



# PATACS Posts

## Newsletter of the Potomac Area Technology and Computer Society

October 2024, Volume 7

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### My turn.....

I'm trying to remember where I've been since we last talked...and, of course, I can't, which means either I look it up in Outlook or use my photo library. I'll try Outlook first, since it's already running on my other screen...



OK...I've been to Alaska, Massachusetts—twice, Maine, Iowa, and Illinois. Why? Family and personal travel: Alaska, a photo trip to Glacier Bay National Park and then the Inside Passage, where I got Covid. My 2<sup>nd</sup> trip to Massachusetts this year: the first a photo workshop (which I reviewed last time) and then to and from Maine. We stopped in Marblehead—not far from Salem—and spent two nights. I told my wife I didn't want to be driving to Maine on a Saturday, as that is “change-over” day (when many visitors are coming into and leaving Maine), and the traffic is god-awful. So we drove to Marblehead on Friday, stayed two nights, and drove to Maine on Sunday.

If you're driving to Maine, most navigation software wants you to use the Merritt Pkwy., in Connecticut. The trouble with it is that it was designed and built in the late 30s, when cars were much slower. The access ramps are ridiculously short and today's speeds are much higher. I consider it unsafe when there's a lot of traffic. A far better *and safer* route—IMHO—is the Palisades Parkway and Route 9W in New Jersey, north to the Mario Cuomo Bridge (formerly known as the Tappan Zee Bridge) to I-287 east (the Cross-Westchester Expressway), then I-284 north to I-84, then east to the Mass Turnpike (I-90) to Boston. You can thank me later! 😊

On the way home from Maine, we stopped in far eastern Cape Cod to visit grandchildren #2 and #3 at the beach. We were in North Truro, near the eastern end. I thought I was half way to the UK! Driving home from there is almost as far as driving to Maine—eleven hours!

I went to Iowa for my 50<sup>th</sup> college reunion in early October. On the way home I stopped to visit friends in northwestern Illinois. I drove home from Rockford—790 miles—last week. It took me twelve hours. Ohio has finally upped their speed limits to 70, so one can do 80 mph and not get pulled over. Very helpful if one is trying to make time, which I was.

Next trip: this weekend (mid-October) to NYC and Brooklyn for some family visitation. Then I'm done until late December.

What and where have you been these last few months and what and where will you be during stuff the next few?

Next printed issue: December, 2024

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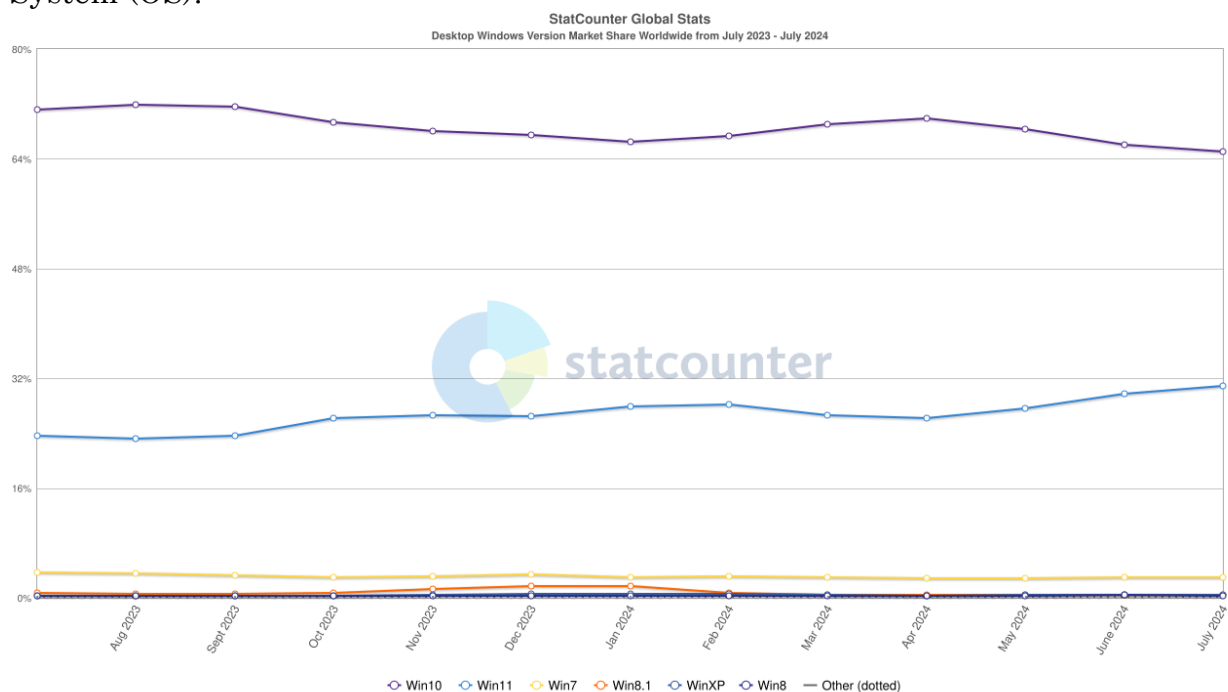
Thank this issue's proofreaders: Nick Wenri, Martin Menez, Linda Soady, Paul Howard

