

# Extending Enterprise Applications to Mobile - Key Considerations

*Zensar Technologies*

*Sep 2011*

**ZenSar**  
TECHNOLOGIES

Your Transformation Partner

**Section 1:  
Trends & Adoption across industry**

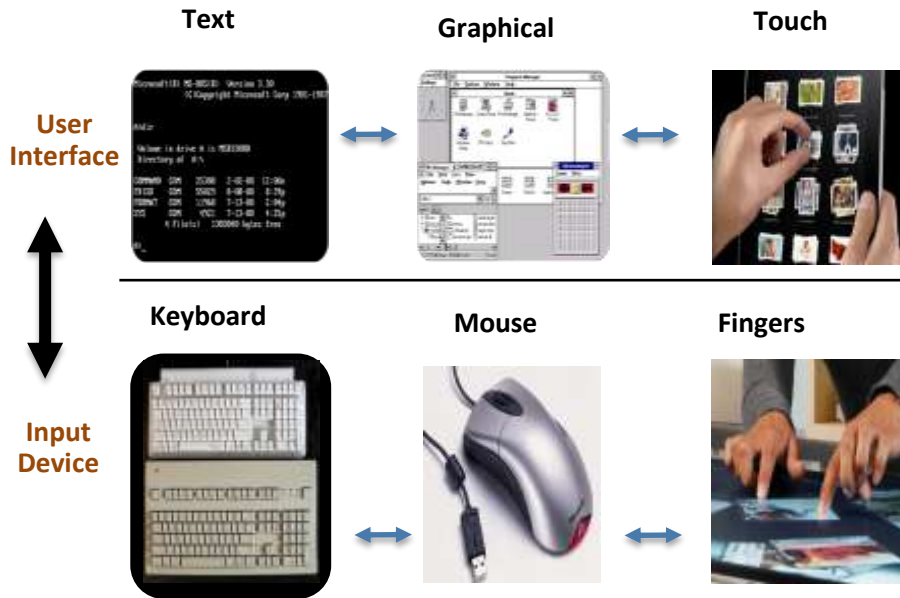
**Section 2:  
Enterprise Mobile Application Development -- Key  
Considerations**

# SECTION 1:

## Trends & Adoption across industry

# Mobile Transformations

## User Interface Evolution Over Past 30 Years



### Consumers now have in their pockets:

- Fast processor
- Larger memory
- High-res screen
- Broadband Internet
- Camera
- GPS
- Multi-touch UI
- Magnetometer
- Accelerometer
- Wifi & Bluetooth
- Good battery life

One implication is that what were devices are becoming features



There is (or will be) an app for each device

## Market Trends

- With more than 1 billion smart phones expected by 2013, mobile application downloads will grow to 21 billion by 2013- Gartner
- Mobile Payments To Triple To \$670 Billion By 2015 – Juniper Research
- 141 Million people spending \$86.1 Billion Using Mobile Payments - Gartner 2011

## Business Model & Technology Trends

- Google's Android dethroned Nokia's Symbian as the most popular Smartphone platform - 32.9 million Android-equipped phones sold in 2010 last quarter, compared with 31 million unit of Symbian's
- More than 200 million active users are "currently accessing Facebook through their mobile devices." - Facebook. Social Media use will be more Mobile .
- By year-end 2011, more than 75 percent of devices shipped in developed countries will include a GPS . Gartner.
- 1 in 6 users worldwide will have an NFC-enabled phone by 2014 – Juniper Research

# SECTION 2: Mobile for Enterprise

# Mobility Adoption Across Verticals – Industry View

## Manufacturing

Optimize Supply chain

- Efficient capturing of inbound supply chain data
- Mobile based Service / Job Card / Inventory tracking
- Service Supply Chain solution

## Logistics

Operational Efficiency

- Real time dispatch of data to drivers
- Shipping notification & alerts
- Package Tracker – Barcode scanning / GPS Position / Data Logger

## Retail

Increase Sales

- Implement Mobile as a Channel
- Mobile Commerce – Mobile purchasing & payment
- Mobile Portals

## Financial Service

Real Time Financial Information

- Efficient Real-time data on client's portfolio
- Banking, brokerage, planning, taxation, consumer uses

## Healthcare

Quality Control & Efficiency

- Mobilization of primary and acute care applications by integrating nurse calls, critical alerts, vital sign monitoring, etc.
- Real-time access to Electronic Health Records (EHR) and Electronic Medical Records (EMR)

## Government

Improve Responsiveness

- Implement Public Safety, Law Enforcement & municipal compliance activities



It means...

