

Or should you be thinking about updating your phone

DO YOU NEED TO UPDATE YOUR COMPUTER ?

Cell Phones - What's Changing

- Operating Systems
- Screens
- Size
- Networks
- Input
- GPS
- Etc.
 - Camera
 - SD Cards
 - Batteries
- Apps (applications)
- Everything Changing – 3 years from now - WOW

Operating Systems

- Smart Phones will Rule
- Major Smart Phones Operating Systems (only 2 or 3 will survive)
 - Apple's OS X (Iphone)
 - Windows Mobile
 - RIM's BlackberryOS
 - Google's Android
 - Symbian
 - Palm's WebOS.
- Maturing – started as desktop systems now morphing into smart phone operating systems
- Synaptics
 - Source of many improvements for Iphone and others coming on stream
 - Touch Screens
 - Multi-point touch (Ten finger)
 - Demo <http://vimeo.com/5739205>
 - Gestures
 - Shake – Tell me more, shake twice –end call etc.
 - Sweep - Games (Bowling, Gold club, boxing, etc.)
 - Vertical or Horizontal - Scroll
 - Rotate - Turn figure on screen around as you rotate
 - Draw numbers in the air to dial phone
 - Point
 - Sweep of Finger (scrolling, etc.)
 - Three finger crumble to delete message, document, etc.
 - Many, many more coming

Screens

- Touch
- Multi- Touch
- High Density – Increase readability
- Faster
- Thin, clear and transparent plastic sheet, which remains clear during a sunny day, becomes humid during a rainy day. The user can write text messages or draw pictures on the phone in different weather conditions.

Size

- Cell Phones will be thinner
- Key boards limit size
 - Potential for voice input along with gestures could change this
- In general size probably will not change much but the functionality of what is packaged in the size you are familiar with today will greatly increase
- Cell Phones contain 8 radios and 11 antennas
 - One idea is taking the antenna and running it through a tunable carbon-nanotube filter into an analog/digital converter
 - This is an enabler to actually making software-defined radio work.
 - One mechanism could replace 19 others.
 - Same mechanism could also make it possible to transfer a movie from your PC to your phone in two seconds.

Networks

- Existing
 - Verizon
 - 3G - EVDO
 - 4G - LTE – 2010 (2 to 3 times faster – faster than most DSL today)
 - Sprint
 - 3G – EVDO
 - 4G – WiMax
 - AT&T
 - 3G – HSDPA
 - 4G - LTE - ??
- Possibility (replace all of the above with)
 - VOIP (voice-over-internet-protocol)

Input

- Voice Recorders for taking notes
- Gestures
- Voice input to enter commands
- Also
 - A neckband that translates thought into speech by picking up nerve signals has been used to demonstrate a "voiceless" phone call for the first time.
 - With careful training a person can send nerve signals to their vocal cords without making a sound. These signals are picked up by the neckband and relayed wirelessly to a cell phone that converts them into words spoken by a computerized voice.

GPS

- Find a person
- Find your cell phone
- Driving directions
- Grocery Store Shopping
 - Map of the store's shelves
 - Optimized shopping route
 - Discount Prices and offers
 - Get tips on other things to buy.
- Who is around me
- Replace stand alone GPS devices

Etc.

- Camera
 - 5.0 megapixels
 - How much do we need ?
- SD Cards
 - 32 Gigs today (100+ gigs soon)
 - Terabyte in 3 years
- Batteries
 - Slow improvements
 - Should see significant improvement in next 2 years

Apps (applications)

- Why?
 - Connected to the web
 - Location aware
 - Sensor supported
 - With you all the time
- Some say the devices on which they reside are becoming a vital part of our selves, turning us into de facto cyborgs.
- Could these humble bits of code (Apps) really have the potential to completely transform the way we interact with the world?

Some Sample Apps

- MobileME
 - Track your phone on a map
 - No matter where it is located in the world
 - Lost or stolen track it
- Idictaphone
 - Voice recorder
 - Capture events while out in your field
 - Capture things you need to do
 - Capture any event on the go
 - No typing

Some Sample Apps

- Parking
 - I park my car
 - I use "Parking" to mark where I am
 - When I need to find my car I use Parking to guide me there in an optimized route
- Around Me
 - I need a taxi.
 - "Around Me" shows taxi close by and I order one
- Trails
 - Keeps track where I walk, bike, any mode of travel and optimize route over time

Some Sample Apps

- Zipcar
 - Shows nearby for hire cars
 - [WWW.Zip.Cars](http://www.zipcars.com) – check it out
 - zipcar cities
 - [Atlanta](#)
 - [Philadelphia](#)
 - [Seattle](#)
 - [Boston](#)
 - [Pittsburgh](#)
 - [Toronto](#)
 - [Chicago](#)
 - [Portland](#)
 - [Vancouver](#)
 - [London](#)
 - [San Francisco](#)
 - [Washington DC](#)
 - [New York/New Jersey](#)
 - Unlock and drive away your car using your Phone

Some Sample Apps

- Name That Tune
 - Hold your phone near the tune
 - And let Midomi or Shazam identify it for you
- Security Check
 - Scan your iris with camera
 - Unlock access to your passwords
- Vital Signs
 - Cardio Cal, Critical Care and IHeartRate can check your pulse and blood pressure
- Personal shopper
 - GoCart and Snaptel using your phone camera
 - Read Barcodes, books, album covers
 - Provide price reviews
- And Of Course Tons of Games

Where can I get these Apps?

- App Stores (Many more coming)
 - Apple
 - Nokia OVI
 - Blackberry
 - Palm Pre
 - Google Android Marketplace
 - Windows Marketplace
 - LG
 - Samsung

Biggest Impacts

- Better input capabilities
- Apps
 - These will get better
 - You will be amazed - I already am