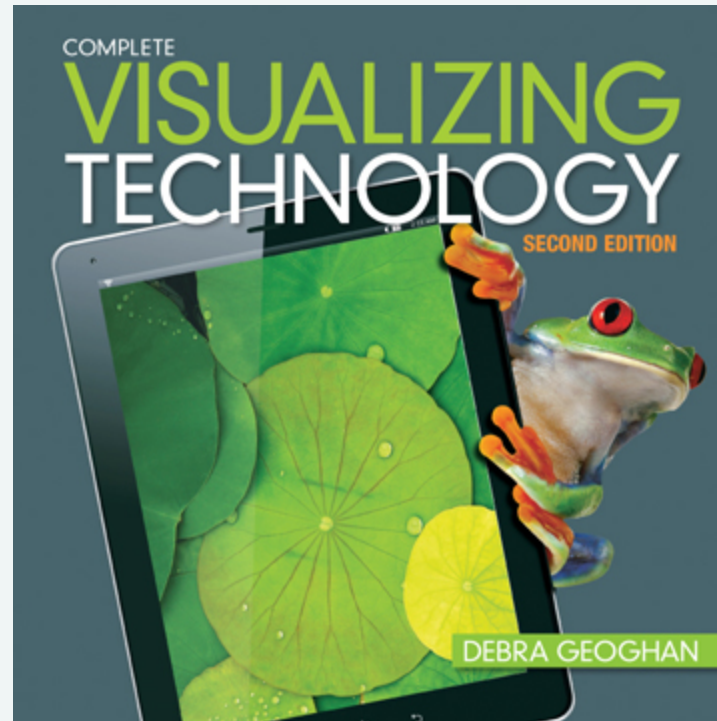


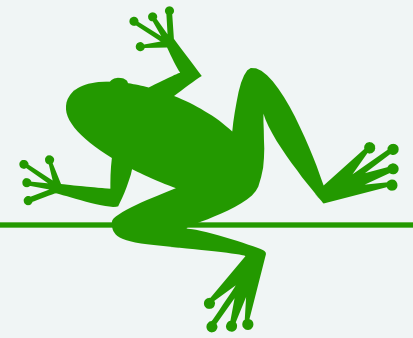
PowerPoint Presentation to Accompany



Chapter 5

System Software

Objectives



1. Explain what an operating system does.
2. Compare the most common stand-alone operating systems.
3. Compare specialized operating systems.
4. Compare the most common network operating systems.
5. List and explain important disk utility software.
6. Identify the certifications and careers related to system software.

Objective 1: Overview

Who's Being Bossy Now?

1. Discuss the job of the operating system
2. Discuss how the OS manages and controls hardware
3. Discuss how the OS interacts with software

Key Terms

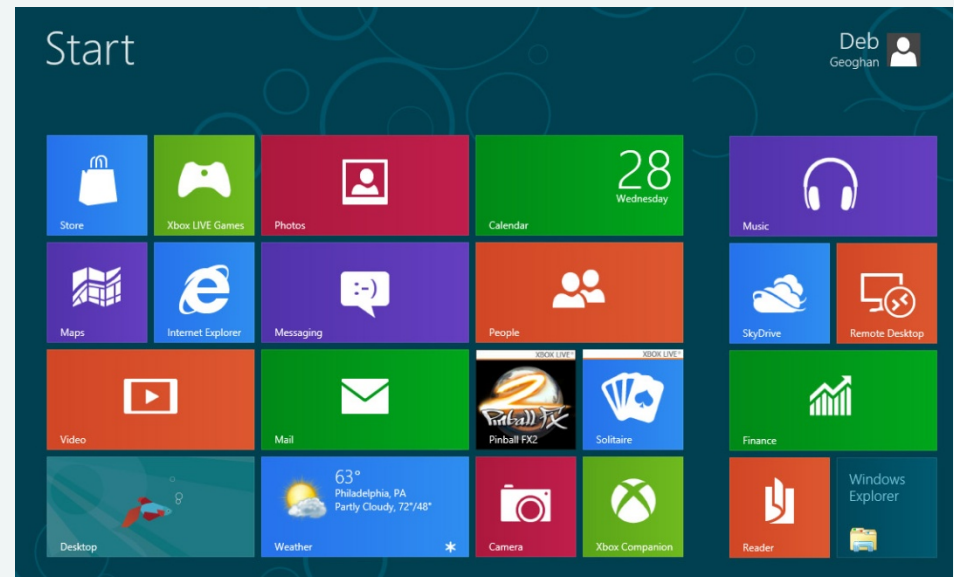
- API (application programming interface)
- Device driver
- GUI (graphical user interface)
- Multitasking
- OS (operating system)
- PnP (Plug and Play)
- System software



