MICROSOFT WINDOWS OPERATING SYSTEM

Chapter · October 2016

CITATION
1

READS
30,492

4 authors, including:

Afolakemi Ogunbanwo
Tai Solarin University of Education
4 PUBLICATIONS **1** CITATION
SEE PROFILE

Usman Opeyemi Lateef
Tai Solarin University of Education
22 PUBLICATIONS **16** CITATIONS
SEE PROFILE

CHAPTER 7

OLUSANYA O.O., OGUNBANWO A.S., USMAN O.L., & ODULAJA G.O.
yinka_olusanya@yahoo.com, ogunbanwoas@tasued.edu.ng, usmanol@tasued.edu.ng, odulajago@tasued.edu.ng
Computer and Information Sciences Department, TASUED

INTRODUCTION TO WINDOWS

Microsoft Windows Operating System

All computers and computer like devices have operating systems, including your laptop, tablet, desktop, Smartphone, smart watch, router etc.

Windows is operating system from Microsoft Inc. It is a system program that controls, coordinates and manipulates overall desktop publishing operations. It serves as an interface between the hardware and other software on the computer system. It allocates memory locations to data and other computer programs. It controls other computer resources like files and programs, input/output devices, computer memories etc during data processing operations. It also performs the hardware and software diagnosis to detect faults and errors.

Versions of windows

Windows provides a graphical user interface (GUI), and support many peripheral devices. In addition to windows operating system for personal computers, Microsoft also offers operating system for servers and personal computers.

1. Windows 1.0- 2.0 (1985-1992). Window 1.0 allowed users to point and click to access the windows. Window 2.0 added icons, keyboard shortcuts and improved graphics.

2. Windows 3.0-3.1 (1990-1994). Support better icons and program manager (1st version of "look and feel" screen of Microsoft windows).

3. Windows 95 (August 1995). It runs faster and has ability to automatically delete and configure installed hardware (plug and play).

4. Windows 98 (June 1998). It offers supports for new technology FAT32, AGP, MMX, USB, DVD. It is an active desktop which integrates the web browser (internet Explorer).

5. Windows ME- Millennium Edition (September 2000). Booting is in Dos option.

6. Windows NT 3.1-4.0 (1993-1996). It supports pre-emptive multi tasking. They are Windows NT and Windows NT SERVER.

7. Windows 2000 or W2k. (February 2000). It is an operating system for business desktop and laptop systems to run software applications.

8. Windows XP (October 2001). It has a better look and feel. There are two versions Home and professional.

9. Windows Vista (November 2006). It offered an advancement in reliability, security and ease of deployment.

10. Windows 7 (October 2009). Improved performance and start-up-time and window media centre.

11. Windows 8 (August 2012). It was developed with touch screen use in mind. Better start-up. Start screen replaced look and feel screen made up of "live Tiles"

12. Windows 10 (2015). Fast start-up, Microsoft edge, Microsoft new browser.

13. Window server (2003). Designed for corporate networking, internet/intranet, hosting, data bases and similar functions.

14. Window Home Server (January 2007). This is a "consumer Server" designed to use with multiple computers connected in the home.

    Aside from window operating system designed for personal computers (PCs) and laptops, Microsoft has also developed operating system for services, handheld devices and mobile phones.

1. Window CE (November 2006) it is designed for small devices such as PDAs for handheld computing devices.

2. Windows mobile (April 2000) designed for smart phones and mobile devices.

3. Windows phone 7-10 (November 2010) or win phone 7 designed for smart phones and mobile devices but targeted more to the consumer market than enterprises market.

Major Features of Windows

The following are the attributes and characteristics of reliable windows:

(i) **Interactive Package:** It ensures a flow of communication between the user and the computer. Hence, it serves as an intermediary between the two parties.

(ii) **Menu Driven Package:** Ms-Windows ensure flexibility in that the user can perform several functions or task without remembering the commands, simply by the Click. Of an option of a menu or sub-menu.

(iii) **Program Manager:** Ms-Window serves as a manager to other programs since it controls, co-ordinates and manipulates their processing.

(iv) **Multi-tasking Package:** With windows operations, a user can make use of two or more package while shifting from one package to another e.g. A user can be working in ms-excel, and at the same time involve in PageMaker etc.

