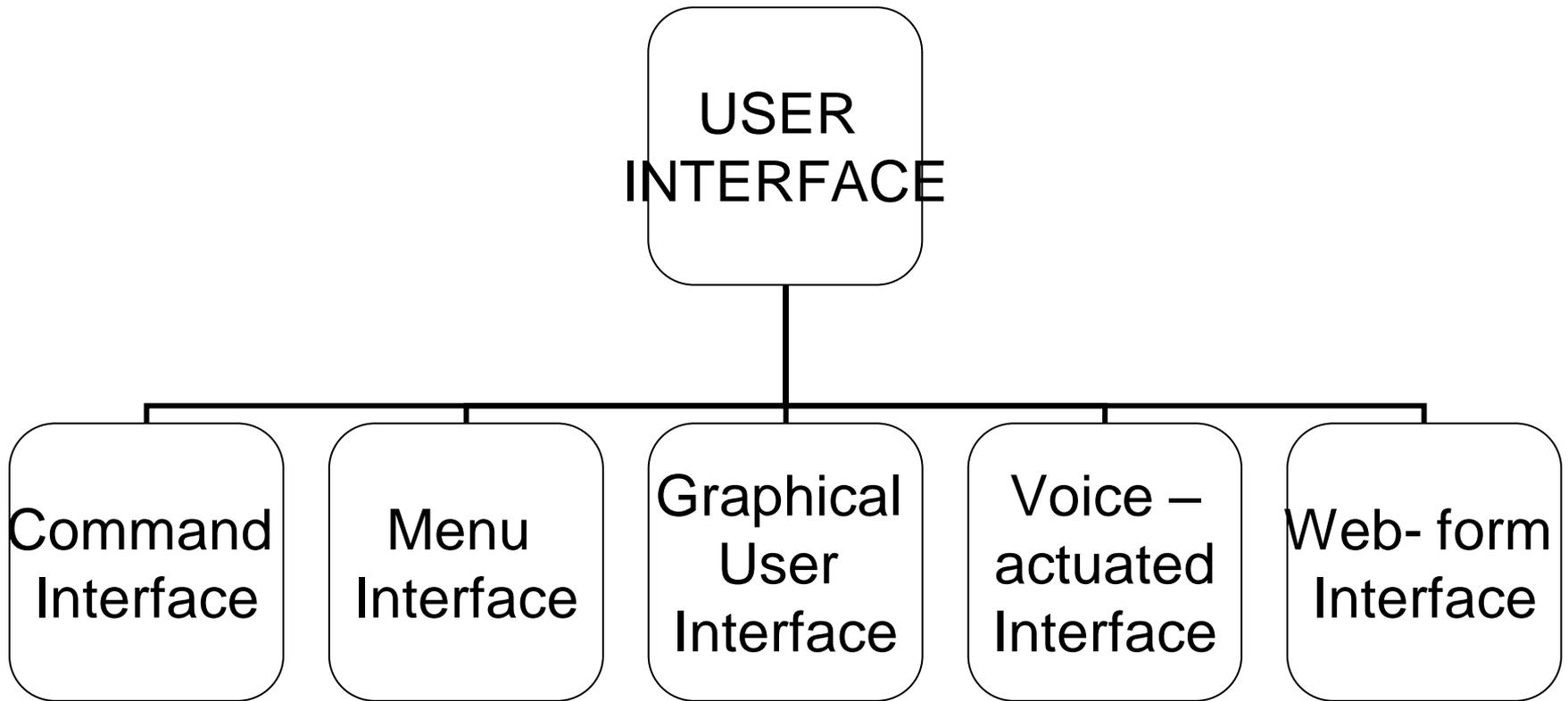

CHAPTER 2

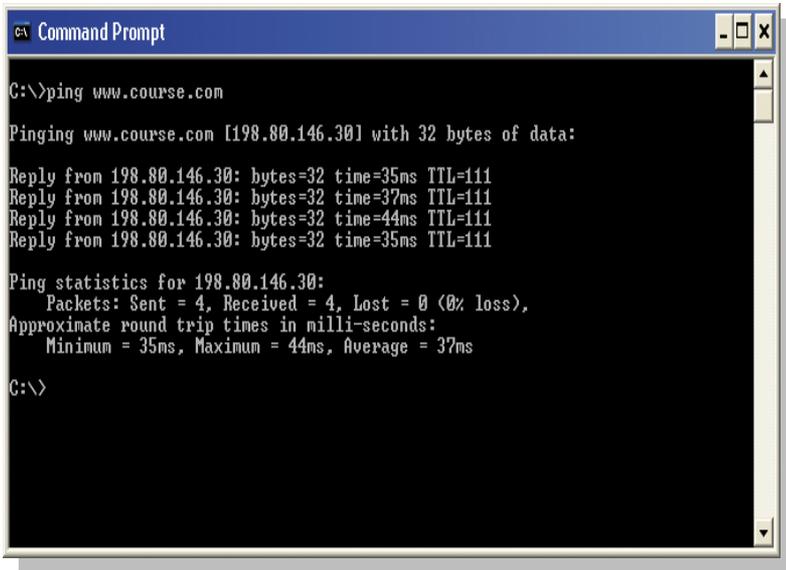
BASIC OPERATING SYSTEM CONCEPT MANAGEMENT

Types of User Interface



■ User interface

- Controls how you enter data and instructions and how information displays on screen



```
Command Prompt
C:\>ping www.course.com

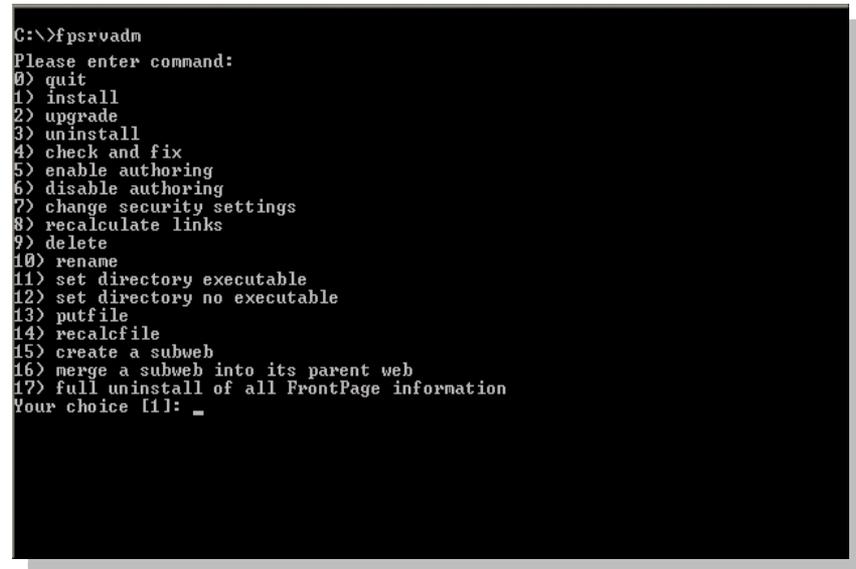
Pinging www.course.com [198.80.146.30] with 32 bytes of data:

Reply from 198.80.146.30: bytes=32 time=35ms TTL=111
Reply from 198.80.146.30: bytes=32 time=37ms TTL=111
Reply from 198.80.146.30: bytes=32 time=44ms TTL=111
Reply from 198.80.146.30: bytes=32 time=35ms TTL=111

Ping statistics for 198.80.146.30:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 35ms, Maximum = 44ms, Average = 37ms

C:\>
```

