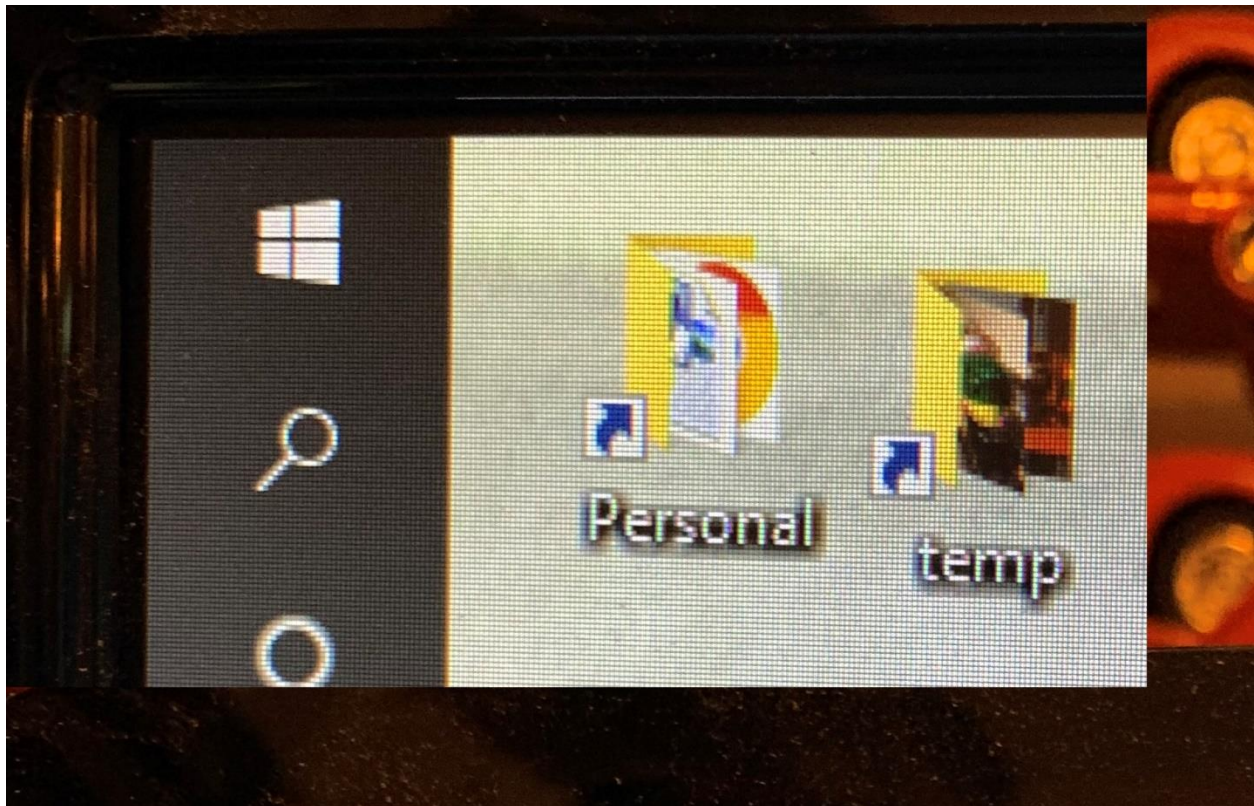


Bill's Backup Plan – 2020-09-08

To Whom It May Concern: I am comforted when I have safe copies of the contents of my computer files. For a variety of reasons, items that are stored on computers can be lost or corrupted. Things happen. I could fumble-finger some process and wreck something I wanted to keep. Lightning could strike at or near my house and damage some component. Parts wear out. A good backup plan can help me migrate to a new computer when that time comes. This short essay describes how I provide that comfort for myself.

Start with Organization

I prefer to keep all of the data on my computer in two directories. These directories reside in the root of the main hard drive. (Windows and Apple prefer to call these things 'Folders' for some bizarre reason. Folders and directories are the same things. I use the terms 'directory' and 'folder' interchangeably to help avoid repetitious tedium.) One of the directories is named 'Personal'. I create it when I first get a computer and prepare a shortcut to it that I keep on the desktop. The other directory comes with Windows and is named 'temp'. I also keep a shortcut to that directory on my desktop in a handy place.



I learned long ago that the computer makers and the operating system makers are constantly changing the names and placements of common things. I do not rely on what the latest fad in their Marketing

departments choose to name these common elements. So, I make my own and preserve it across all of my computers over the years. Each application program on our computers tends to have their own way to identify and store the data that is associated with it. I spurn that storage plan and keep the data in my Personal folder. For example, as I compose this essay, I have created a directory to hold the original photo files and any other elements that will contribute to it.