## To Upgrade Or Not Upgrade Your Windows Computer

By Frank Fota, [fotafm@gmail.com](mailto:fotafm@gmail.com)

Director, Potomac Area Technology and Computer Society (PATACS)


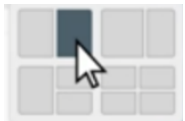
If you operate a computer other than your smartphone, you likely use Microsoft (MS) Windows. About 65% of desktop computers worldwide use the Windows 10 Operating System (OS).



If you are using Windows 10, you are likely aware that support for this operating system (OS) ends in October 2025. Microsoft will provide three years of extended security support for an additional charge. So why haven't Windows 10 users upgraded their OS to Windows 11? After all, Microsoft is not charging Windows 10 users to upgrade to Windows 11. The most common answer to that question is that the stringent system requirements for Windows 11 prevent many Windows 10 users from upgrading their old computers.

These requirements include an approved 1GHz or faster processor (CPU) with 2 or more cores, 4GB or more of memory, a 64GB or larger storage device, a [Unified Extensible Firmware Interface \(UEFI\)](#) with Secure Boot option, a [Trusted Platform Module 2.0](#), and a DirectX 12 or later Graphics Card with the [Windows Display Driver Model \(WDDM\) 2.0](#) driver. If your computer was purchased in 2019 or later, it likely meets Windows 11 system requirements.

If your computer can support Windows 11, Lead Software Analyst for **PC Magazine**, Michael Muchmore provides many reasons to upgrade now in his article “[10 Major Reasons to Upgrade to Windows 11 Now](#)”:

- The Taskbar includes control icons for volume, network, battery, and calendar; and the design *subjectively* looks better than the Taskbar included with Windows 10.
- The Microsoft Copilot uses generative AI (i.e., ChatGPT technology) to automate tasks, search for files, and respond to voice commands. The Copilot icon is typically present on the right side of the Taskbar. 
- The apps included with Windows 11 are better than the apps included with Windows 10 and include a new Media Player, video editor, photos app, Notepad, and calculator.
- The screenshot tool included with Windows 11 is much improved.
- Based on your monitor(s) size, the [Windows 11 Snap Layout tool](#) allows you to set window location preferences. 
- [Windows 11 widgets](#) (e.g., News, Weather, Sports, Family Safety, Stock Prices, and the “new Outlook” Calendar<sup>1</sup>) can be customized and support third-party widgets. Find Microsoft and third-party widgets at the [Microsoft Store](#).
- Windows 11 is more secure. This added security is possible due to the stringent system requirements (e.g., UEFI System Firmware with Secure Boot, a supported CPU, and a Trusted Platform Module).
- It's easier to configure multiple desktops and monitors in Windows 11.
- Windows 11 provides support for High Dynamic Range (HDR) color on compatible monitors. The implementation of HDR and [DirectStorage](#), a feature that can load games directly into video card memory, will improve video game appearance and performance.
- Windows 10 will stop receiving security updates after October 14, 2025.

As security updates for Windows 10 will cease after October 14, 2025, the decision to upgrade to Windows 11 becomes increasingly relevant for users seeking a more modern, secure, and feature-rich computing experience.

<sup>1</sup> Ed.'s note: “New Outlook” is descriptor for the new calendaring program in Windows. It is not the same as “Outlook” which is part of Microsoft Office yeared versions or 365.

## Copilot For Windows 10 Can Be Uninstalled

John Krout, Potomac Area Technology And Computer Society ([www.patacs.org](http://www.patacs.org))

*Microsoft decided to install its Copilot AI client without asking for my permission first, just like it did in Windows 11. However, there is a way to uninstall Copilot on Windows 10.*

### Introduction

Readers of my articles should know that I am no fan of companies auto-installing software on my Windows computers without my permission. To me, this is an unwarranted use of my computer in two ways: the internet bandwidth for which I pay good money each month, and the finite Drive C: storage on my computer, which I can expand only at significant cost.