Operating System (OS)

- System software
- Interface to communicate with the hardware and software
- A computer cannot run without an operating system installed

Windows 8 interface



Operating System

Provides graphical user interface (GUI)

Manages resources (multitasking)

Manage and controls hardware (PnP)

Interacts with software (API)



Which operating system is on your computer? Is it the latest version? If you have not upgraded, why not? If you could change the OS, would you? Which OS would you use instead?

Objective 2: Overview

Running the Show on Personal Computers

1. List the three major operating systems found on PCs today: Windows, Mac OS X, Linux
2. Discuss the characteristics of the Windows, Mac OS X, and Linux operating systems

Key Terms

- Beta version
- Linux
- Mac OS X
- Microsoft Windows
- Open source



Stand-Alone Operating Systems



Stand-Alone Operating Systems

Windows

- Most common OS
- 90% of PCs run a version of Windows
 - 2009 – Windows 7
 - 2012 – Windows 8

Stand-Alone Operating Systems

Windows

Windows 95

Introduced
PnP

Windows

XP

Increased
stability

Windows 7

Redesigned
taskbar and
multi-touch
technology

Windows

98

IE and
multimedia
capabilities

Windows

Vista

Gadgets
and new
interface

Windows 8 Interface Tiles



Stand-Alone Operating Systems

Mac/Apple

- First Macintosh computer introduced in 1984
- Introduced the GUI

Stand-Alone Operating Systems

Mac/Apple

System 1

Macintosh
introduced
in 1984

Mac OS 8

New interface
and Internet
browsing

Mac OS X 10.6

Also known as
Snow Leopard

System 7

Updated
GUI

Mac OS 9

Wireless support,
today known as
Mac Classic

Mac OS X 10.8

Mountain Lion
faster, more
reliable, easy to
use

OS X 10.8 Mountain Lion Includes iCloud Features



Stand-Alone Operating Systems

Linux

- Linux OS software is open source
- Open source:
 - Source code published
 - Made available to the public
 - Enabling anyone to copy, modify, and redistribute it without paying fees

Stand-Alone Operating Systems

Linux

- Developed in 1991 by Linus Torvalds
- Linux does not refer to a single version; it has many distributions or “**distros**”
- Found niche in netbook market
- Google Chrome is a Linux distro



MS Windows is the primary OS installed on new PCs. Some manufacturers sell Linux computers. Use the Internet to research the versions of Linux currently available preinstalled on new PCs. List your findings charting five sites. Include the manufacturer and/or website and the Linux distro preinstalled.

Objective 3: Overview

Something Special for You

1. List and discuss embedded operating systems and how they work
2. Discuss Web operating systems and how they work

Key Terms

- Embedded operating system
- Web OS



Specialized Operating Systems

- Embedded operating system:
 - GPS devices
 - ATMs
 - Smartphones
 - Other devices
- Web operating system:
 - Virtual desktop
 - Accessed using a Web browser

Specialized Operating Systems

- Symbian
- BlackBerry OS
- Apple iOS/ Mac OS X
- MS Windows Phone
- Google Android Phone

Specialized Operating Systems

Web Operating System

- A virtual desktop
- Does not handle the hardware functions
- Does not require installing software on your PC
- Also known as the cloud





What's the embedded OS on your favorite mobile device? What are some of the features that you like about it? Are there any features that are missing? What features do you (or would you) use the most often?