Appearance of Window Screen

The appearance of window screen depends on how the computer is being set-up. A window screen always contains various items or ICON depending on the window version. Hence, a reliable window screen consists of the following: major icons and other additional icons.

(i) **My computer Icon:** This is a container for disk drives. My computer icon displays window with Icons representing object in the computer system. Such as folder, files, disk-drive.

(ii) **Internet Explorer:** This is a shortcut for launching the internet explorer program, which is web browser. A web browser is a software program for navigating, WWW (World Wide Web).

(iii) **Network Neighbourhood:** Network neighbourhood icon serves as container for network resources of other, computer it might include items such as; disk drive, printer and CD-ROMS.

(iv) **Network:** A network is a collection of several computer connected together with the aim of sharing the same resources and component e.g. printer.

(v) **Recycle Bin:** This is a computer object for files that are no longer needed the computer or, this is a temporary storage location where all files are kept. One can retrieve such file if deleted by error.

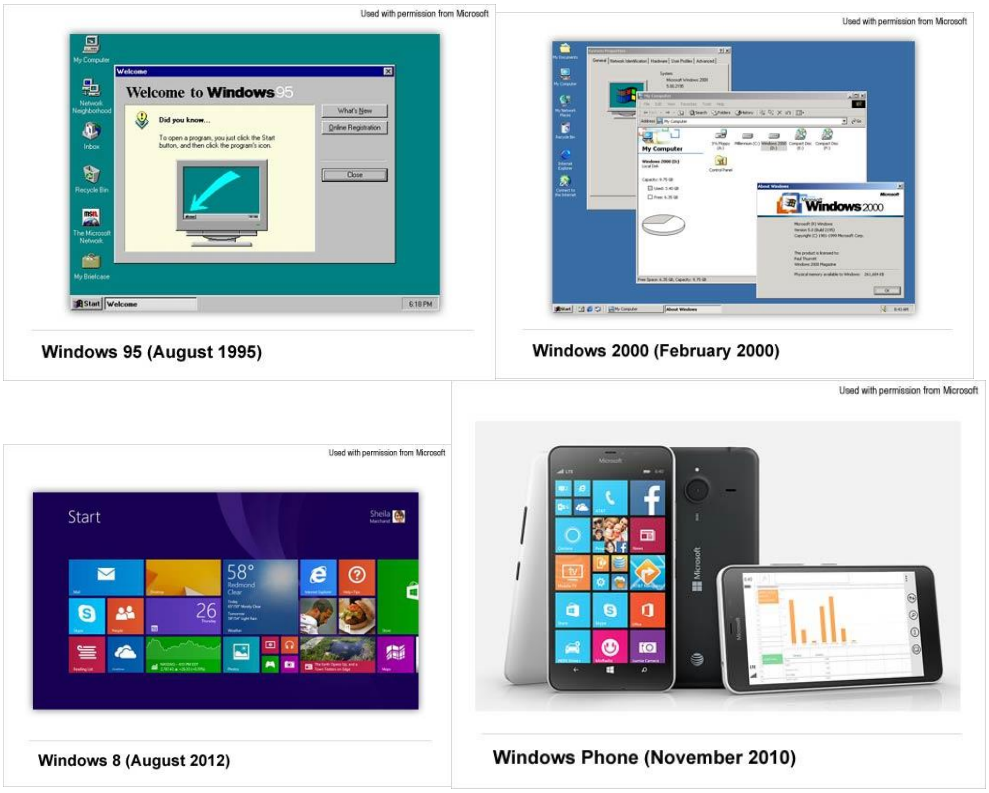

Fig. 7.1: Different versions of windows

Window Screens

The windows' screen consists of several icons arranged according' to the computer set up the user.

Icons: An icon is an image or picture representing a particular function on the window's screen. It is like a command or instruction to perform a particular task. Some of the icons noticed on the window screen a computer, network neighbourhoods, Recycle Bin, Internet Explorer, Start and Tune button.

To access an icon, double click on such, and window responds by displaying the operation under the icon.

Accessing Windows

When a computer system is switch on, the memory tent is performed until the window screen appears automatically.

Window screen is divided into two parts; the upper layer which contains several icons and the lower layer called the status /bar which contain the: start button, task bar and time.

Status Bar: This is the lower part of the windows. It consists' of the start button, task bar and time.

