

roots trust

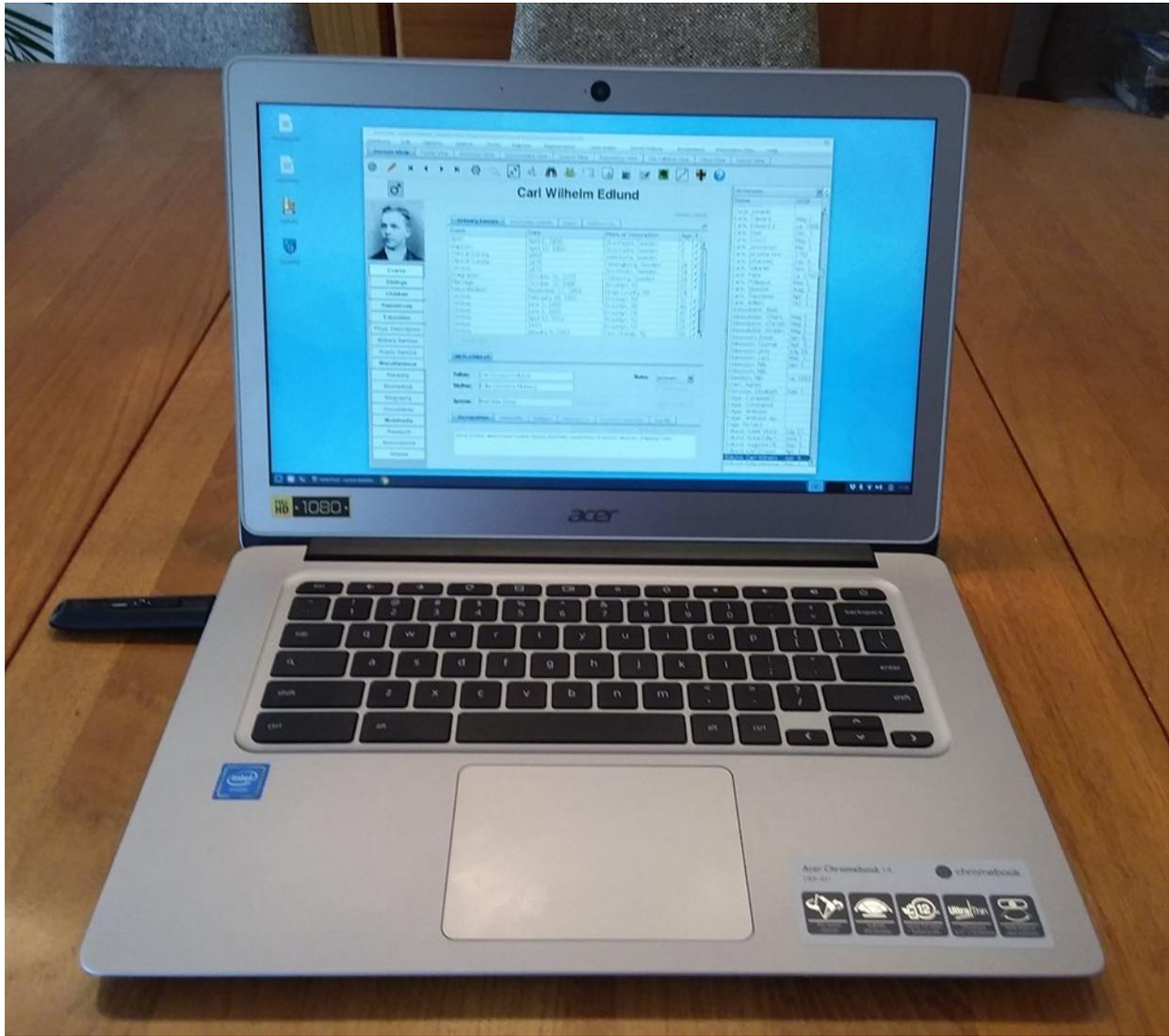
NEWSLETTER

Atavus, Inc.

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My Inexpensive travelling computer