If a company wants to recommend an application for installation, the company should explain its advantages first. Then I can make an informed decision whether or not I need it.

I published a criticism of Microsoft for installing their Copilot Artificial Intelligence client on my Windows 11 computer months ago. In early September 2024, I found the Copilot client on my Windows 10 computer after an operating system update.

However, on Windows 10, I quickly found a way to uninstall Copilot. I did not even ask Copilot how to do so.

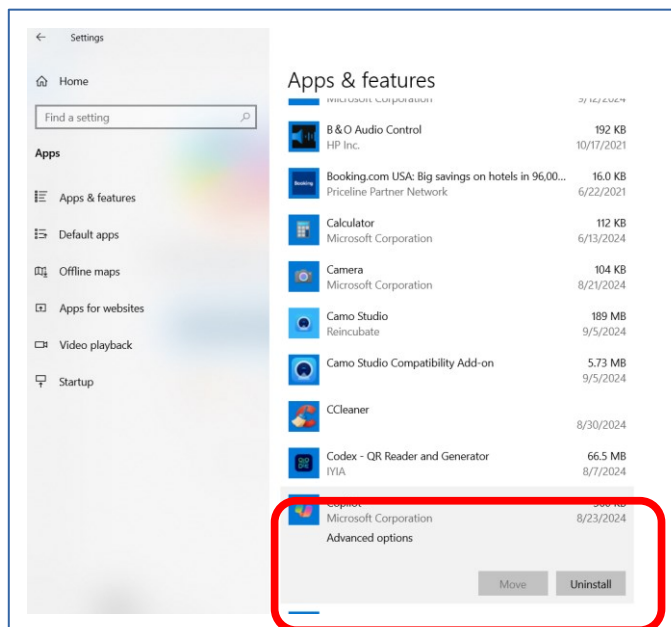
### The Apps list in Windows 10 Settings

Look at **illustration 1**. This depicts the status of various Applications within the Settings application. To get there, the screen clicks I used were:

#### Settings app ► Apps

That screen provides a scrollable list of applications installed on my Windows 10 laptop. The list is in alphabetical order. I scrolled down past Camera and CCleaner, and found Copilot listed.

I clicked the Copilot application name. In the illustration, you can see the result: an **Uninstall button** appeared.



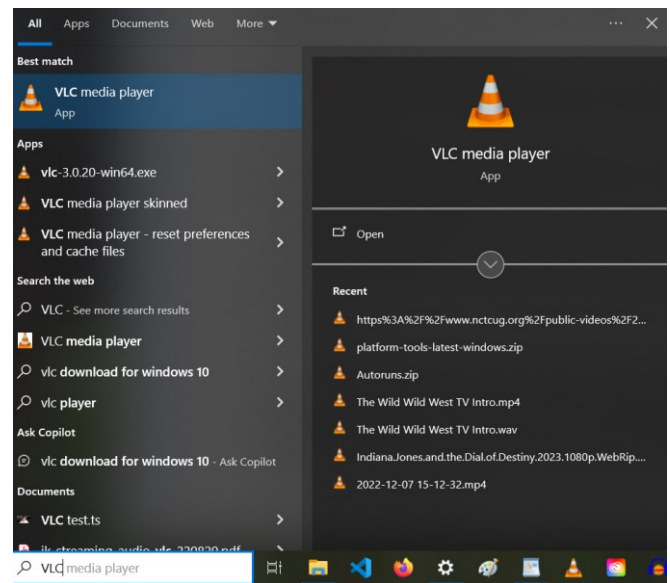
**Illustration 1**

I clicked the Uninstall button. After four seconds, Copilot disappeared from the Apps list. That duration varies depending on the hardware of your computer and the number of other applications running at the time on your computer.

For **Confirmation**, I closed the Settings app.

For an application already installed on your computer, Windows will display the application name and the application icon at the top of the search results. You can see an example search result for the VLC media player in **illustration 2**. The search bar containing the application name **VLC** appears in the lower left. For that installed application, the icon and name appear at the top right of the search results.

I typed the name **Copilot** into the Windows 10 search bar. I found instead a discussion of the advantages of Copilot, but **its icon and name did not appear**.



*Illustration 2*

That search confirmed the uninstallation step did remove Copilot from my Windows 10 laptop.

