

INTRODUCTION TO WINDOWS

GUI (Graphics User Interface)

GUI is a program interface that takes advantage of the computer graphics capabilities to make the program easier to use. Well-designed graphical user interfaces can free the user from learning complex command languages. On the other hand, many users find that they work more effectively with a command-driven interface, especially if they already know the command language.

Basic Components of a GUI

Graphical user interfaces, such as Microsoft Windows and the one used by the Apple Macintosh, feature the following basic components:

- **Pointer:** A symbol that appears on the display screen and that you move to select objects and commands. Usually, the pointer appears as a small angled arrow. Text -processing applications, however, use an I-beam pointer that is shaped like a capital I.
- **Pointing device:** A device, such as a mouse or a trackball, that enables you to select objects on the display screen.
- **Icons:** Small pictures that represent commands, files, or windows. By moving the pointer to the icon and pressing a mouse button, you can execute a command or convert the icon into a window. You can also move the icons around the display screen as if they were real objects on your desk.
- **Desktop:** The area on the display screen where icons are grouped is often referred to as the desktop because the icons are intended to represent real objects on a real desktop.
- **Windows:** You can divide the screen into different areas. In each window, you can run a different program or display a different

file. You can move windows around the display screen, and change their shape and size at will.

- **Menus:** Most graphical user interfaces let you execute commands by selecting a choice from a menu.

In addition to their visual components, graphical user interfaces also make it easier to move data from one application to another. A true GUI includes standard formats for representing text and graphics. Because the formats are well-defined, different programs that run under a common GUI can share data. This makes it possible, for example, to copy a graph created by a spreadsheet program into a document created by a word processor.

Many DOS programs include some features of GUIs, such as menus, but are not graphics based. Such interfaces are sometimes called graphical character-based user interfaces to distinguish them from true GUIs.

The First Graphical User Interface

The first graphical user interface was designed by Xerox Corporation's Palo Alto Research Center in the 1970s, but it was not until the 1980s and the emergence of the Apple Macintosh that graphical user interfaces became popular. One reason for their slow acceptance was the fact that they require considerable CPU power and a high-quality monitor, which were prohibitively expensive.



Windows versions

Following is a brief summary of the client versions of Windows (a user's PC running Windows). For more on the server versions, see Windows Server 2003, Windows Server 2008, and Windows Server 2012.

Windows 10 S (2017)

The streamlined version that obtains content via the Internet. See Windows 10 S.

Windows 10 (2015) – MS Version 6.4

The next client version of Windows. See Windows 10.

Windows 8/8.1 (2012-2013) – MS Version 6.2/6.3

The current client version of Windows. See Windows 8.

Windows 7 (2009) – MS Version 6.1

The previous client version of Windows. Windows 7 greatly improved stability over Vista. See Windows 7.

Windows Vista (2006) – MS Version 6.0

A client version of Windows that was widely criticized for its bugs and behavior (see Windows Vista). Windows Server 2008 was the server counterpart. See Windows Server 2008.

Windows XP (2001) – MS Version 5.1

A client version of Windows that has been widely used. Adding more security and administrative capabilities, XP became available in 64-bit versions for AMD x86 and Intel Itanium CPUs. See Windows XP.

Windows 2000 (2000) – MS Version 5.0

Windows 2000 was an updated version of Windows NT 4 for client and server. It added numerous enhancements including Plug and Play and Active Directory. Windows 2000 came in one workstation and three server versions. Server versions supported 64-bit AMD x86 and Intel Itanium CPUs. See Windows 2000.

Windows NT (1993) – MS Versions 3.1, 3.5, 4.0

Windows NT 3.1 was a completely new 32-bit OS with separate client and server versions. Introduced during the reign of Windows 3.1 and two years before Windows 95, it used the same Program Manager user interface as Windows 3.1 but provided greater stability. In 1996, Windows NT 4.0 switched to the Windows 95 Start menu interface but did not include Plug and Play. NT Server gained significant market share, while NT Workstation client version was aimed at the professional user and not the Windows 95/98 market. See Windows NT.

Windows ME (2000) – MS Version 4.9

An upgrade to Windows 98. It had a shorter boot time, but no longer could be booted into DOS only (DOS sessions could still be run in a Windows window). See Windows ME.