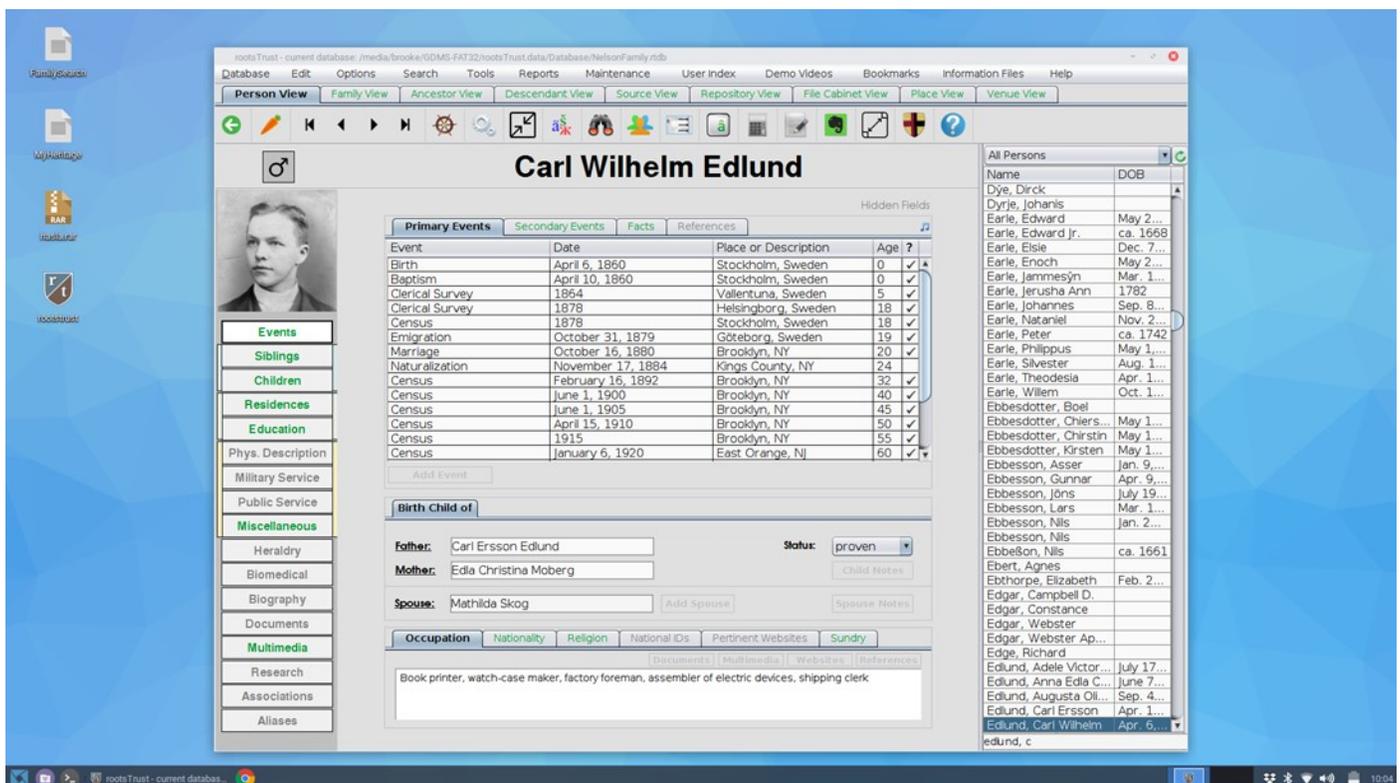
Last September I reported on running rootstrust under the GalliumOS operating system on a Chromebook. This is an update to that article.



My Acer Chromebook 14 on the dining room table running rootstrust under GalliumOS

My Inexpensive travelling computer

When I go away on a trip or vacation, I like to take along a small, lightweight computer for Internet and email. I also take it with me when I go to a library or archive to do genealogical research, so it must have rootstrust, my database and File Cabinets on it. Two years ago, I purchased an Acer Chromebook 14 for the purpose of experimenting with rootstrust. It only cost \$287.50 at Amazon.com. It is very well made and has an aluminum case and a very nice 14" display. However, I was disappointed with ChromeOS.



rootstrust on the GalliumOS desktop

At first, the only way I could use this device to run rootstrust was via a virtual, cloud-based computer service like Paperspace. That worked fine but required that I pay a monthly fee. Besides, I could only use rootstrust, where I had Internet access. I then learned that it was possible to load Linux on the Chromebook next to ChromeOS such that you can select the desired operating system at boot time. So, I loaded GalliumOS, a version of Ubuntu Linux developed specifically for Chromebooks. It worked fine, so I installed rootstrust on it. Then the battery of the Chromebook ran down, and after I re-

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charged it, GalliumOS was gone. I did some more research on the Internet and discovered that you can replace ChromeOS with GalliumOS, and then it won't evaporate when the battery runs down. I did just that, and I do not miss ChromeOS one bit. My Chromebook has minimal resources: a Celeron processor, 4GB of RAM and 32GB internal storage (SSD), but that is more than enough to run GalliumOS. I have installed the Libre Office suite (compatible with Microsoft Office), Dropbox, the Chrome web browser and some Linux utilities. rootstrust, my database and File Cabinets are located on a rootstrust Universal USB3 Flash Drive which gives me an extra 32GB of mass storage. Besides, since my rootstrust database and File Cabinets are on the flash drive, I can easily synchronize them with the master copies on my desktop PC.

If you are interested in "building" an inexpensive Linux Chromebook computer, you will find lots of information on the Internet for doing so, including Youtube videos. Here are a few links:

[Installing - GalliumOS Wiki](#)

[How to install Gallium OS - YouTube](#)

[Install GalliumOS on a Chromebook - tech.surveypoint.com](#)

[Guide to installing GalliumOS on an Acer Chromebook 14" \(CB3-431 ...](#)

[How to install Linux on a Chromebook \(and why you should\)](#)

By the way, other versions of Linux can be installed on some Chromebooks, but GalliumOS is the only version that can be installed on the Acer Chromebook 14.