- Delivering the right functionality
- Protecting data
- Device support
- Design for small screen
- Device aware design



# Mobile Landscape – A Pandora's Box?



- Multiple device platforms & browsers
  - iOS (iPhone), Android, Symbian, BlackBerry, Windows Phone, Bada, Meego
- Variable screen resolutions/form factors
  - Limited Size for functionality display
- Connectivity / Bandwidth
  - Inconsistent network coverage
  - Data synchronization and offline browsing
  - Data recovery due to loss of connection
  - Limited Data Transfer
- Storage
  - Local Storage Size
  - Cleaning up of cache/transactional data

# Enterprise Applications

## Client/Devices

### Applications:

- Intellisync
- Wireless Email
- Email/Calendar
- PIM
- Directory
- WAP
- Web Browser

- File Sync
- Brochures
- Presentations
- Reports
- Price Lists
- Contacts

## Enterprise “Back ends”

- Ms Exchange Outlook
- Lotus Notes/Domino
- GroupWise
- Web PIM, Im

- Salesforce.com
- ODBC Data Sources

- Intellisync Mobile Server:
- Sync Engine (Email, PIM, Files, Data)
  - Mobility Optimization
  - Xport ,Compression Connectors

- Directory Services
- MS Active Directory
- LDAP
- Domino Authentication



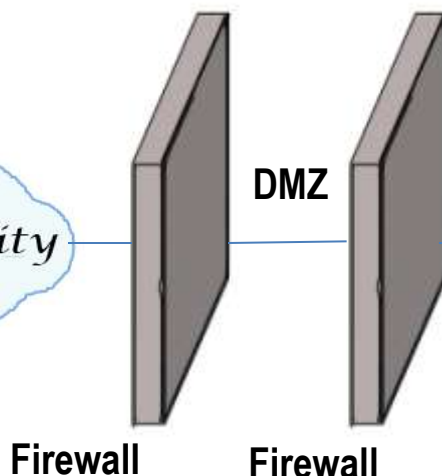
Smart Phones



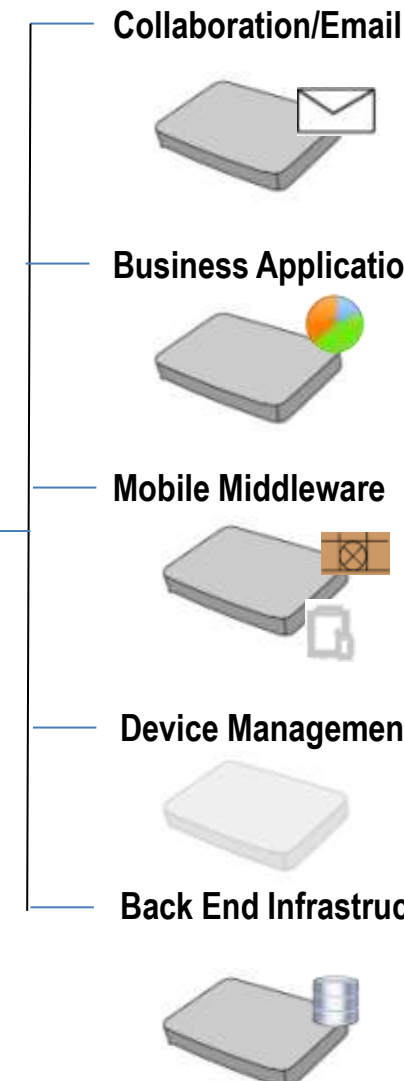
PDA's



Laptops



Corporate Users



- Data encryption
  - Over The Air (OTA) – Https
  - At rest -- Encrypted local store/Database
- Regulatory compliance to access sensitive data/valuable corporate assets
  - Over-the-air policy enforcement
  - Track and protect enterprise data from loss
- Remotely manage data stored on lost/stolen devices
- Authentication
  - Device Based
  - User Based

