Mobiles & Handhelds ; How to choose your device

How & why of design criteria

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Mobile & Handheld Devices: The Platforms, Operating Systems, devices& Educational Apps

❖ **Does it matter what devices we use ? Yes.**

❖ **Does it matter to know the platform& operating system we use ? Yes again.**

❖ **Why does it matter?**

❖ **Mobile devices: The Last Mile & Final Frontier**

❖ **Mobile's outnumber PC's by many times and this rising faster than before**

❖ **Some applications & how to choose your Mobile**

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.First generation computers were huge & required whole buildings to house them.

Later came the desk tops smaller but fixed .

Evolved into laptops: Portability added great benefits & efficiency multiplier.

Quest for size brought Netbooks ; smaller, portable but with reduced functionalities.

Mobiles for "voice & SMS " started.

Evolved into Smartphones: Power packed .

iPad brought the Tablet format :

Hand held devices: Smart phones & tablets are todays weapons of choice

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Factors to consider

"One size does NOT fit all" Identify your specific needs.

Operating systems How & why this matters

Form Factor = size , ear to mouth spacing,etc

Screen Type : Capacitive, resistive Touch screens.

Battery life

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❖What is an Operating System(OS)?

❖**A Mobile operating system is the operating system that controls a mobile device— similar in principle to an operating system such as Linux or Windows that controls a desktop computer**

❖ **And there are many OS . Which one works for you is what matters ?**

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List of mobile operating systems.

* Symbian OS developed by Symbian Foundation , still the largest market in the mobile OS but not for long.

    * RIM BlackBerry OS- designed for business use.

    * iPhone OS - Apple Inc & derived from MAC OS X.

    * Windows CE- Microsoft & has Windows Mobile 6 especially for touch screen devices.

    * Android -Google Inc a Linux based platform & the one which will rule the Mobile Desktop space

    * Linux OS used by Motorola&DoCoMo in China & Japan.

    * Palmweb OS developed by Palm Inc.

    * Bada by Samsung developed especially for touch screen

❖& many others which don't count

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The mobile & handheld space dominated by Apple iOS(Apple) & Google's Android.

Enterprise space has Blackberry's RIM OS .

iOS is "Walled Garden" proprietary .

Android is Open Source

Majority of future "Apps " will be on i OS & Droid

For education : UI (User Interface) & UX(User Experience) are key factors .

Cost: important factor ;Android devices & apps cheaper

Don't even look at devices which are not I OS or Android!

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Form Factor : Important UX consideration.

"Size matters" Ear to mouth distance etc. (For Mobile specially)

Blue Tooth headsets /wired earphones address the this & recommended for multi tasking!

Screen size : Matters for easier reading & less scrolling .

1,2,3 Rule : 1 button, 2 pages & 3 clicks should get you what you want.

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Screen Types :

Non responsive screens : This is going away .

Touch screens make UI & UX

Fun,

Intuitive

Easy to use by all ages.

 Resistive screens ; Old technology. Cheaper Screen needs to be pressed. Not good.

Capacitive Screen : Gives a "fluid " experience . Essential for making education a good, feel experience. Turning pages is like in physical world .

Go for capacitive screen

New breed are Super AMOLED Great visual/ display

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Battery Life : Important factor.

Measured in : mAh = milli Ampere Hours . Higher the better .

Determines the time one can use between recharging.

Multi tasking uses higher battery .

Minimize the number of applications running on your device same time Specially for Mobiles where m Ah is smaller .

Higher the Battery life =larger battery & hence device size.

 Tips to extend battery life : Select options on screen time out, brightness settings , Vibrate mode etc

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2 G/3 G vs Wifi only

All mobiles have "telephony " functions i.e. they will have a SIM card .

Tablets come with or without telephony capability .

Read carefully what the device supports .

This can be a mine field

Generally for teaching WiFi only devices are way to go

Cheaper

Less distractions

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Reading a Phone/device specification sheet

http://www.phonearena.com/phones/Samsung-GALAXY-Note_id6116/fullspecs

Reading a Mobile specification sheet;

Specifications of **Samsung** **Galaxy Note**:

Operating System : Android OS v2.3 (Gingerbread

Processor : Dual-core 1.4GHz ARM Cortex-A9 processor, Mali-400MP GPU, Exynos chipset

Display : 5.3-inch Super AMOLED display , 1280 × 800 pixel WXGA resolution

What is AMOLED?

AMOLED   is   known   as   (Active-Matrix   Organic   Light-Emitting   Diode)

Generate light upon electrical activation that have been deposited or integrated Onto a thin film transistor (TFT) array, which functions as a series of switches to control the current flowing to each individual pixel. Typically, this continuous current flow is controlled by at least two TFTs at each pixel, one to start and stop the charging of a storage capacitor and the second to provide a voltage source at the level needed to create a constant current to the pixel and eliminating need for the very high currents required for passive matrix OLEDAMOLED displays provide higher refresh rates than their passive-matrix OLED counter parts [Not specific enough to verify], improving response time often to under a millisecond, and they consume significantly less power.

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Network: Quad band GSM/EDGE/GPRS , Penta band UMTS (3G)

Connectivity :

GPRS

EDGE Wi-Fi 802.11 b/g/n

Wi-Fi hotspot , DLNA , Wi-Fi direct

3G :

HSDPA – 21 Mbps
HSUPA – 5.76 Mbps

Bluetooth v3.0

microUSB v2.0

GPS with A-GPS support

For drawing , note-making and screen captures Stowaway pen is provided

Camera :

Rear- 8 MP with LED flash

Front – 2MP camera in front for video calling

Features : Geo-tagging, touch focus, face & smile detection ,image stabilization

Memory :

RAM : 1GB RAM

Internal storage : 16GB / 32GB

External storage up to 32GB

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Sensors :

    Accelerometer sensor –> UI auto-rotate

    Proximity sensor –> auto turn-off

    Gyroscope sensor

Color : Black,White

Battery : Li-Ion 2,500mAh standard battery

Dimensions: 146.9x83x9.7 mm

Weight : 178 gm

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Happy to help guide, design your communication architecture, Platforms , OS & Mobiles.

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