

MOBILE Device operating system:

It enables an application run by simply abstracting the mobile system hardware

- Enable the programmer to abstract the device such that the application need not know full detail of the font and font size of the mobile device display
- APP need not know how the message will be displayed by the LCD hardware

Example:

- palmOS
- window CE
- Symbian
- Android.

- Assume the keypad, LCD display, serial input and serial output device are abstracted by an application as the read and output device with device numbers 1, 2, 3 and 4 respectively.
- write ('I', welcome to ABC telecom) when a message welcome to ABC telecom is sent on the output bus display.
- The line can be write write in static board (welcome to ABC telecom) when display device is taken as default o/p device.
- It provides interface for communication between processes, threads, and ISRs at the app and middleware layer.
- Provides middleware for the system hardware.
- provide management function (such as creation, activation, deletion, suspension and delay) for tasks.
- Provide memory management.
- Enable running of processes.
- Helps the process in obtaining access to system resources.
- Provide Synchronization of the thread and their priority Allocation.
- ~~Accept~~ Accomplishes real time execution of the application task and threads.

Commercial mobile operating systems

- When mobile system is used in commercial purpose that is called commercial mobile operating system.
- Smartphone are now participating nearly in each and every sphere of life like business, education, workplaces, healthcare.

- the worldwide mobile communication device open operating system sales (WMCDOS) market total market of 104,898 to end user by OS.
- There are over 1.3 million active apps on Google play store.
- Android is the first open source.
- Linux based and modern mobile handset platform.
- Google develop it for handset manufacturers like Google, Intel, Samsung etc.

iOS : (iPhone OS)

- Apple iPhone OS was originally developed for use on its iPhone devices.
- Now the mobile operating system is rebranded to as iOS and is supporting on a number of Apple devices including iPhone, iPad, iPad 2, and iPad Touch.
- The iOS mobile operating is available only on Apple's own manufacture devices as the company does not license the OS for third party hardware.
- Apple iOS is derived from Apple's Mac OS X operating system.

Android (Google Inc)

- The Android mobile operating system is Google's open and free software stack that includes an operating system, middleware, and also key apps for use on mobile devices including smartphone.
- Updates for the open source Android mobile operating system have developed under "dessert-inspired" version names: cupcake, Donut, Eclair, Gingerbread, Honeycomb, Ice cream.

sandwich) with each new version arriving in alphabetical order with new enhancement and improvements.

Windows Phone: Windows mobile is Microsoft mobile operating system used on smartphone and mobile devices with or without touch screen.

- The mobile OS is based on the Windows CE 5.2 kernel.
- In 2010 Microsoft announced a new smartphone platform called Windows Phone 7.

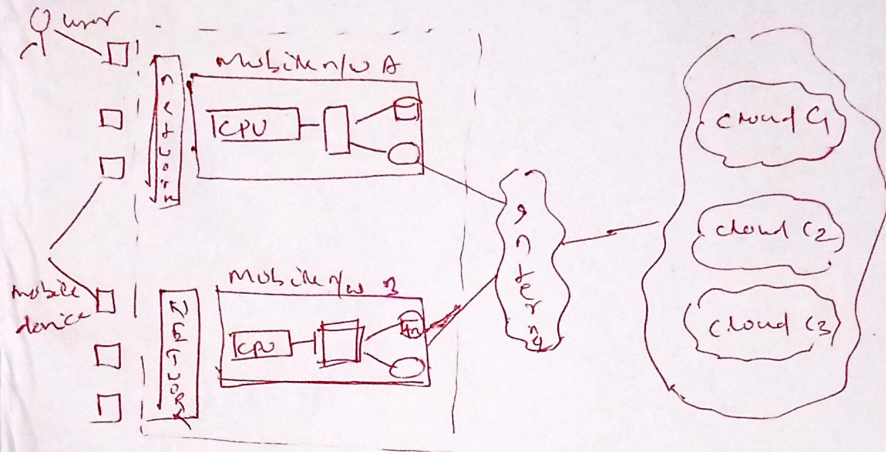
M-commerce: (Mobile commerce)

- M-commerce is the buying and selling of goods and services through wireless handheld devices such as cellular telephone and personal digital assistants (PDA).
- M-commerce enable user to access the internet without needing to find a place to plug in.

Mobile cloud computing: storage and processing of data on the cloud and mobile device act as media display.

4 types of cloud resource in mobile

- i) Distant mobile cloud
- ii) Distant immobile cloud
- iii) proximate mobile entity
- iv) Hybrid



- Advantage:
- i) Increases battery life of mobile device
 - ii) Improvement in both storage capacity and processing power.
 - iii) ^{improve the} Reliability
 - iv) Scalability
 - v) Easy integration

- App:
- M-commerce
 - Mobile learning
 - Mobile health care
 - Mobile game

Issues in mobile cloud computing:

- i) Architectural issues [Heterogeneous]
- ii) Mobile communication congestion
- iii) Security and privacy