Data files from whatever application program is used with that file is stored in a sensible place in my Personal folder. I have folders for Railroad, for Pictures, for Magazine Articles and so forth. I do not store my files based on what application program is used to access them.

In the temp directory, I keep folders with the names of people who have contributed photos. When I receive the gift of a photo in an email, a Facebook post or a text message, I store that photo in a folder within temp.

Next, acquire resources

The hard drive in my computer is actually within my computer. It is connected to the main (mother) computer board and is powered by the computer power supply. If something happens to that computer, board or power supply, that hard drive could be damaged. That is not a good place for my emergency back up copies.



This photo shows one of my two, external hard drives. Each has its own power supply and each is connected to the computer by way of a USB cable. I have had others over the years. Currently (2020) these drives can be had for a small cost compared to the cost of the computer itself. They are far less costly than it would be to try to recreate the data I store on them. Each has a capacity of about 2TB.

[How Big Are Gigabytes, Terabytes, and Petabytes?](#)

May 25, 2018 - Terabytes (**TB**) There are 1,024 GB in one terabyte (**TB**). Right now, **TB** are the most common unit of measurement when talking about regular hard drive sizes. Some real-world examples: 1 **TB** = 200,000 5-minute songs; 310,000 pictures; or 500 hours worth of movies.

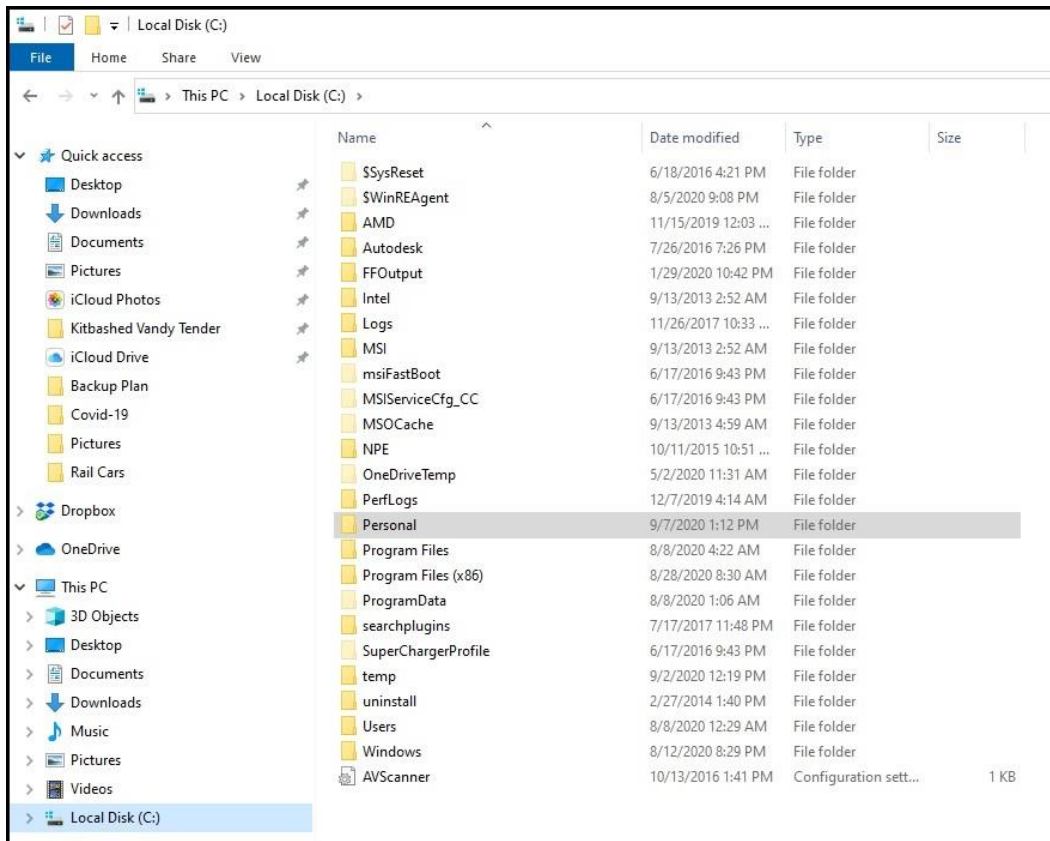
When I am not actively backing my file up to one of these drives, the drive is turned off. I have a switch on the USB connection to the computer. That switch is also turned off. **Unless I am actively transferring files onto or off of one of these drives, they are not powered and not connected.**