Start Button: it contain everything needed to work with windows, start icon of the windows consists of several options in form of sub-menu. Hence, when you click on start button, a sup-menu appears as follows:

(i) **Program:** it displays the list of software available in the windows environment for the user to utilize.
(ii) **Document:** it displays the list of documents that have been opened previously.
(iii) **Setting:** it list out all the computer components which their setting can be changed e.g. setting date and time, changing window screen etc.
(iv) **Find:** it is used to find and locate a particular file, folder and e-mail messages.
(v) **Help:** it shows the steps involve in performing a particular task. It equally serves as a tutor.
(vi) **Run:** it is mainly used to run or execute Ms-command and other application packages.
(vii) **Shut Down:** it is used to shut down or re-start the computer. It should be noted that the system must be properly shut down before switching off the system.

Task Bar
Each time an operation is performed, a button representing that window appears on the task bar. To switch from the window to another click on the button for the window you want in the task bar.

Notification Area
It shows at the extreme end of the status bar. It displays the current time.

Folder
A folder is a directory, which stores files and other folders. Or a folder is a directory through which users can access files and other folders.

Windows Operating Devices
These are electronic devices used in manipulating windows. It could be input device or output device.

Input Device
An input device is a peripheral (piece of computer hardware equipment) used in sending in data, control signals and graphics to the computer memory or any other information processing system allowing you to interact with and control the computer. They include keyboard, mouse scanner, joystick, light pen etc.

(i) Computer Keyboard: it is a rectangular tray of electronic keys used as input device to send data, instructions, commands and signals into the computer. It is the 'primary computer input unit device. It consists of several types of keys:
Function Keys: F1-F12
Alphabetic Keys: A-Z,.
Numeric Keys: 0-9
Control Keys: Alt key {), Ctrl key, Fn key etc
Editing Keys: End, Spacebar, Backspace, Caps Lock, Del key etc.
Directional/Navigating Keys: the arrow keys, Pg Up and PgDn and Keys, Home and End keys.
Special Function Keys: Ctrl+A, insert, Numlock, PrtSc etc.

Special Character Keys: I, / @, “, #, !, &,%,*,(),{}, [], :, ;, -, +, =, etc.

(ii) Mouse: this is a rat-like pointing device used as input device to send command to the computer by point, click and drag operations. Mouse could be an optical mouse or rolling ball mouse, a PS/2 mouse, a Serial mouse or the padded (as found on laptops PDAs).

(iii) Scanner: this is a graphic puts service that sends graphics, picture, and images to the computer memory for processing. It consists of tubes light that takes the picture of an object and send it to the memory for processing.

Computer Keyboards

A keyboard is the most fundamental input device for any computer system. In the early days of computing, it was typically the only input device.

Keyboard is one of the input devices that used to transfer data, from outside world into the CPU. As you type, the processor in the keyboard analyzes the key matrix and determines what characters to send to the computer. It maintains three characters in its memory buffer and then sends the data.

a. Typical keyboard for desktop computer

b. Typical laptop computer

Many keyboards connect to the computer through a cable with a PS/2 or USB (Universal Serial Bus) connector. Laptops use internal connectors. Regardless of which types of, connector is used, the cable must carry power to the keyboard, and it must carry signals from the keyboard back to the computer.

Wireless keyboards, on the other hand connect to the computer through infrared (IR), radio frequency (RF) Bluetooth connections. IR and RF connections are similar to what you will find in a remote control. Regardless of which sort of signal they use, wireless keyboards require a receiver, either built in or plugged in to the USB port, to communicate with the computer. Since they don’t have a physical connection to the computer, wireless keyboards have an AC power connection or use batteries for power.

Microsoft Wireless Keyboard

Microsoft Wireless Keyboard is a battery-powered computer keyboard. Whether it’s through a cable or wireless, the signal from the keyboard is monitored by the computer’s keyboard controller. This is an integrated circuit (IC) that processes all of the data that comes from the keyboard and forwards it to the operating system. When the operating system (OS) is notified that there is data from the keyboard it checks to see if the keyboard data is a system level, command (i.e. command that controls the computer system itself, a good example of this is

Ctrl-Alt-Delete on a Windows computer, which reboots the system). If it is not a system level command, then, the OS passes the keyboard data on to the current application.
The application also determines whether the keyboard data is a command like Alt-F, which opens the file menu in a windows application. If the data is not a command, the application accepts it as content, which can be anything from typing a document to entering a URL to performing a calculation. If the current application does not accept keyboard data it simply ignores the information. This whole process, from pressing the key to entering content into application, happens almost instantaneously.