Objective 4: Overview

The NOS Knows

1. Discuss the four major network operating systems: Windows Server, Linux, UNIX, and Novell
2. Discuss the characteristics of the Windows Server OS
3. Discuss the characteristics of the UNIX OS
4. Discuss the characteristics of the Novell OS

Key Terms

- NOS (network operating system)



Network Operating Systems

Network Servers

- Centralizes:
 - Resources
 - Storage
 - Security
- Run a specialized operating system:
 - Network operating system
- Windows Server
- Linux
- Unix
- Novell



The one area of NOS usage that can be easily monitored is activity on Web servers. Netcraft.com does a monthly survey of Web servers. Go to netcraft.com and look at the current report. What are the three most popular Web servers for this month? How much has changed in the past month? Are there any servers not mentioned in this chapter?

Objective 5: Overview

Utilities You Should Use

1. Discuss the importance of using utilities
2. List and discuss the Windows OS utilities

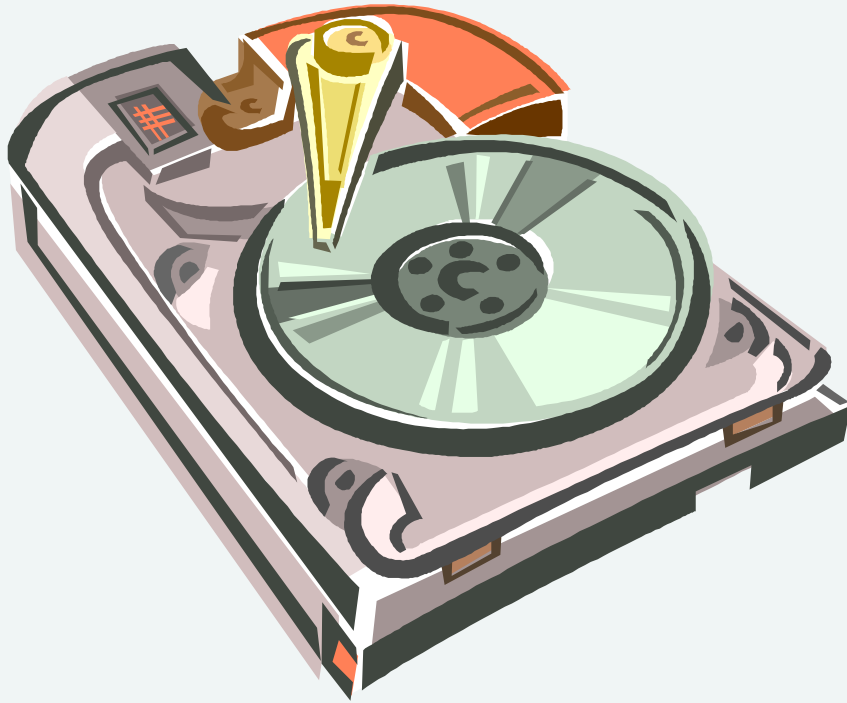
Key Terms

- Defragmenter
- File fragmentation
- File system
- Format



Utility Software

Why Use Utilities?