The Process

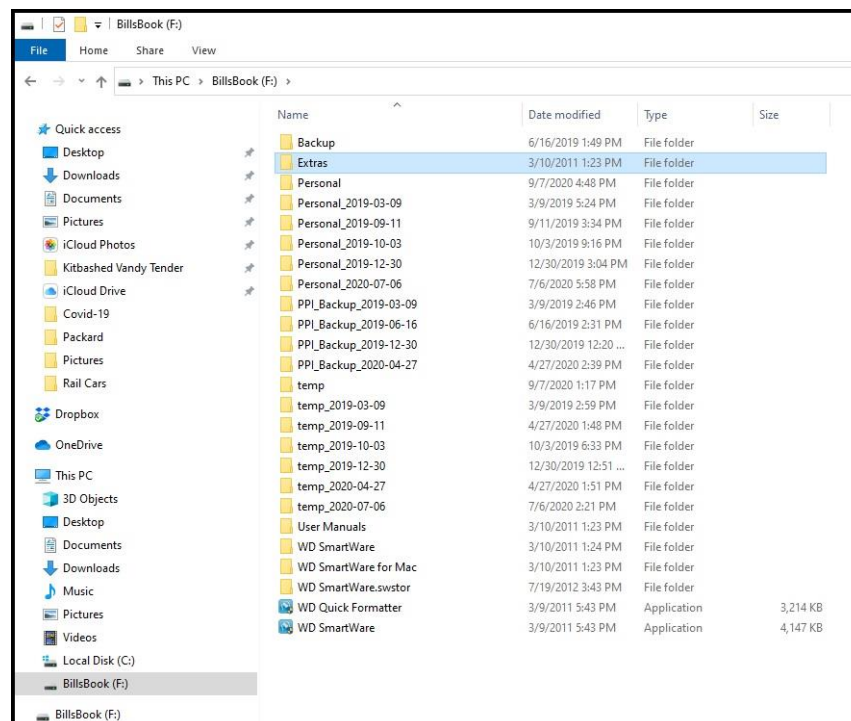
The first step is to close all of the application programs on my computer. I do not want to be making changes to the files I am about to protect.

Second, I turn the external drives on and connect them to the computer. This is a dangerous time because all of my parts are powered and connected. Since I have backups on two, completely separate devices, it would be better to perform the backups on only one at a time. That way, if lightning strikes and messes with the power of the computer and the active drive, the other drive is still safe. I save a little time by avoiding heavy weather while I am backing up.

Third, I open the Windows program File Explorer. It has had other names over the years. The icon for it looks like a manila file folder. There is a picture in the top photo. I open two copies. One is for the hard drive in the computer (the c: drive). The other copy is for the external drive to which I will back stuff up. The drive identifier letter will vary from installation to installation. On my system, right now, they are the e: and f: drives.



Screen Shot of my hard drive as I compose this essay



Screen Shot of one External Hard Drive

Fourth, it is time to rename the previous back copies of the two folders: Personal and temp. What I do is to append the date of the backup (shown in the File Explorer view with 'Details' in the Date Modified column). That way, the new copies will not overwrite previous ones and I can tell when I performed each of the historical backups.

Fifth, drag and drop the folders from the c: drive to the target, external drive. That will take some time depending on how much stuff you have. There is a lively little display window you can watch during the process. I rarely find it amusing. I do find it comforting as progress is made. The estimate of the remaining time is, well, an estimate. Don't rely on it to time the cookies you are baking.

Finally, when it is all done, disconnect the external hard drives and turn them off.

Another Thought or Two

I have a screen saver on my computer. It is set to engage after 30 minutes of inactivity. Back in the days of CRT displays, such things helped protect against 'burning in' the same image if the system was mostly idle. The electron gun at the back of the tube sprayed electrons on the phosphors to make glowing images. Spray too long in the same place and the phosphors would be modified. A ghost of the burned in pattern would always be present no matter what else would be displayed. Distracting. Screen savers would engage and constantly change the content of the glowing screen. My backups take a few hours to complete. So, I temporarily change the screen saver interval from 30 minutes to 300 minutes. I don't want some goofy image-swapping program to delay the file transfers.

Over the decades, I have managed quite a few of my own computers and larger installations for businesses that employed me. There has always been some sort of automated backup process. Those have cost me a lot of time and anguish when they fail. They all fail sooner or later. When they do, the emergency backup becomes a new emergency. I avoid them

Also, I find that the automated backups rarely seem to organize my stuff in the same way I do. When I need to recover some files, where is my stuff? Using these external drives that hold exact copies of my stuff as I keep it, it is easy to find the particular portion of my stuff that I seek.