

Lesson 9: Computer Troubleshooting Notes

Approaches to Troubleshooting

- Troubleshooting means to take a logical, systematic approach to identify the source or cause of the problem, and then apply a solution so that the computer is working normally again.
- Four steps are involved in troubleshooting:
 1. Define the problem.
 2. Identify possible causes.
 3. Determine the most likely cause.
 4. Apply solutions.

Getting Help from Online Resources

- Valuable troubleshooting information is freely available on the Web, particularly in knowledge bases and online forums.
- The Apple online forum is called the Apple Support Communities.
- In Windows Help and Support, you can click the Microsoft Community website link to display the online forum for Microsoft software.

Troubleshooting Software

Using Troubleshooting Tools

- Operating systems include diagnostic tools to help users troubleshoot software problems, including those with the operating system itself.
- Task Manager is used to manage application resources.
- Task Manager can also be used to close a Windows application that does not respond to any action.
- Problem reports can be sent to Apple or Microsoft to help them find solutions to common problems.
- In Step-by-Step 9.1, students will open the Action Center in Windows to review messages regarding problem reports.
- For some software and hardware problems, operating systems offer automated troubleshooters, which are dialog boxes or wizards that check settings and then change them as required.
- If you are having trouble completing a task in Windows, you can use a troubleshooter called the Problem Steps Recorder to record the steps you perform on a computer. The Problem Steps Recorder captures and saves the screen image each time you click, and includes a text description of where you clicked. As part of the process, you can save the captured images and text in a zipped file and send it to a support professional or someone else helping you troubleshoot a computer problem. To start the Problem Steps Recorder troubleshooter, open the Control Panel, search for “problem steps,” and then click Record steps to reproduce a problem in the search results.

Removing Malware

- The best protection against malware is to use the current version of antivirus and antispyware software to scan e-mail messages, attachments, and other files for viruses, worms, and other types of malware.
- Both Windows and Mac OS X include antivirus software among their operating system tools.
- Antivirus software from other developers such as Norton and McAfee can also be installed.

Using Safe Mode

- Safe mode is a troubleshooting option for operating systems that starts a computer with only basic services and functionality.

Troubleshooting Hardware

- Problems with a computer's internal hardware affect the computer's ability to start and run.
- Symptoms of internal hardware trouble include:
 - Beeps during POST (power-on self test)
 - Hard drive makes unusual sounds
 - Display screen is blank or garbled, or includes blank areas
 - Frequent software crashes, unusual messages, or deteriorating performance
 - Computer does not start at all
- The troubleshooting methods used with software also apply to hardware.

Troubleshooting Firmware

- Firmware is the software that permanently resides on a chip or other hardware components to control a device. Computer hardware manufacturers sometimes release updates to firmware.
- You can update firmware by connecting to the Internet and selecting an option on the device for updating the firmware.

Checking Cables and Connections

- Before replacing internal components on a computer, follow troubleshooting steps such as checking power sources and cable connections.

Troubleshooting Peripheral Devices

- Problems with peripheral devices are often easier to troubleshoot than problems with internal computer hardware because the devices are more easily accessible.
- Troubleshooting a peripheral device involves checking the following elements:
 - Cables and connections
 - Compatibility
 - Drivers
 - Firmware

Key Terms

- **Knowledge base:** A collection of articles, videos, and other sources containing information about a product or topic. (Mod1-249)
- **Online forum:** A Web site where people conduct conversations by posting messages about a specific topic. Many troubleshooting issues can be solved by searching online forums for answers posted by other users. (Mod1-249)
- **Power surge:** A boost to the electrical charge that powers the computer; can occur during lightning storms, power outages, short circuits, and other disruptions to a computer's power source. (Mod1-262)
- **Problem report:** A copy of the error data, which includes details about the problem, such as the name and version of the application, when the error occurred, and technical information about the state of the system at that time. (Mod1-251)
- **Quarantine:** Moving infected files to another location on a computer to safely segregate them from other files. (Mod1-260)
- **Safe mode:** A troubleshooting option for operating systems that starts the computer with only basic services and functionality. (Mod1-260)
- **Spyware definition:** A list of known spyware. (Mod1-257)

- **System Restore:** A system utility that helps the user restore system files to an earlier state, usually one during which the startup problem did not occur. System Restore is used to undo system changes without affecting data files. (Mod1-261)
- **Thread:** A group of related messages in an online forum. Threads are saved in a searchable archive. (Mod1-249)
- **Troubleshooting:** Taking a logical, systematic approach to identify the source or cause of the problem, and then applying a solution so that the computer is working normally again. (Mod1-248)
- **Virus definition:** The characteristics of a list of known viruses. (Mod1-257)