**Recuva/CCleaner**

**What I Did**

First, I downloaded Recuva and installed it. Recuva scans through the hard drive, memory cards, and USB flash drives to find files and folders that have been deleted. Then, I saved the Dilbert\_Security.gif file to my computer and deleted it, sending it to the Recycle Bin. I opened the Recycle Bin and restored the file. Next, I deleted the Dilbert\_Security.gif, again. This time, I went to the Recycle Bin and selected the option to permanently delete the file. I ran Recuva’s scan through the hard drive, memory cards, and USB flash drives, but the file could not be found. I tried, again. Then, I ran Recuva’s scan on the Recycle Bin, only. I still could not find the file, so I started Recuva’s deep scan to spend more time going through the computer to find the file. Then, I searched the Recuva’s Help Center for “HarddiskVolume2” to troubleshoot the issue. I could not fix the issue, so I selected the option in the Recycle Bin to permanently delete everything from the location, 4,597 items to see if anything could be recovered. I ran Recuva’s scan through the Recycle Bin and found some files. Next, I downloaded CCleaner’s Professional Trial and installed it. CCleaner improves PC’s visuals, sound, and internet connectivity, prevents software bugs, hardware problems, and crashes, analyzes the PC, recommends quick fixes for the PC, automatically updates and tunes the PC, updates software automatically, cleans up files, temporarily freezes apps not in use, updates software drivers, erases browser search history and cookies, monitors out-of-date drivers, and disables any unnecessary programs. Then, I downloaded Dilbert\_Security.gif and deleted it. I ran CCleaner Custom Clean on the Recycle Bin to permanently delete the files that had been deleted. Then, I ran Recuva’s scan on the Recycle Bin.

**What Are My Results**

Recuva was unable to scan HarddiskVolume2 on my computer because it was unable to determine the file system type. So, no files were recovered during the first try. So, I tried a second scan. During the second scan, 24,563 files were found in 8 minutes and 18 seconds, but I could not find dilbert\_security.gif in the list of files. I ran Recuva again and selected the Recycle Bin as file location, instead of the “I’m not sure” option. Once again, Recuva was unable to scan HarddiskVolume2 on my computer because it was unable to determine the file system type. So, no files were recovered. So, I ran Recuva again and enabled Deep Scan. After about four hours, my computer started freezing, and when it finally started working properly, the scan had begun to cancel. Eventually, I had to use the Task Manager on my computer to exit the scan. When I searched the Help Center for “HarddiskVolume2,” I found one result. The response explained to select a specific location to narrow results and potentially avoid the error. I already tried that, so I tried the next option of running the “Run” dialog to open diskmgmt.msc. Upon doing so, I received the error: “An administrator has blocked you from running this app.” After emptying the entire Recycle Bin and running Recuva, 4,566 files were found that could be recovered. However, I still could not find the Dilbert\_Security.gif file. After running the CCleaner, 163.5 MB of data was removed in 101.135 seconds. Then, after running Recuva for the last time, 487 files were found in 6 minutes 22 seconds. However, I could not find the Dilbert\_Security.gif file.

**What Did I Learn**

First, I thought that files were permanently deleted from the Recycle Bin every now and then. I still had files from 4 years ago. By completing this exercise, I learned that it is not simple to permanently delete files off of a hard drive. People should be more careful with their computers and never sell or pawn them. Years ago, I bought a computer at a pawn store that I ended up giving away. I thought the original owners had only left their music on the computer. I never knew there was probably far more information on that computer. Also, by running Recuva, I learned that software does not always work as it is supposed to, and in this instance, I should be careful when attempting to permanently delete files because I may not be able to recover them. I will definitely keep Recuva and CCleaner on my computer.