Did Microsoft read and heed my prior article? I doubt it. For whatever reason, at least in Windows 10, Copilot is not a permanent part of the computer.

### Consumer communications and organization assumptions

My late dad, the office manager and speech writer for 20+ years for a Member of the US House of Representatives, had red-tape problem-solving duties among his responsibilities. This meant helping untangle delays in social security payments, delays in surgery and other medical services for armed forces veterans and helping the voters of the House district that elected his boss.

My dad told me something about his work. For every letter received, even the ones advocating a yea or nay vote on legislation, he assumed about 50 other constituents felt the same as the writer.

That is not a bad approach for companies to consider. Don't hesitate to write and make your concerns known. You can send email instead of paying for US Postal Service postage.

####

## Using the Windows Start Button

By Jim Cerny, [JimCerny@gmail.com](mailto:JimCerny@gmail.com)

1<sup>st</sup> Vice President Sarasota Technology Users Group <https://thestug.org/>

All editions of Windows have a Windows icon in the lower-left corner of your desktop screen, sometimes known as the Start button. The “start” button on Windows is a very useful way to access any app or controls on your computer! (This article is for Windows 10, but the information is relevant to all Windows versions.) Left-clicking your mouse on the Start button brings up, among other things, a list of all your apps in the left column that are installed on your computer. Windows has many free apps, and you may have installed others. They will ALL be on the list.

One difficulty with scrolling down this list is that the scrollbar is almost invisible on the right side of this column. Gently move your mouse pointer to the right edge of the column, and at just the right place, the vertical scrollbar will appear in normal size so you can use it. Note that many apps are stored in “folders” containing several apps since there are so many apps. All folders will have a yellow icon and a small arrow “>” on the right. Clicking your mouse on this arrow will open the folder and display the apps in it.

Practice scrolling down this list and finding the apps you have been using. You will also see many apps you have no idea were on your computer! There are lots to explore here when you have time, or “Ask Google” about any of them.

You can also find any app by typing the app name into the search bar just to the right of the Windows icon. When you use this search bar, it will search not only your computer but also the internet and your files and folders, so you will see many things related to whatever you searched for.

Back to the app list; what can you do after you find an app on the list? Well, you can right-click your mouse on the app to get a short list of what you can do. You can UN-install it -- that is, remove the app from your computer. You can also “pin” the app to the Taskbar at the bottom of your screen or to the start menu. When you “pin” something like this, it will remain in that location until you delete or move it somewhere else. You can choose “pin to taskbar,” then move or “drag” the app icon from the Taskbar to your desktop. (Ed’s note: if you don’t see the selection you want, click on “more”. On the taskbar, you can also slide the icon side-to-side on the Taskbar, so you can locate it where *you* want it.)

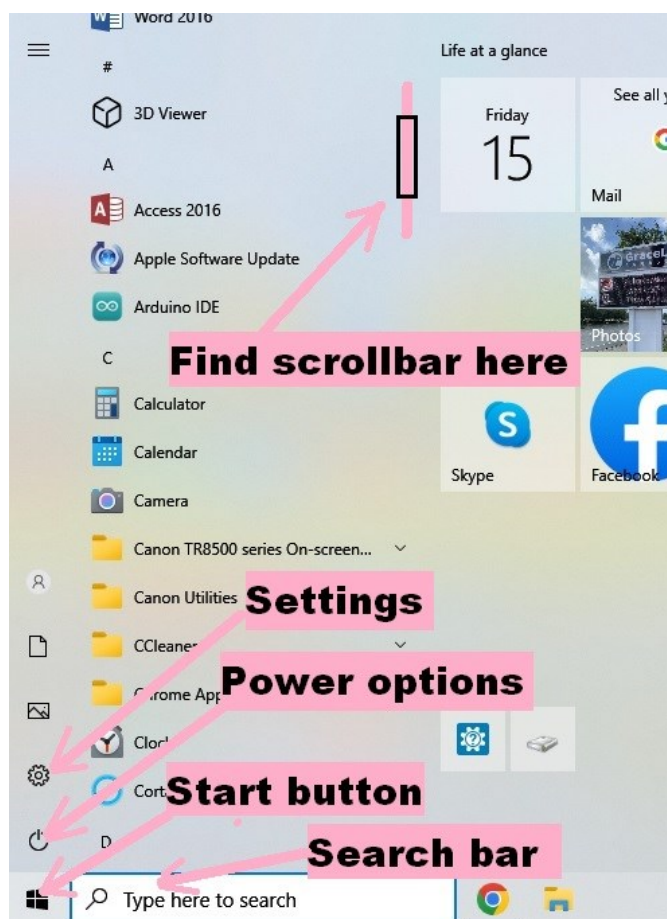
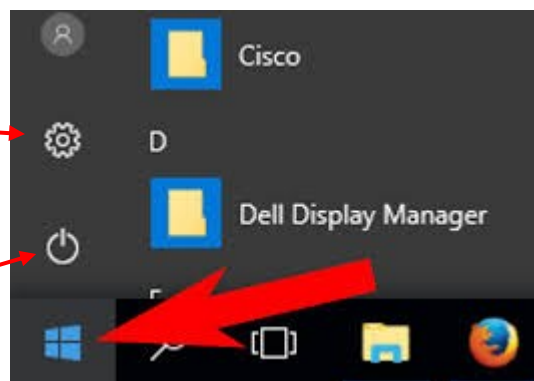
You can also “drag” any app directly from this list to your desktop. To do this, place your mouse arrow on the app, HOLD down the left mouse button, and move your mouse to any blank area on your desktop. Let up the mouse button, and the app is on your desktop! An app icon on your desktop is a “link” that lets you open and use the app just by double-clicking your left mouse button. If the app icon is on your Taskbar, you only left-click it once.



