Infomation Technology Essentials

COMP106

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Chapter 6
Maintaining and Troubleshooting Peripheral Components

Objectives

◆ In this session, you will learn to:

- ◆ Test and troubleshoot display devices.
- ◆ Maintain and troubleshoot input devices.
- ◆ Test and troubleshoot adapter cards.
- ◆ Troubleshoot multimedia devices.
- ◆ Troubleshoot storage devices.

Troubleshoot Display Devices

◆ Following are the common display device issues:

- Monitor is dark or power indicator light is not lit.
- No image displayed on the monitor.
- Monitor flickers or is distorted.
- Monitor turns itself off.
- Screen goes blank, flickers, or acts bizarrely when a specific application is active.
- Monitor is on, but display is all white.
- Monitor crackles or whines.
- Physical damage, internal or external.

Activity 6-1

Activity on
Troubleshooting Display
Devices

Maintain and Troubleshoot Input Devices

◆ Before maintaining and troubleshooting input devices, you need to understand the following:

    ◆ Common input device issues

    ◆ Input device maintenance techniques

Common Input Device Issues

◆ Following are the keyboard issues:

- ◆ Keys stick.
- ◆ User with physical limitations is currently unable to use the standard keyboard.
- ◆ No input is sent when keys are pressed.
- ◆ Keyboard-related message or beep codes given during computer boot.
- ◆ Wrong characters are displayed on the screen when user inputs information.
- ◆ Multimedia buttons not working properly.
- ◆ New keyboard won't plug into the same port as the old keyboard.

Common Input Device Issues (Contd..)

◆ Following are the pointing device issues:

- ◆ Mouse pointer jumps around on the screen.
- ◆ Mouse works sometimes, but not others.
- ◆ Mouse is not working.
- ◆ USB mouse is not working properly.

Input Device Maintenance Techniques

- Following are the various techniques for input device maintenance:

  - Occasionally disconnect keyboards and mice and gently wipe them clean.
  - Clean loose debris from inside a trackball or mouse.
  - Gently shake an upside-down keyboard to remove debris.
  - Provide a clean, flat mouse pad or other mousing surface.
  - To avoid spills that can damage input devices, keep food and liquids away from computer systems.
  - Replace cordless device batteries regularly.

Activity 6-2

**Activity on Maintaining
And Troubleshooting
Input Devices**

Troubleshoot Adapter Cards

◆ Following are the common adapter card issues:

 ◆ Adapter seems to work fine until you replace the system case.

 ◆ Card works fine in another slot, but not in particular slot.

 ◆ Card tests fine and slot tests fine, but services are unavailable.

 ◆ Services provided by the adapter or a device connected to the adapter work intermittently.

Activity 6-3

Activity on
Troubleshooting Adapter
Cards

Troubleshoot Multimedia Devices

◆ Following common multimedia device issues:

- No sound when speakers worked fine before.
- No sound when speakers never worked.
- Microphone won't work.

Activity 6-4

**Activity on
Troubleshooting
Multimedia Devices**

Troubleshoot Storage Devices

◆ Before troubleshooting storage devices, you need to understand the following:

- ◆ Common storage device issues
- ◆ Parallel ATA drive troubleshooting tips
- ◆ SCSI drive troubleshooting tips

Common Storage Device Issues

- Following are the hard disk drives issues:
  - Error message at booting time.
  - POST error codes.
  - Can't read from or write to the drive.
  - Drive is making grinding noises.
  - Data is frequently being corrupted.
  - Utilities are not running properly.
  - Hard drive is slow.

Common Storage Device Issues (Contd.)

- Following are the optical drives issues:
    - Can't insert or remove disk.
    - Disk tray stuck.
    - Cannot read disk.
    - No sound.
    - Intermittent problems.
    - Can't view DVD movies.
- Following are the floppy disks and tape drives issues:
    - Read/write problems.
    - Unable to insert a floppy into an internal tape drive.
    - Unable to insert a tape into an internal tape drive.

Parallel ATA Drive Troubleshooting Tips

◆ Following are the tips for troubleshooting PATA drive:

- ◆ For one drive on a channel, configure as Single or Cable Select.
- ◆ For two drives per channel, configure as Master and Slave, or Cable Select.
- ◆ When removing a drive, configure remaining drive as Single.
- ◆ Use compatible drive modes.

Parallel ATA Drive Troubleshooting Tips (Contd..)

◆ Following are the tips for troubleshooting SATA drive:

- ◆ Make sure controller card is supported.
- ◆ Make sure controller driver is latest version.
- ◆ Install driver manually if not detected.
- ◆ Load controller to bypass drive size limitation.
- ◆ Use jumpers to limit transfer rate if drive transfer rate higher than controller rate.

SCSI Drive Troubleshooting Tips

◆ Following are the tips for troubleshooting SCSI drive:

- Always check IDs and termination.
- Handle SCSI cable carefully.
- For a bootable SCSI disk, enable the SCSI BIOS.
- Use proper cables.
- Use proper connectors.

Activity 7-1

Activity on Troubleshooting Hard Drive Problems

Activity 7-3

Activity on
Troubleshooting
Optical Drive Problems

Summary

- In this session, you learned that:
    - Following are the common adapter card issues:
        - Card won't work in one slot.
        - Card and slot test fine, but services unavailable.
    - Following are the common display device issues:
        - Power issue.
        - Connection or settings issue.
        - Driver, magnetism, or interference issue.
        - Color quality or resolution issue.
    - Following are the input device maintenance techniques:
        - Clean loose debris from inside a trackball or mouse.
        - Gently shake an upside-down keyboard to remove debris.

Summary (Contd.)

- Following are the common multimedia device issues:
  - No sound when speakers worked fine before.
  - No sound when speakers never worked.
  - Microphone won't work.
- Following are the common storage device issues:
  - Boot problems in hard disk drive.
  - Disk tray stuck in optical drives.
  - Read/write problems in floppy and tape disk drive
- Following are the parallel ATA drive troubleshooting tips:
  - When removing a drive, configure remaining drive as Single.
  - Use compatible drive modes.
  - Install driver manually if not detected
- Following are the SCSI drive troubleshooting tips:
  - Check IDs and termination.
  - Handle SCSI cable carefully.