(new topic on next page)

Cloud Service Woes

Over the course of the last few years I have experimented with numerous cloud storage services such as GoogleDrive, OneDrive, iCloud and pCloud, just to name a few. My goal was to be able to position my rootstrust database and the associated File Cabinets such that I could access them from different computers not necessarily running the same operating system. The results were disappointing across the board. Sometimes it worked as desired, but all too often, after running rootstrust on a computer #1 and a while later running it on computer #2, the database was not up-to-date. Actually, the up-to-date version was also present but, due to a synchronization problem, had been renamed. The first time I encountered this problem, I thought it was due to the particular cloud service I was using at the time. So, I changed to a different provider and experienced the same problem. It happened on all four of the above-named services. Apparently, what happens is that when you start up computer #2 and immediately launch rootstrust, you are getting the old copy of the database and File Cabinets that are in the cloud service folder, because the cloud service software has not yet had a chance to synchronize those files with the up-to-date versions from the cloud which came from computer #1. While you are working with rootstrust, your database is busy and the cloud service cannot overwrite it with the up-to-date version, so it creates a new copy with a modified name. How do you get around this problem? See The Bottom Line, below, to find out how I deal with it.

A few days ago, while testing out a newly acquired file synchronization program (FreeFileSync, discussed below), I discovered to my horror that my File Cabinets contained hundreds of unwanted files, copies of my files with a “ (1)” inserted into the file name just before the file name extension (‘Birth Certificate.png’ and ‘Birth Certificate (1).png’). These copies were created by one or more of the various cloud services that I have tested. Each time I changed cloud services, I moved the database and File Cabinets from the storage folder of the old cloud service to the new. I wrote a program to delete the unwanted files but wound up deleting some valid files that just happened to have “ (1)” before the file name extension. Suspecting that there were also

Cloud Service Woes

files missing from my File Cabinets, I wrote an extension to rootstrust that checks if a file exists for each file that has been linked to the current rootstrust database. It turned out that almost 100 of my 8000+ files were missing. All of my .tiff files, some .doc and some .pdf files had been mysteriously deleted. I recall that one of the cloud services (I don't remember which) had difficulty with long file paths and with non-English characters in file names, resulting in those files not being copied to the cloud. Fortunately, I was able to restore all missing files from backups. I expanded the extension to rootstrust, and you can now invoke it from the Reports menu using the 'File Linkage Integrity' command.

FreeFileSync

My oldest son, who is also a genealogist, has been trying to get me to add a feature to rootstrust for synchronizing File Cabinets. He and I use the same family database, but he lives in Germany and I in Virginia. When we get together we try to synchronize our respective copies of the database and File Cabinets, since each of us has made changes. Recently while on a mini-vacation in Berkeley Springs, WV, I did a Google search on my ChromeBook 14 with GalliumOS, my travelling computer, looking for an external program to do the File Cabinet synchronization. It seems that I found the ideal candidate: FreeFileSync. It is available in Windows, MacOS and Linux versions, and, as the name implies, it is free. There is one minor problem, however, the installer that you download is infected with a PUP virus. My virus program wouldn't let me download it until I made an exception for that site. I installed the program and ran a virus scan which turned up clean.

FreeFileSync is amazingly fast and revealing. You can compare the contents of directory structures, you can perform two-way synchronization, mirror synchronization or update synchronization. Two-way synchronization makes the contents of both entities identical. Mirror synchronization copies those copies those files from the sending entity to the receiving entity that

FreeFileSync

are different and deletes files in the receiving entity that have no counterpart in the sending entity. Files that differ are copied even if the file in the receiving entity is newer than the one in the sending entity. Update synchronization is similar to mirror synchronization, but differing files are only copied to the receiving entity, if they are newer than their receiving entity counterparts. Also, files on the receiving entity are not deleted if they have no sending entity counterpart. If you have installed rootstrust on a desktop computer and also have a rootstrust Universal USB3 Flash Drive that you use on a separate laptop, consider using FreeFileSync to keep the database (s) and File Cabinets on the flash drive in sync with their counterparts on the desktop computer. Here are some useful links:

[FreeFileSync - Wikipedia](#)

[FreeFileSync | Reviews for FreeFileSync at SourceForge.net](#)

[FreeFileSync download | SourceForge.net](#)

The Bottom Line

I have stopped using cloud storage as the active, primary repository for my rootstrust databases and File Cabinets. I now store them on my fast SSD and use cloud storage (GoogleDrive) for backup. I then employ the update synchronization of FreeFileSync to ensure that the backup copies in the cloud storage folder stay in sync with the active copies on the SSD. By keeping my active files on the SSD rather than in a cloud storage folder, I maintain exclusive control over them. The relative minimal access to the cloud backup copies greatly reduces or eliminates the likelihood of synchronization errors. Should synchronization errors occur, FreeFileSync will spot them. I use GoogleDrive, because it tolerates long file paths and foreign characters in file names.