In addition to displaying a list of all your apps when you click on the start button, you also get a short list of icons on the very left of this window.

One is “settings” (which looks like a gear), which gives you all the set-up options and controls for your computer.

Another option you always use is the “power” option to turn off your computer or put it into “sleep” mode.



You can look up or “Ask Google” what each menu item can do for you or information about any app. The Start button and the Search bar are always handy and helpful in finding apps and files on your computer, so don’t be shy about using them.

###

### Recover Your Wi-Fi Password

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Sun City Summerlin

Computer Club

<https://www.scscc.club>



Computer users often seek technical support when they cannot access the Internet via their home wireless system.

First, the technician will usually walk the user through the reset procedure for the router or router/modem (turn them off and on). If that does not fix the problem and it is determined the modem is receiving a good

signal, the subsequent conversation often goes something like this:

**Technician:** What is your password for your router?

**User:** I don’t have a password.

**Technician:** If your router is not secured (i.e., password protected), you should be able to connect.

**User:** I don't have a password. I click the Google (or other browser) icon and get online.

At this point, the Technician explains to the user that the password is stored on the user's computer and that a few steps are required to access that password. The technician might guide the user through the process of recovering the password using the following procedure:

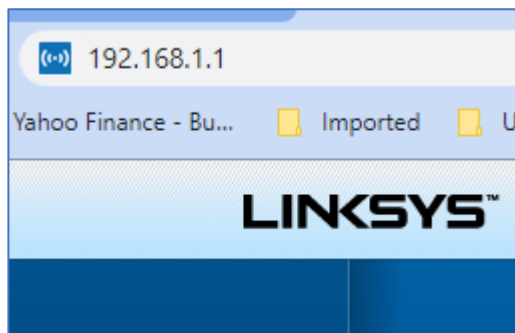
**If the computer connects to the Wi-Fi automatically, here's how to find it.**

Microsoft has buried the Wi-Fi password on a computer more deeply with the latest version of Windows 10 and 11 than with prior versions. It is the same procedure for both 10 and 11. You can still find your Wi-Fi password using the following steps (note ... where I use the term "click," I mean a single click on the left mouse button or a single tap on a touchscreen.):

**Find your way to the "Wireless Properties."**

Open your **Control Panel** (Type "Control Panel" into the search box to the right of the Windows button on your Taskbar and Enter). Click on **Network and Internet**. Click on **Network and Sharing Center**, then click on the name of **your network**, which appears in **blue**. In the Wi-Fi window that opens, click on **Wireless Properties**. In the new window that opens, click on the **Security tab**, then check the box on **Show Characters**.

**If you only own a smartphone/tablet or have a PC that has not stored the Wi-Fi password**



Log in to your router as an administrator. You can access your router by entering its IP address into your browser. You can research the default IP address of your router by searching "IP address [brand name of your router]". Every router I've dealt with had an address of "192.168.##". The most common value for # is the number 1 (for both #s). If that does not work, try substituting the numbers 0 or 2 for one or both of the #s. After you log in, you should be able to find the Wi-Fi settings on the Administrative pages of your router.

