An OPCUG Product Review

A Deep Dive into Disk Space Recovery
By Alan German

Recently, a friend complained that their laptop's hard disk was full and asked if I could assist in restoring some free space.   There were two initial problems with this request: (1) my friend is somewhat "technically challenged" in terms of dealing with computers, and (b) was currently in Arizona so that the hardware was not readily accessible by me.   Nevertheless, it was a simple matter to send step-by-step instructions by E-mail on how to run Disk Cleanup to remove unwanted data and system files.   The next problem was that this created just less than 3 GB of free space. Time for a more aggressive approach!

My first thought was to have my friend install and run the TreeSizeFree utility which I had previously used to identify the "space hogs" on my own hard drive (see: Sizing up the hard drive).   But first, I thought I would try using this on my current hard drive so as to be able to provide detailed how-to instructions.

The results of this process were to say the least interesting.   Running the utility and selecting Drive C: as the target drive produced the listing shown in part in Figure 1.   TreeSizeFree sorts the file folders by size.   This readily identifies the largest folders that may be the best targets for rapid space recovery.   The tree directory listing also allows folders to be expanded, to display their sub-folders and sizes, providing a means to drill down through the file system to identify unwanted items.

On my system, the Windows folder is listed first since the system files are the largest segment of this hard drive. (Most data files on my system reside in a separate disk partition that Windows sees as Drive D: and so these data files are not included in the current scan.)   While Windows is the largest folder, it is unlikely that there is much free space to be gained from this source.   This folder contains the operating system's files.   Removing anything from this folder may well break the system in some manner, and identifying any unnecessary files in the underlying morass is way beyond my pay scale!

Figure 1.   Partial output from a scan of Drive C:

The task is therefore to identify files and/or folders that are redundant and can be removed without affecting the computer's operation. For example, I can see on my current system that I have 18.1 GB of disk space in use for a folder named Moto, and a further 10.0 GB of space assigned to Photos_DriveC. Each of these folders is a temporary storage location for a series of backups of my smartphone's operating system, and copies of digital photographs, respectively. If I really needed the space, these folders could easily be transferred to an external USB drive. However, there are doubtless other areas of storage on the hard drive that are truly redundant and, using TreeSizeFree to drill down through the file system can readily identify such entities.
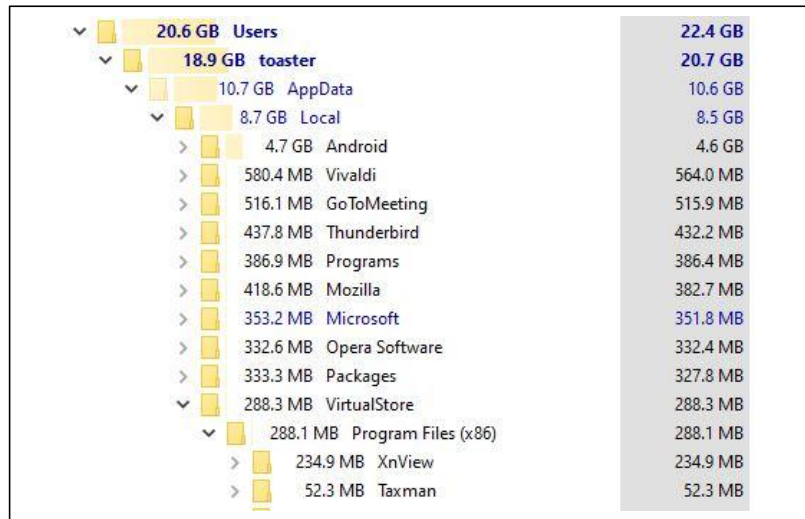

Figure 2.   Contents of C:\Users\toaster\AppData\Local

For example, if we expand the C:\Users\toaster\AppData\Local folder, we can see (Figure 2) a number of large folders, each using more than half a gigabyte of disk space. Some of these are for applications, such as Vivaldi, GoToMeeting, and Thunderbird, that I use regularly. However, there are other folders that are associated with programs that were used, or simply tested, some time ago and are no longer required. One such folder is Android (4.7 GB) that is, presumably, part of Android Studio which I used to see how easy (or not!) it would be to develop Android apps. Similarly, other folders such as Mozilla (Firefox) and Opera Software are likely associated with web browsers that have since been superseded by the use of Vivaldi. However, rather than deleting these folders in the Users directory, the parent applications should first be uninstalled through Control Panel since this process might well also remove these storage locations.

Looking through the listing also identifies a folder of which I had no prior knowledge, namely C:\Users\toaster\AppData\ Local\VirtualStore. The VirtualStore folder is using more than a quarter of a gigabyte of disk space and, in particular, the sub-folder Program Files (x86)\XnView (234.9 MB) is responsible for almost all of this disk usage.

I installed the XnView image viewer quite some time ago solely to test the software prior to installing it on a friend's machine. The full listing of the TreeSizeFree output shows the date on which the VirtualStore\XnView folder was last modified as September, 2018. Furthermore, the XnView application is no longer installed on the computer. (Note - This means that uninstalling software is no guarantee that all the associated disk space will be recovered!) So, clearly, the VirtualStore\XnView folder is surplus to requirements. Right-clicking on the folder in the TreeSizeFree listing brings up a context menu that includes an option to delete the folder and free up almost 0.3 GB of disk space. It should be noted; however, that this is done most efficiently when logged into an administrator's account since the deleted files are stored in the administrator's recycle bin which must be cleared to actually reclaim the disk space.

The question remains just what is the VirtualStore folder used for. Postings on the web indicate that this folder is a throwback to Windows Vista! Some legacy applications were unable to run with administrative rights to store files

in protected areas of the disk such as C:\Windows.   In consequence, these system areas were "virtualized" and the programs allowed to save files in the VirtualStore folder.

Unfortunately, while some such legacy programs write files to the VirtualStore folder, they don't all remove these files when the programs are uninstalled.   However, TreeSizeFree can at least be used to identify candidate files and folders for deletion.   Just be sure that if you are going to delete files and folders from this directory that you aren't going to break some application by doing so.   Did I mention that full system backups are a good thing?

Bottom Line

TreeSizeFree (Freeware)
Version 4.4.1.512
jamSoftware
https://www.jam-software.com/treesize_free