The mouse
Mouse Techniques
These are the modes of using mouse. They include:

- **(i) Pointing:** this is a process of making the mouse pointer touch an option or icon on a window screen during selection of an object or option.
- **(ii) Clicking:** this is a process of pointing the mouse pointer at the option or icon and instantly presses the left right button to select an option.
- (iv) **Dragging:** this is a process of holding down the left button and move the mouse along the mouse pad and release when desired.
- (v) **Double clicking:** it is a process of pressing the button on two consecutive times i.e. we double click to see the content of an icon.

Typical mouse

Mouse innovations
As with many computer-related devices, mouse is being combined with other gadgets and technologies to create improved and multipurpose devices. Examples include multi- media mouse, combination mouse/remote controls, optical mouse, gaming mouse, biometric mouse, tilting wheel mouse and motion-based mouse. To learn more about innovations in mouse technology, let's start with multi-media mouse and combination mouse/remote controls.

Multi-media Mouse and Combination Mouse/Remote
These types' of mouse are used with multimedia systems such the windows
XZ media Center Edition computers. Some combine features of a mouse with additional as buttons (such as play, pause; forward, back and volume) for controlling media. Others resemble a television/media player remote control with added features for mousing. Remote controls generally use infrared sensor but some use a combination of infrared and RF technology for greater range.

Gaming Mouse
Gaming Mouse are high-pressure, optical mouse designed for use and game controllers. Its features may include:

Multiple buttons for added flexibility and functions such as adjusting (dots per inch) rates on the fly.
Wireless connectivity and an optical sensor.
Motion feedback and two-way communication

Motion Based Mouse
Yet another innovation in mouse technology is motion-based control feature, you control the mouse pointer by waving the mouse in the air.

Biometric Mouse
Biometric Mouse adds security to your computer system by permitting-authorized users to control the mouse and access the computer. Pro' accomplished with an integrated fingerprint reader either in the receiver or the mouse. This feature enhances security and adds convenience because-can use your fingerprint rather than passwords for a secure login. The Wireless Intellimouse Explorer with Fingerprint Reader is a Biome to use the biometric features, a software program that comes with registers fingerprints and stores information about corresponding users. Some software programs also let you encrypt and decrypt files.

keyboard track pads on a laptop computer

Desktop computers have a separate keyboard and mouse, but for laptops, these are integrated into a computer system itself. In laptops, the mouse is actually substituted with a touch pad or track pad. You can still connect an external mouse to a laptop if you prefer.

Computer flatbeds scanners.
Another common input device is an image scanner. A typical desktop or flatbed scanner is a device that optically scans printed images and paper documents and converts them into digital images.

Microphone.
Audio and video can be recorded using a microphone and video camera, respectively. Due to the popularity of video conference on Skpe, these are typically integrated in most laptops and monitor displays for desktops; however, you can also connect an external webcam, which can record both audio and video.

Input devices

The most commonly used or primary input devices in a computer are the keyboard and mouse. However, there are dozens of other devices that can also be used to input data into the computer. Below is a list of computer input devices that can be utilized with a computer or a computing device.

1. Touch screen
2. Webcam.
3. Audio conversion device.
4. Barcode reader.
5. Finger print scanner.
6. Business card reader.
7. Digital camera and digital camcorder.
8. Gamepad, Joystick, Paddle.
9. Gesture recognition.
10. Graphics tablet.
11. Light gun and light pen scanner.
12. Magnetic stripe reader.
13. Microphone (using voice speech recognition or biometric verification).
14. Touch pad or other pointing device.
15. Optical mark reader (OMR).
16. Light pen or stylus.
17. Punch card reader.
18. Video capture device.

QUESTIONS

1. List 5 input devices apart from the keyboard, mouse and scanner.
2. What does an input device send to a computer?
3. What is the difference between an input device and output device?
4. What is window operating system
5. List 3 types of window operating system with date and major features.
6. What is the difference between status bar and task bar.