There, you can look up your password. (Ed.'s note: Comcast/Infinity uses a totally different address.)



### IP settings

IP assignment:	Manual
IPv4 address:	192.168.1.211
IPv4 subnet prefix length:	24
IPv4 gateway:	192.168.1.1
IPv4 DNS servers:	192.168.1.1

*On Windows 10/11, you don't have to guess. You can find the internal IP address of your network router by going to **Settings** > **Network and Internet** > **Status** and, under the **name of your Wi-Fi (or Ethernet) connection**, clicking **Properties**. A screen will display; near the bottom are the IP settings. The **IPv4 gateway IP address** is the internal address of your router.*

The Wi-Fi password is often written on a sticker on the back or bottom of your router. This is how I usually set up home routers, and it might be a good thing for you to do after you have recovered your Wi-Fi password.

This is a simple but effective strategy since it is easy to find.

A burglar would have to break into your home to steal your password, and they probably would focus on more tangible items.

###

## LibreOffice Basic Programming using ChatGPT

By Alan German, Treasurer

Ottawa PC Users' Group, Ontario, Canada <https://opcug.ca>

ChatGPT (<https://chat.openai.com/chat>) is an artificial intelligence (AI) tool that, amongst other things, can create text based on a request from an end user. I thought I would use it to write an article for the newsletter by entering "Write an article for OPCUG's newsletter on LibreOffice Basic Programming." Had I gone ahead with this, you would now be reading the following:

*"LibreOffice is a free and open-source productivity suite that provides several applications, including Writer, Calc, Impress, and Base. These applications are designed to provide a comprehensive set of tools to meet the needs of any user. LibreOffice also comes with a built-in programming language called LibreOffice Basic, which allows users to automate tasks and create custom solutions to enhance the functionality of the suite."*

But, first let me explain the scenario. I have a LibreOffice document (an ODT file) that contains the lists of topics that have been covered over the past three years in our weekly online Q&A sessions. Each week, I build an agenda for the upcoming session as a simple text file (TXT) that lists the titles of the topics to be discussed next. This text file is used for various purposes, one of which has been manually adding the list of new topics to the main ODT index file. I wanted to automate this latter process by developing a macro (Ed.'s note: a

small program) that would read the topics from the text file and add them to the end of the ODT file.

I don't know all that much about object-oriented programming, so, when I want to create a macro for a document in LibreOffice's word processor (Writer), my practice is to use Google to search for code extracts that I can then modify and string together to produce the final product. And, this is precisely what I did to build the required macro in this case.

But then I saw a YouTube video of an individual using ChatGPT to create computer code in a number of programming languages by simply telling the AI bot what was required. Now, perhaps LibreOffice Basic is a bit of a backwater item in terms of mainstream programming, but I figured that it would be worth a shot to see if I could use ChatGPT to develop the code for my macro.

I know how to read and write lines of text from an ASCII file. My problem is that the ODT file isn't a simple text file. The ODT format is a special type of ZIP file that contains a number of XML and other components. So, the trick is to have the macro open the ODT file, identify the component that contains the body text of the document, add the desired lines at the end, and close the file.

At present, it's possible to use ChatGPT at no cost. All that is required is to create an account on the system or login using an established Google account. Once logged in, one enters a request as a string into a text box. My request was "*Write a program in LibreOffice Basic to add a string to the end of an odt file.*"




Sorry for the interruption, but this gigantic white space needed filling and the article is formatted in such a way as to be impossible to arrange things otherwise.

The article continues on the next page...

Image exposure info:  
**Canon R5:** ISO 200,  
1/160<sup>th</sup>s, f/5.6  
**Canon RF24 -105 f/4**  
**L IS USM:** 72mm

The result was amazing – as shown, in part, by the following screenshot:

 Write a program in LibreOffice Basic to add a string to the end of an odt file

 Certainly! Here is an example of how you can do this in LibreOffice Basic:

1. Open the odt file that you want to modify using the `Load` method of the `Desktop` object.

```
Dim oDoc As Object
oDoc = ThisComponent.Load("/path/to/file.odt")
```

2. Retrieve the document's text object using the `getText` method of the `oDoc` object.

```
Dim oText As Object
oText = oDoc.getText
```