# Screen Fragmentation

## Android Phone & Tablets

240x320

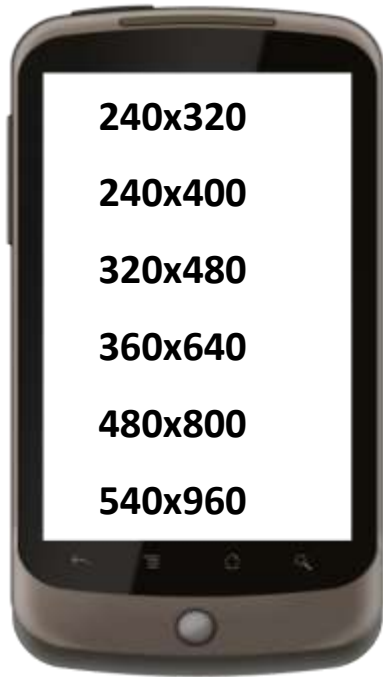
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320x480

360x640

480x800

540x960



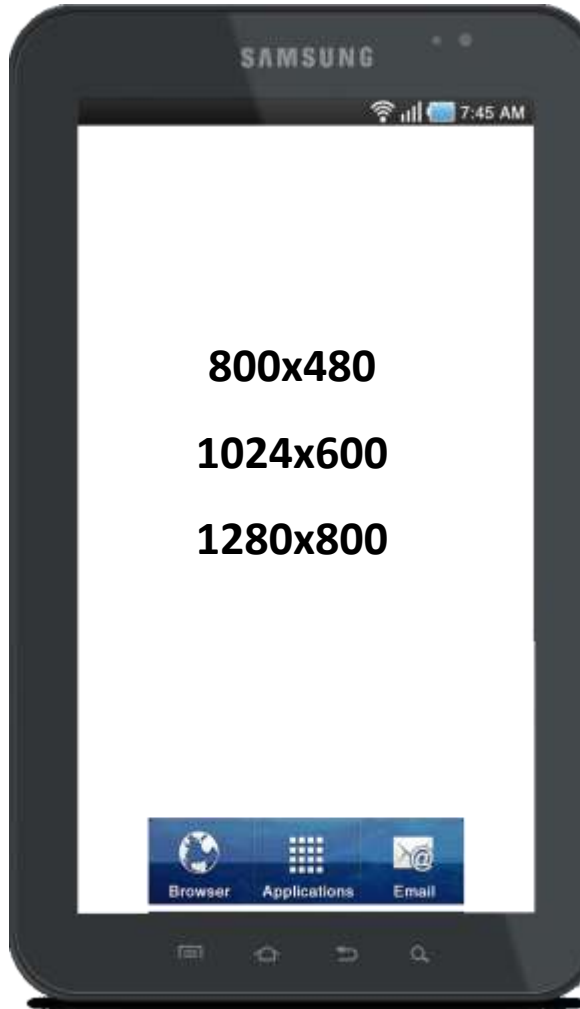
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800x480

1024x600

1280x800



## iPhone & iPad

768x1024



640x960



- Higher Development Efforts due to multiple Programming languages & SDK's
- Unreliable cross compiler / intermediary translation tools like Titanium, Corona etc
- Large number of target devices
- Lack of comprehensive automation testing tools
  - Automation of repetitive tasks
  - Compatibility with other Test Management tools
- UI verification is complex because of variety of mobile devices
- Multiple devices with different image rendering capabilities

- Manage secure configuration and support over multiple distribution channels
- Management and tracking of each device connected to the network
  - Maintain control over applications and usage on workforce's mobile devices
  - Access to personal and employer-issued devices on corporate network
- Remote device trouble shooting



- Small change/enhancement leads regression testing on multiple devices
- Constant flow of new mobile devices/platforms results in endless upgrades

**Thank you**