displays a list of all processes currently running), WhatInStartup (disable/enable/delete programs that are loaded at Windows startup), and many more.

### Hit the Reset Button

For badly borked systems, you may be tempted to just hit a big red Reset Button and start from scratch. It’s possible to restore your computer to that shiny just-out-of-the-box condition, but I recommend caution. See my article [RESET BUTTON] Restore Your PC To Factory Defaults? for details on that process. ☺

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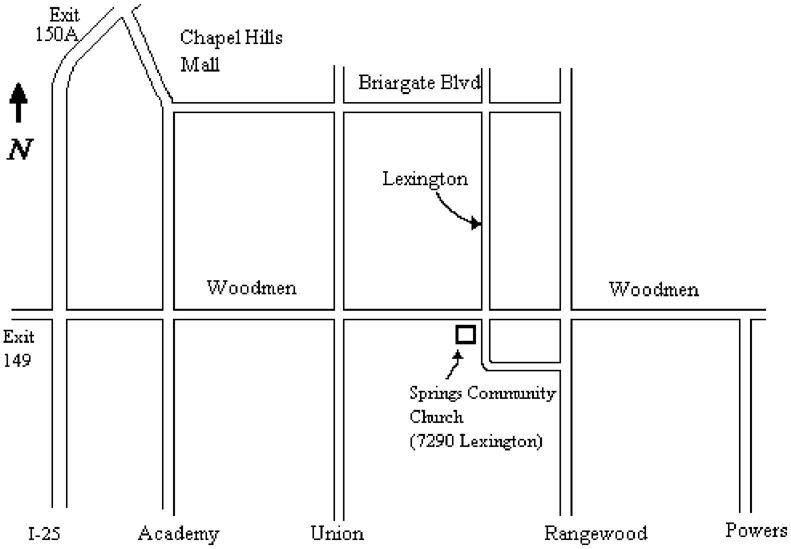
**Coming Events:**
**Next Membership Meeting:** **6 July beginning at 9 am (see directions below)**
**Next Breakfast Meeting:** **20 July @ 8:00 am, Golden Corral, 1970 Waynoka Road**
**Newsletter Deadline:** **20 July**
**Check out our Web page at:** **http://ppcompas.apcug.org**


Exit
150A
Chapel Hills
Mall
Briargate Blvd
N
Lexington
Woodmen
Woodmen
Exit
149
Springs Community
Church
(7290 Lexington)
I-25
Academy
Union
Rangewood
Powers