ChatGPT effectively produces a custom tutorial on building the macro. Each required step in the process is explained, and the relevant code extract displayed. Finally, all the code that has been developed for the requested macro is shown as a complete block:

```
Sub AddStringToODTFile
    Dim oDoc As Object
    Dim oText As Object
    Dim oEnd As Object

    ' Open the document
    oDoc = ThisComponent.Load("/path/to/file.odt")

    ' Retrieve the text object
    oText = oDoc.getText

    ' Insert the string at the end of the document
    oEnd = oText.getEnd
    oText.insertString(oEnd, "This is the string that will be
        added to the end of the file.", False)

    ' Save the modified document
    oDoc.store

End Sub
```

In essence, this code segment is very close to the macro code that I had produced over some considerable time, having had to research several web postings to identify the required techniques. Clearly, it is very generic code and only covers part of what is required for the final macro. But, it is evident from this simple test that the AI bot is fully capable of generating "modules" of code that can readily be adapted for the desired purpose and that such modules could be quickly consolidated into a fully functional macro.

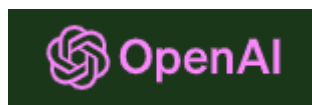
The other consideration is that the current version of ChatGPT is at an early stage in the development of AI

tools. As such applications become more sophisticated and the computer systems running them become more powerful, it is highly likely that their use in computer programming will become ubiquitous.

Even now, ChatGPT is perfectly capable of developing useful code in a number of popular programming languages. For example, in addition to producing macros for LibreOffice Basic, it is just as easy to develop Python scripts (Ed's note: another programming language.) So, ChatGPT is a useful tool for anyone seriously developing programs, macros, and scripts, and is a really interesting option for those who wish to learn the techniques.

ChatGPT (Proprietary, web-based system)

OpenAI <https://openai.com>



###

## To Charge or Not to Charge? (That's Only One of Many Questions)

by Greg Skalka, President, [president@uchug.org](mailto:president@uchug.org)

Under the Computer Hood User Group

[www.uchug.org](http://www.uchug.org)

We have many batteries in our lives because we use a lot of battery-powered technology. Of all those devices, big and small, the one battery-powered device that almost every person has at this point in human civilization is the smartphone. Even in developing countries where water distribution and sanitation systems are woefully lacking, cell phone infrastructure is often very robust and advanced.

Over 8 billion people live on the planet today. Around 7 billion smartphones and approximately 16 billion mobile devices make these devices a shared human experience. From the migrant or homeless person to the CEO, from whatever ideology, religion, political tribe, gender, or gender identity we may be part of, we are all the same in one way: we are all out there looking for a place to charge our phones.

I've written a few columns recently about the wide range of battery-powered devices we use and how to care for them: small battery devices (like electric toothbrushes and earbuds) and medium-sized battery devices (like laptops, hand tools, and smartphones). Being a near-universal device, the smartphone needs a bit more elaboration on its charging. It is unique in that it is almost always on; I doubt anyone turns their phone off (entirely powered down) at night. Nothing else we use is depended on for so much.

I used to think that charging battery-powered devices was fairly straightforward. All you had to do was pick an inactive time, plug the device into a wall-powered charger until it was fully charged, and you were ready to go again. Most devices weren't run so much that you regularly ran out of power when using them. A spare battery could keep you going for those devices where that could be an issue. I bought two extra batteries for my Panasonic Lumix digital camera to make sure photo-taking could last all day on my vacation trips. I have



two battery packs for my DeWALT cordless drill, so I don't run out of power in the middle of a day of home improvement.

Some devices are designed to be on continuous charge when not being used. Our Roomba floor vacuum stays parked on its charging base when not cleaning. My Braun electric toothbrush and hair trimmer are stored in their charging cradles. It may not be the best for its battery, but I always keep my HP laptop plugged in (I use it as a desktop computer and only occasionally run it on the battery).

Our phones are not like these devices; we need them to be on all the time. We use them a lot, and we take them everywhere. Tethered operation won't work; we generally can't swap batteries, and though we can power and charge from a USB battery pack if needed, this typically limits our mobility.

When my wife and I had ordinary cell phones, we usually charged them overnight every night. After I got my first smartphone, a Samsung Galaxy J3, in 2017, I did the same. I believe I always used the AC charger (with USB output) and cable that came with the phone. I used this phone for five years (and still have it); the battery seemed to work pretty well during that time. Ultimately, it may have been down about 20% in usable capacity, but that was not the primary reason I looked for a replacement. My old phone could no longer run all the apps I needed, so in mid-2022, I got a Samsung Galaxy S22. Its battery seemed to last longer, but it was probably larger and more advanced. I initially charged it overnight with the charger and cable that came with it.