command-line interface

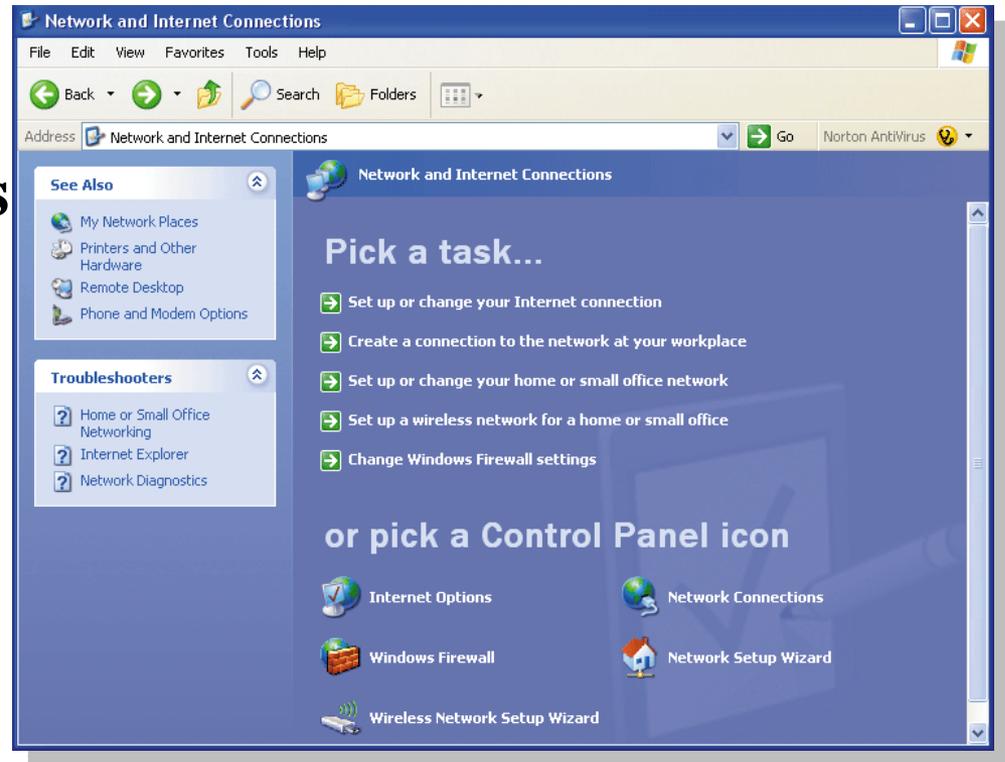


```
C:\>fpsrvadm
Please enter command:
0) quit
1) install
2) upgrade
3) uninstall
4) check and fix
5) enable authoring
6) disable authoring
7) change security settings
8) recalculate links
9) delete
10) rename
11) set directory executable
12) set directory no executable
13) putfile
14) recalfile
15) create a subweb
16) merge a subweb into its parent web
17) full uninstall of all FrontPage information
Your choice [1]: _
```

menu-driven interface

■ Graphical User Interface (GUI)

- **User interacts with menus and visual images such as icons and buttons**



- Voice – actuated interface

Which accept input and provide output by generating voice prompts. The user is made by pressing keys or buttons, or responding verbally to the interface.

- Web-Form Interface

Accept input and provide output by generating web pages which are transmitted via the internet and viewed by the user using a web browser program.

FILE SYSTEM

- File systems support directories which contain the **names of files and other directories along with additional information about the files and directories.** (e.g. when they were created and last modified).
 - A file is the long term storage entity : a named collection of persistent information that can be read or written.
 - Secondary storage devices (disk) are too crude to use directly for long term storage. The file system provide logical objects and operation on these object (files).
-

-
- The file system provides file management, a standard interface to:
 - To **create and delete files and directories**.
 - **Manipulate** (read, write, extend, rename, copy, protect) files and directories.
 - map files onto secondary storage.
 - The file system also provides general services such as backups, maintaining mapping information, accounting and quotas.
-

I/O Control System

- The I/O system supports communication with external devices : terminal, keyboard, printer, mouse.
 - The I/O system :
 - ❑ Support buffering and spooling of I/O.
 - ❑ Provides a general device driver interface, hiding the differences among devices, often mimicking the file system interface.
 - ❑ Provides device driver implementations specific to individual devices,
-

Logical I/O and Physical I/O

- Physical I/O is an actual fetch of data from a storage device such as a disk.
 - Logical I/O is a programmatic request for data satisfied by a memory (block, buffer) access.
 - A logical I/O may cause a physical I/O in the first place, or a logical I/O may retrieve a part of a block (buffer) of data from memory.
-