Windows 98 (1998) – MS Version 4.1

Windows 98 was an upgrade to Windows 95 that tightly integrated the Internet Explorer Web browser with the OS. In 1999, Windows 98 Second Edition fixed numerous bugs and upgraded its applications. See Windows 98 and Windows Second Edition.

Windows 95 (1995) – MS Version 4.0

Windows 95 was the first 32-bit Windows operating system and a major upgrade from Windows 3.1. It used an entirely different user



interface that incorporated the now-common Start menu and Taskbar. It was also the first time the computer booted directly into Windows, rather than being loaded after booting up in DOS. See Windows 95.

Windows 3.x (1990-1992) – MS Version 3.x

Windows 3.0 was the first popular version of Windows with a new, colorful user interface that was far superior to Windows 2.0. Although the PC still booted into DOS, Windows 3.0 included a DOS extender that broke the 1MB memory limit (a major breakthrough). Windows 3.0 was widely used to multitask DOS applications.

Windows 2.0/286/386 (1987) – MS Version 2.0

Windows 2.0 introduced overlapping, resizable windows with more flexibility. Soon after, Windows/386 was released for Intel's 386 CPU, which could run multiple DOS applications simultaneously (Windows 2.0 was renamed Windows/286). Windows was becoming more useful, and a handful of companies adopted it as an operating environment. See Windows 2.0.

Windows 1.0 (1985) – MS Version 1.0

The first Windows version introduced the "MS-DOS Executive," which was a DOS application that ran applications in side-by-side windows. It was rarely used. See Windows 1.0.

Parts of a Windows in Computer

Microsoft Windows, the most widely used operating system in the world, employs the metaphor of a window for navigation and file management. Understanding the parts of a window is the first step to knowing how to navigate through the operating system.

The Title Bar

At the top of every window is the title bar. The center of the title bar displays either the name of the program you are currently working in or relevant information about what is happening in the program at any given moment. When the window is not maximized, this is where you can click and drag to move the window to a new location on the screen.

Minimize, Maximize, Close Buttons

In the upper right-hand corner of the window are the three buttons used to minimize, maximize, and close the window. Minimizing the window shrinks it to nothing and places it out of sight. Maximizing the window makes it fill the screen and locks it into position so that it cannot be moved by dragging the title bar. Closing the window shuts down the program.

The Scroll Bar

On the right side of the window is the scroll bar, which appears only if there is information to be displayed beyond the bottom range of the current window size. Clicking and dragging on the slider in the scroll bar moves the contents of the window up or down so you can view all of the data available.

The Menu Bar

Most programs will have a menu bar visible in the upper left-hand corner of the window. The menu bar appears as the text for most programs and usually starts with “File” at the far left. Accessing the menu allows you to view various commands available to that program, including closing the program or the window.

The Work Space

The workspace is all of the areas inside the window where data for the current program is displayed. usually, the workspace will have a white background, but it is possible to customize this in all versions of Windows, and it may vary by program.

Basic Functions of the Windows

The key five basic functions of any windows are as following:

1. The interface between the user and the hardware:

An OS provides an interface between user and machine. This interface can be a graphical user interface (GUI) in which users click onscreen elements to interact with the OS or a command-line interface (CLI) in which users type commands at the command-line interface (CLI) to tell the OS to do things.

2. Coordinate hardware components:

An OS enables the coordination of hardware components. Each hardware device speaks a different language, but the operating system can talk to them through the specific translational software called device drivers. Every hardware component has different drivers for Operating systems. These drivers make communication successful between the other software and the hardware.

3. Provide an environment for software to function:

An OS provides an environment for software applications to function. Application software is specific software that is used to perform a specific task. In GUI operating systems such as Windows and macOS, applications run within a consistent, graphical desktop environment.

4. Provide structure for data management:

An OS displays structure/directories for data management. We can view file and folder listings and manipulate those files and folders like (move, copy, rename, delete, and many others).

5. Monitor system health and functionality:

OS monitors the health of our system's hardware, giving us an idea of how well (or not) it's performing. We can see how busy our CPU is, or how quickly our hard drives retrieve data, or how much data our network card is sending etc. and it also monitors system activity for malware