Basic PC Operations and File Management

Basic PC Operations

- Input
- Store
- Process
- Output

Input

- the data is input using some input devices.

Store

- When data is input, it is stored temporarily in the computer's Main memory.
- It is a form of Immediate Access Storage
- also known as primary storage or commonly known as Random Access Memory (RAM),

Store

- it is volatile memory
- directly accessible to the CPU and
- is used to store data actively operated on.
- The CPU continuously reads instructions stored there
- and executes them as required.

Store

- This unit supplies information to the other units of the computer when needed.
- All inputs and outputs are transmitted through this unit.
- Information stored in main memory is lost when the computer is powered off.

Store

- To save data for future use, it is stored in *Secondary Storage devices*
- Secondary Storage Devices Include
- the Hard Drive, Optical Disks, Flash Drive, and Memory Card etc.
- Secondary storage is non-volatile,
- that is, it does not lose the data when the device is powered off

Process

- In this step, the data that has been input are changed to produce information
- The CPU is in charge of this stage.
- The CPU is considered as the brain of the computer.

The CPU

- It performs all types of data processing operations.
- It stores data, intermediate results and instructions.
- It controls the operation of all parts of a computer.

The CPU

- The CPU itself has three components,
- the ALU (Arithmetic Logic Unit),
- the Memory Unit and
- the Control Unit

the ALU

- This unit consists of two subsections
- namely the Arithmetic section and
- the Logic Section.
- The function of Arithmetic section is to perform arithmetic operations
- like addition, subtraction, multiplication and division.

the ALU

- All complex operations are done by making repetitive use of above operations.
- Function of logic section is to perform logic operations such as
- comparing, selecting, matching and merging of data.

the Control Unit

- This unit controls the operations of all parts of computer.
- It does not carry out any actual data processing operations.
- Functions of this unit are

the Control Unit

- It is responsible for controlling the transfer of data and instructions among other units of a computer.
- It manages and coordinates all the units of the computer.
- It obtains the instructions from the memory, interprets them and directs the operation of the computer.

the Control Unit

- It communicates with Input/output devices for transfer of data or results from storage.
- It does not process or store data.

Output

- Here the result of the proceeding processing step are collected.
- The output data can be displayed on output devices such as the monitor, the printer, etc.

File management Basics

- File Names and Extensions
- File Directories and Folders
- File Formats

File Names and Extensions

- You must adhere to file-naming conventions when saving files
  - Maximum length
  - Prohibited characters
  - No reserved words
  - Case sensitivity
- File extensions are usually related to the file format
  - Native file format

Case sensitive	No
Maximum length of file name	File name and extension cannot exceed 255 characters
Spaces allowed	Yes
Numbers allowed	Yes
Characters not allowed	* \ : < > | " / ?
File names not allowed	Aux, Com1, Com2, Com3, Com4, Con, Lpt1, Lpt2, Lpt3, Prn, Nul

File Directories and Folders

- An operating system maintains a directory for each disk, tape, CD, DVD, or USB flash drive
  - Root directory
  - Subdirectory
    - Depicted as folders
- A computer's file location is defined by a file specification, or path

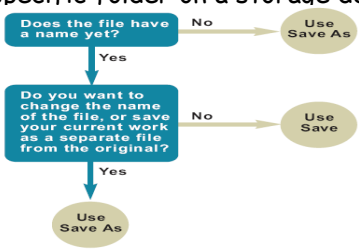
C:\Music\Reggae\Marley One Love.mp3

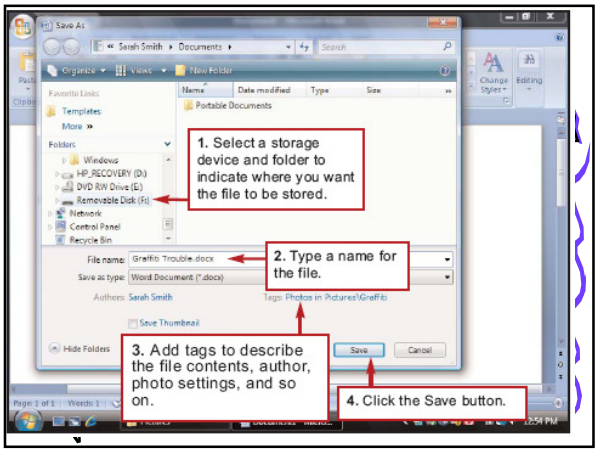
File Management

- Application-based File Management
- File Management Utilities
- File Management Metaphors
- Windows Explorer
- File Management Tips
- Physical File Storage