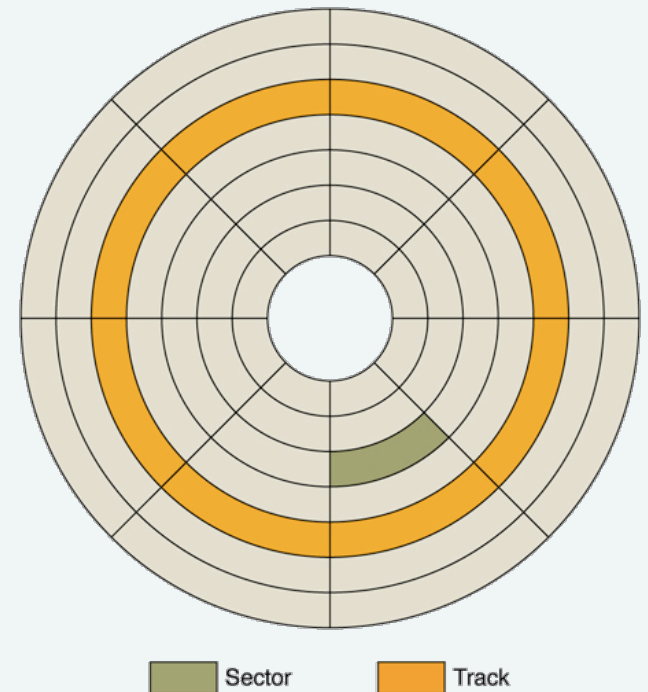


- Hard disk drives are very large and hold a lot of information
- It is important to keep your disks healthy
- Keeps your system running efficiently
- Protects your files

Utility Software

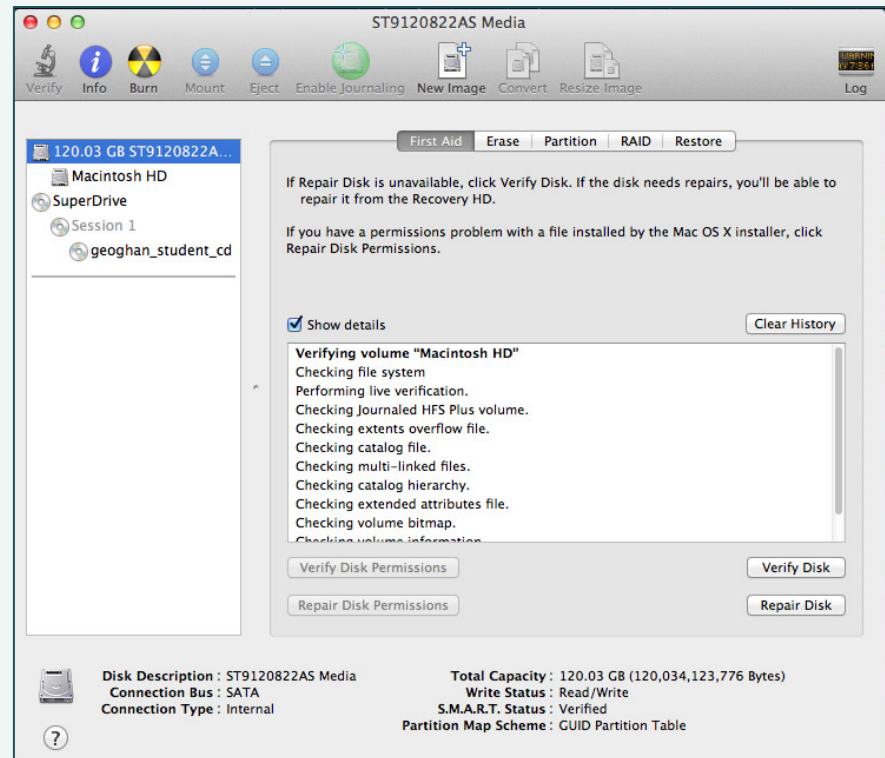
How Data Is Stored

- Hard disk is divided into sectors
- Files are stored in clusters
- High-level formatting sets up the file system on the disk
- File system keeps it organized:
 - Windows uses NTFS
 - OS X uses HFS+




Utility Software

- Windows Disk Utilities:
 - Check Disk
 - Optimize Disks
 - Disk Cleanup
 - Backup
- OS X
 - Disk Utility





Open the disk properties for your primary hard drive (C). What is the disk file system? What is its capacity? How much disk space is used? Run a Disk Defragmenter analysis. When was the disk last defragmented? What percentage of the disk is currently fragmented?



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