

HANDLING OPERATING SYSTEM FAILURES – ENT 286 CLASS

When trouble-shooting a PC, I recommend a theoretical approach that deals with problem identification in this manner:

- 1) Assure yourself that the system BIOS settings are correct for that particular PC
- 2) Assure yourself that the system hardware is functioning properly
- 3) **Assure yourself that the operating system is installed and configured correctly**
- 4) Assure yourself that any installed applications are in good order and not conflicting with the operating system or other applications
- 5) Assure yourself that the attached peripherals are not causing software or hardware conflicts
- 6) Assure yourself that there are not any virus, spyware or malware issues that may mimic hardware or software problems
- 7) Assure yourself that user error is not the problem.

Operating system failures are all too common. Microsoft recommends that a hard drive should be wiped and the OS reinstalled every 12 – 15 months. When was the last time you did that? However, there are tools available that can correct many OS-related failures.

The System File Checker application will scan the PC's core OS files, and replace any defective ones with good ones from the OS installation CD. This presupposes that one has the installation CD; make sure you have a copy in your software toolkit for Windows 2000, Windows XP, and Windows Vista.

The System Restore feature in Windows will roll the operating system back to a point at which it was operating normally. Once the System Restore application launches, select a dated restore point that is at least one week BEFORE any malfunctions began occurring on the PC.

The Windows installation CDs have a “repair feature” that will let you reinstall the OS without having to wipe or reformat the hard drive. Boot to the installation CD, then get to the **third screen** of the install process. If the operating system is still recognizable, you will have an option to press “**R**” to initiate the repair process. If the operating system is NOT recognizable, then more serious problems exist. Do NOT even try to use the Windows Repair Console, which is accessed by pressing “**R**” at the **first screen** of the install process. The Repair Console runs in a DOS-like interface, and is virtually useless in helping to resolve OS corruption problems. In fact, some of the utilities can compound existing problems.

If an OS is totally corrupted, but the file system is still intact (i.e., you can navigate to folders), use a program like BartPE or some other OS substitute that boots from a CD or USB drive. Backup any valuable user data off of the drive, as well as any necessary drivers for specific devices (if possible). Attempt a reinstall of the OS first WITHOUT reformatting the hard drive, if possible. You will have to reinstall applications, but the user data will remain intact. If that fails, wipe everything and start from scratch.

If you are preparing a system for a customer, export a copy of the Windows system registry with the Regedit utility, once you have the system 100 percent working properly. That way, you can restore the registry files if they become corrupt. Also, use the Ghost application to make an image onto CD of the properly-prepared PC's hard drive. That way, if the hard drive suffers serious corruption, the hard drive can be re-imaged back to the original state in a matter of minutes. However, the user data MUST be backed up before re-imaging the system.

Some manufacturers provide a specific reinstall CD for their products. Use those reinstall CDs whenever possible, since they have the drivers needed for hardware devices in those units.

Check with the instructor if you have any questions on this subject.