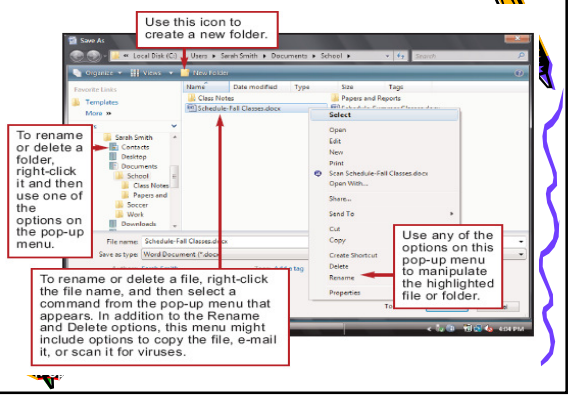
Application-based File Management

- Applications typically provide a way to open files and save them in a specific folder on a storage device





Application-based File Management



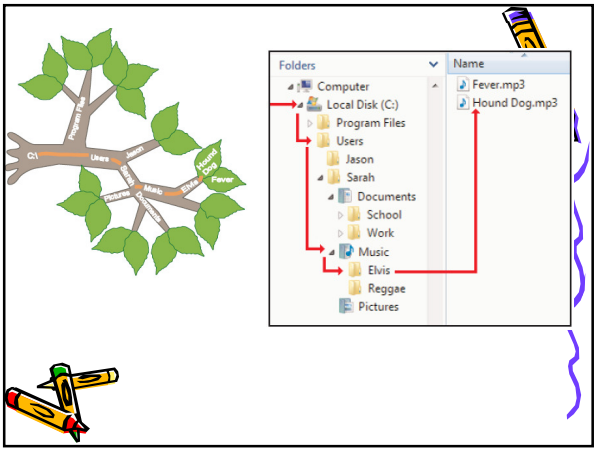
File Management Utilities

- File management utilities show you the files stored on your disks and help you work with them

FIGURE 4-36
The Windows file management utility can be tailored to show files as lists (top), icons (middle), or tiles (bottom).

File Management Metaphors

- Storage metaphors help you visualize and mentally organize the files on your disks
  - Logical storage models



Windows Explorer

- Windows Explorer allows you to manipulate files and folders in the following ways:
  - Rename
  - Copy
  - Move
  - Delete

