



System Software

What is software?

- Software is any type of program
- Programs have step-by-step logical instructions which tell the computer
 - What to do
 - How to do it

What is the purpose of system software?

- **G**ot to be installed so the computer will run applications
- **I**nstructions from system software are loaded into RAM (from Hard disk) when you turn the computer on (or boot the computer up)
- **R**esponsible for the operation of the computer
- **L**ets the user interact with the applications they may be using; system software interacts with the hardware components using driver software; and interacts with any peripherals (eg printer, joystick, digital camera, microphone)

What is a Platform?

- *Platform* describes the set of hardware components that make up the computer itself – the CPU, the motherboard etc

The system software is written to target these particular components

**My System Software must be
compatible with my
Application Software**

Types of System Software



- Windows

(most common – lots of versions)



Why is it called “Windows” ...

- Windows Software allows a screen to be divided into areas which act like separate input/output devices under the control of different application programs
- This allows the user to see the output of several processes at once and to choose which one will receive input by selecting its window, usually by pointing at it with a mouse
 - eg Word application working in one window, PowerPoint application working in another window, click on Task Bar and make Word active, edit (eg click on a word, change it to bold), click on Task Bar and make PowerPoint active, edit the presentation.

To find out more about your version of Windows go to <http://www.gcflearnfree.org/topics/> and choose from the options

Windows Platform ...

- Windows is most commonly used on Intel (Pentium) processors and is a graphical operating system used on personal computers
Windows 10 is the latest release of Microsoft Windows at 15/11/2016
 - Windows uses lots of hardware resources –HDD (size of program files) plus processor speed and memory
 - Windows is less stable – more susceptible to virus risk as Visual Basic Code is used (easy to get into, easy to write virus programs which will infiltrate the code)
 - But – Windows is best supported, loads of training available, cheap/free software available to run on the platform

Type of software ...

Windows is proprietary

- Proprietary software is software with restrictions on using, copying and modifying as enforced by the proprietor - MICROSOFT
- Proprietary software is unique to a specific manufacturer
- Restrictions on use, modification and copying is achieved by either legal or technical means and sometimes both (such as copyright, patents or trademarks) or on-line registration

- Unix

(commercial operating system for networks)

(Note: All logos are ™)



Linux is the PC offshoot of Unix



Unix/Linux Platform ...

- Linux runs on (is compatible with) Intel processors
it also runs on Alpha processors (these are used on servers)
 - There is a lot of commercial support for and use of Unix/Linux, both by hardware companies such as Digital, IBM, Hewlett-Packard and Apple and numerous smaller network and integration specialists
 - Uses less of system resources - processor, HDD (small program files, can even fit on a floppy disk) and RAM
- Linux is particularly popular for Internet Service Providers
 - Virus susceptibility is low, not written in Visual Basic Code
 - SteamOS – gaming operating system



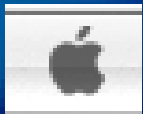
Type of software ...

Linux is **freeware, open source**

- Free, open source operating system code (means you can change the original source code and recompile changes to code so that the operating system works the way you want it to) – of course, you have to have programming skills!
- You can also redistribute the code freely (means you can use it on more than one machine, unlike proprietary software)

• Macintosh

(Note: All logos are TM)



iPhone

iPod + iTunes



(their system software only runs on their own machines

their machines are general purpose single-user microcomputers, designed to be operated by one person at a time)



Apple Mac Platform ...

- Macintosh (Apple Mac) Operating System runs on hardware components manufactured by Apple Computer Inc, (originally based on the Motorola 68000 microprocessor family). The platform is compatible only with their own proprietary operating system
 - Less virus susceptibility because Visual Basic Code is not used
 - Macintosh have their own proprietary code
 - Size of program files and amount of resource required to run the operating system are allowed for in the platform – so Macs are screaming fast especially for gaming!!

Type of software ...

Mac OS is **proprietary**



iOS 10.2

- Macintosh Operating System is proprietary software which **runs only on the Apple Mac computers or devices**



- Note:
the newest Apple Mac machines
use Intel processors



- MS DOS
(almost a dinosaur)



- Some of the other operating systems:



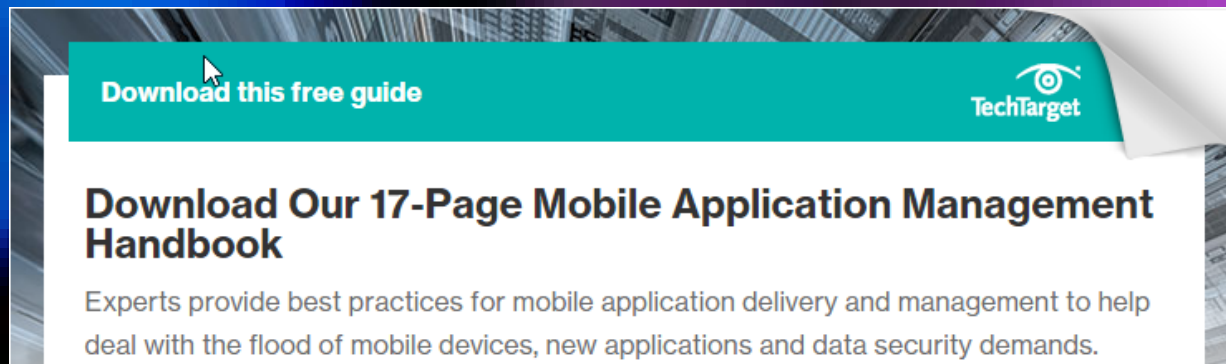
TM

Mobile operating systems

- From

<http://searchmobilecomputing.techtarget.com/definition/mobile-operating-system>

- A mobile operating system (OS) is software that allows [smartphones](#), [tablet PCs](#) and other devices to run applications and programs.
 - A mobile OS typically starts up when a device powers on, presenting a screen with icons or tiles that present information and provide application access. Mobile operating systems also manage cellular and wireless network connectivity, as well as phone access.
- On this website there is a free guide that you can download

A promotional banner from TechTarget. It features a teal header with the text "Download this free guide" and a mouse cursor icon. The TechTarget logo is in the top right corner. Below the header, the main text reads "Download Our 17-Page Mobile Application Management Handbook". A subtext line states: "Experts provide best practices for mobile application delivery and management to help deal with the flood of mobile devices, new applications and data security demands." The background of the banner shows a blurred image of a city skyline.

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Experts provide best practices for mobile application delivery and management to help deal with the flood of mobile devices, new applications and data security demands.

iOS .. Mobile operating system



- Apple developed this exclusively for their hardware
- Used in
 - iPhone
 - iPad
 - iPod touch
- Interface elements consist of
 - Sliders, switches and buttons
- Interface gestures consist of
 - Swipe, tap, pinch and reverse pinch



Want to learn more: go to <http://www.gcflearnfree.org/iphonebasics/>

Android .. Mobile operating system

- Google developed this software for touchscreen mobile devices
- Used in
 - Smartphones
 - Tablets
- Interface gestures consist of
 - Swiping, tapping, pinching and reverse pinching
 - Plus a virtual keyboard for text input



Want to learn more: go to <http://www.gcflearnfree.org/androidbasics/>

How do I remember the purpose of system software?

G got to have it to run application software

I instructions load automatically into RAM

R responsible for the operation of the PC

L lets the user interact with applications and communicates between hardware components

GIRLS
can do anything!

End of presentation

- Next steps

Go back to the workbook

You will see that there are Study Notes which show the **outputs** and **purpose** of system software