The battery management system (BMS) of the S22 is undoubtedly more sophisticated than the one in the J3. The S22 displays time and battery capacity remaining (as a percentage of full charge) with a single screen tap (though it is dimmed in intensity, making it harder for old eyes to read). It can also operate in fast charge mode. When charged from a typical USB source (charger or battery pack), it displays "Charging," along with the charge level and an estimated time remaining to full charge. At 64% full, it might indicate it would take 1 hour and 15 minutes to full level. When charged from a charger or battery pack capable of fast charging, the phone displays "Fast charging," the equivalent fill time estimate might be shown as 37 minutes.

My ideas about charging overnight changed after reading the article "Recharging your Battery" by Kurt Jefferson, editor of the newsletter for the Central Kentucky Computer Society (<https://ckcs.org>), which was republished in our group's November 2022 newsletter. The thrust of this APCUG PUSH article is that the batteries in smarter products should only be charged to between 40% and 80% of capacity, not left to be charged to 100% overnight, as many folks do. The main reason stated was the problem of additional heat from being on the charger all night. I have read other articles and heard from others who are adamant about the need to charge 40-80% to prolong battery life.

One problem with the 40-80% method is that it is much less convenient. It is easy to plug your phone in at bedtime and unplug it in the morning, knowing you now have a full charge



for the day. Charging to a specified charge level means watching the phone while charging; I'm unaware of how to set the phone to shut off charging at 80% full.

Charging to 80% also means giving up 20% of the phone's operating time compared to a full charge. I typically use only 30-40% of my phone's battery capacity daily, which varies with usage. A day of driving with Google Maps and handling my navigation can drain my battery by late afternoon.

The most challenging part for me in switching to the 40-80% plan was finding a consistent charge time. I settled on early in the morning as, at that time, I would spend around an hour at my desk at work, allowing the charging to be (sort of) monitored. This worked for a while, as the fast charging mode meant I only had to be around the phone for about 30 minutes. Unfortunately, the only power outlet in my cubicle was under the work surface, so I had to crawl under it to plug in and unplug it.

Last holiday, I learned about USB battery packs that can charge phones using fast charging modes. In the 2022 Black Friday sales, I bought myself a **Baseus 65W, 20,000 mAh power bank**. It can fast charge a Samsung S22, so I can take it to work and charge my phone there each morning without crawling under my desk. Its capacity allows me to charge my phone daily for about a week under normal usage. It is supposed to be the largest-capacity lithium-type battery that can be taken on a plane. It has a digital display that can show its capacity, charging voltage, and current when providing power to another device. I liked it so much that I got a second one and bought a third in this year's Black Friday sales.

Now, I charge my phone almost exclusively from these battery packs. I've partially bought into the 40-80% charging philosophy; I seldom let my phone go below 40%, but I'll usually charge to around 90% rather than 80%. To me, to have that extra 10% capacity is worth a little lower battery lifespan. Of course, I'll occasionally not pay attention to it as much as I should, and I find it has charged 100%. To me, it is kind of like being on a diet; you can follow it most of the time, but cheating on occasion is not fatal.

I've read many articles on battery charging, but the most useful source of information is Battery University, a free educational website (<https://batteryuniversity.com>) sponsored by Cadex Electronics, a battery-oriented company in Canada. This site has a lot of information on all types of batteries. It has many articles about how Li-ion batteries work, how they should be charged, and how to get the most life out of them. There are several rules to maximize battery life, some easier to follow than others.

I follow many Battery University recommendations in taking care of my phone battery, but I sometimes feel it is impractical to follow them all fervently. The battery that lives the longest is the one that is seldom used, but where is the fun and usefulness in that?

###

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## Meeting schedule (Zoom=Online Only, Hybrid=Online/In-person)

1 <sup>st</sup> Wednesday	7:00 – 9 PM	Arlington General Meeting	Hybrid
3 <sup>rd</sup> Monday	7:00 – 9 PM	Board of Directors Meeting	Zoom
3 <sup>rd</sup> Saturday	12:45 – 3:30 PM	Fairfax General Meeting	Hybrid
4 <sup>th</sup> Wednesday	7:00 – 9 PM	Technology & PC Help Desk	Hybrid
Arlington Mtg: 5711 S. 4 <sup>th</sup> ST., Arl. VA		Fairfax Mtg: 4210 Roberts RD., Fairfax, VA	

Meetings are Hybrid or Zoom (as above)

Fairfax Health/Safety: <https://www.patacs.org/fairfaxattreqmts.html>

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