Disk management

- A *hard disk* is a rigid disk inside a computer that stores and provides relatively quick access to large amounts of data. It is the type of storage most often used with Windows. The system also supports removable media.
 - hard disk can contain one or more logical regions called *partitions*. Partitions are created when the user formats a hard disk as a *basic disk*
hard disk can contain one or more logical regions called *partitions*. Partitions are created when the user formats a hard disk as a *basic disk*.
 - The creation of multiple partitions on a drive allows the appearance of having separate hard drives. For example, a system with one hard disk that has one partition contains a single volume, designated by the system as drive C. A system with a hard disk with two partitions typically contains drives C and D. Having multiple partitions on a hard disk can make it easier to manage the system, for example to organize files or to support multiple users.
-

Directory management

- A *directory* is a hierarchical collection of directories and files. The only constraint on the number of files that can be contained in a single directory is the physical size of the disk on which the directory is located.
-

Boot Process

■ Booting

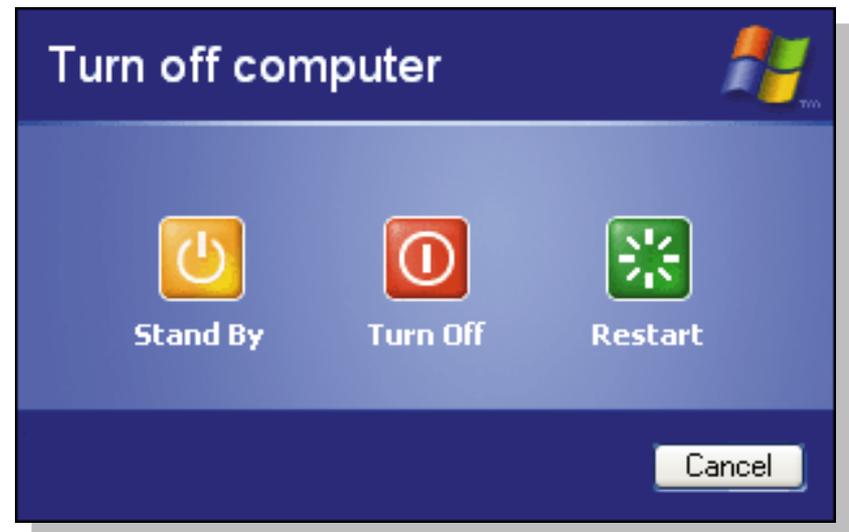
➤ Process of starting or restarting a computer

■ Cold boot

Turning on computer that has been powered off

■ Warm boot

Restarting computer that is powered on

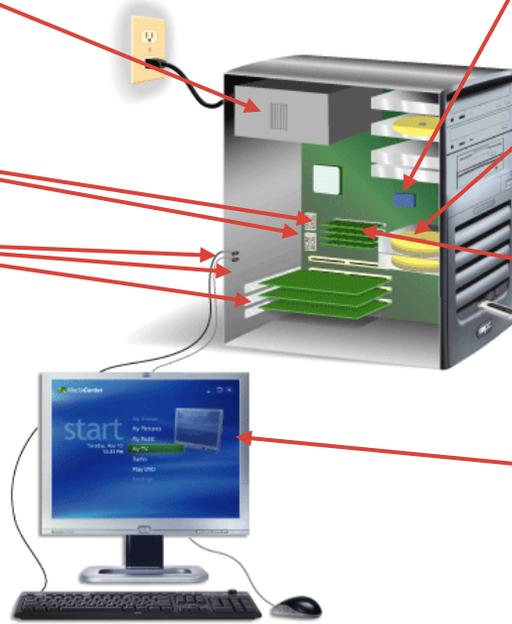


■ A personal computer boot up process

Step 1. Power supply sends signal to components in system unit

Step 2. Processor accesses BIOS to start computer

Step 3. BIOS runs tests, called the POST, to check components such as mouse, keyboard, and adapter cards



Step 4. Results of POST are compared with data in CMOS chip

Step 5. BIOS looks for system files on a USB drive, in floppy disk drive or CD/DVD drive, and then hard disk

Step 6. Kernel (core) of operating system loads into RAM

Step 7. Operating system loads configuration information and displays desktop on screen