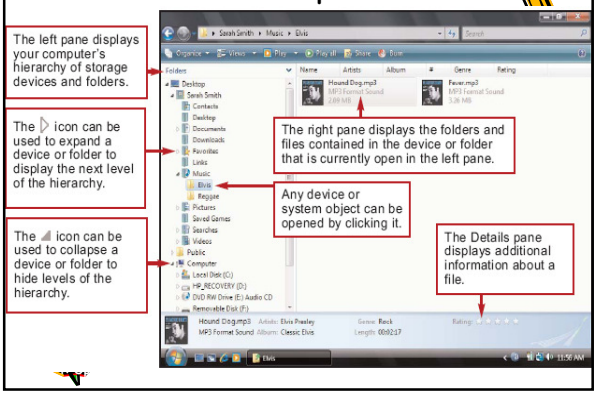
Working with Files in Windows Explorer

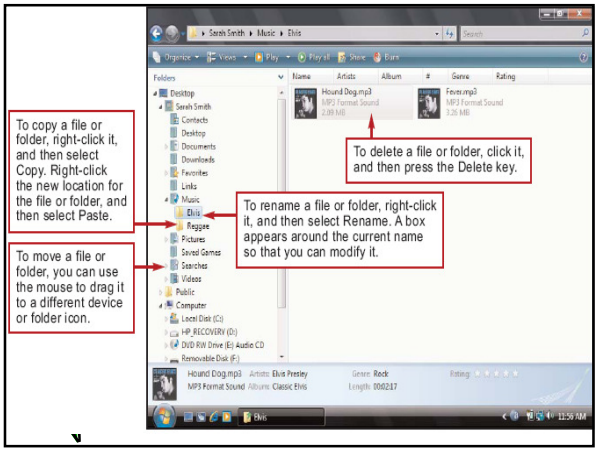
- Click Start, All Programs, Accessories
- Click Windows Explorer
- Folders Toolbar appears in the left pane
- Contents of selected folder appears in the right pane

Working with Files in Windows Explorer

- Use + and – symbols to expand and collapse folders in the Folders Toolbar
- Note: *Windows Explorer can also be accessed by holding down the Windows ⊞ key and pressing E.*

Windows Explorer





File Management Tips

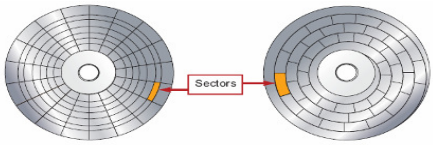
- Use descriptive names
- Maintain file extensions
- Group similar files
- Organize your folders from the top down
- Do not mix data files and program files

File Management Tips

- Don't store files in the root directory
- Delete or archive files you no longer need
- Be aware of storage locations
- Back up

Physical File Storage

- The physical storage model describes what happens on the disks and in the circuits when files are stored
  - Storage media must be formatted before it can store files
    - Formatting utilities divide the disk into tracks and sectors



Creating a New Folder

- Folders are used to store similar files in a location that is easy to maintain.
- Select the location for the new folder – such as a specific drive or within an existing folder
- Click File
- Click New

Creating a New Folder

- Click Folder
- Key the desired name for the new folder and press <Enter>
- Note: *A shortcut is to right click within an existing folder, click New, Folder, key the folder name, and press <Enter>.*
- *A new folder can also be created on the Desktop using this option.*

Moving Files with Mouse

- Access **Windows Explorer**
- Use the mouse to select the files to be moved (hold down CTRL key to select multiple files)
- **Drag** the file (s) to the new location – such as a new drive or to a new folder

Moving Files with Mouse

- Note: *When files are moved, they will no longer appear in the original location.*
- *To maintain the original files in their original location, copy files instead of moving.*

Printing a File

- Access **Windows Explorer** and locate the file to be printed
- Click once on the file name
- Click **File**
- Click **Print**
- Note: *The file can also be printed by right clicking on the file name and selecting **Print***

Finding a Specific File

- Click Start
- Click Search
- Click All files and folders
- In the Search Results dialog box, key in all or part of the file name to search for or key in a word or phrase in the file

Creating a Desktop Shortcut

- A **shortcut** permits you to open a file or folder that you use often
- Locate the desired file in **Windows Explorer**
- Click once on the file name
- Click **File**

Creating a Desktop Shortcut

- Click **Send To**
- Click **Desktop (create shortcut)**
- The shortcut icon then appears on the Desktop. It appears with an arrow to distinguish it as a user-created shortcut
- Note: *A shortcut can be renamed by right clicking the shortcut icon and then choosing rename.*

Shortcuts

- ⊞ + E for Windows Explorer
- ⊞ + R for Start, Run
- ⊞ + U for Utility Manager which includes voice narrator and on-screen keyboard
- ⊞ + D or M to minimize a window
- ⊞ + L for Start, Log Off

Backup Security

- Backup Basics
- Data File Backup
- System Backup
- Boot and Recovery Disks

Backup Basics

- A **backup** stores the files needed to recover data that's been wiped out by operator error, viruses, or hardware failures

Backup Basics

- Your backup schedule depends on how much data you can afford to lose
- You should run an up-to-date virus check as the first step in your backup routine
- The backup device you select depends on the value of your data, your current equipment, and your budget

Data File Backup

- To restore from a data file backup, you simply copy files from your backup to your hard disk

Questions