Developing Mobile Applications for iOS and Android the Oracle Way

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A Huge Opportunity

1.6 Billion phones sold in 2012

Source: Forrester, reported by Venturebeat.com
http://venturebeat.com/2013/02/14/forresters-top-10-trends-for-mobile-in-2013
A Huge Opportunity

1.4 Billion smartphones in use by the end of 2013

Source: Forrester, reported by Venturebeat.com
http://venturebeat.com/2013/02/14/forresters-top-10-trends-for-mobile-in-2013
In 2013, mobile devices will pass PCs to be most common Web access tools. By 2015, over 80% of handsets in mature markets will be smart phones.

Forbes

Source: Forbes.com
Dominant platforms

Smartphone OS market share, 2012

- Android
- iOS
- BlackBerry
- Symbian
- Windows
- Others
Dominant platforms

85% of all smartphones run iOS or Android

Smartphone OS market share, 2012

- Android
- iOS
- BlackBerry
- Symbian
- Windows
- Others
Time is not with you

The development gap

- You will be asked to build mobile applications
- Needs growth will always outpace resource growth
- How can you be more productive?
Mobile Enterprise Challenges
In Pursuit of Productivity and Connectivity

- Technology evolving at Consumer pace
  - iOS, Android, …
  - Different tools, languages, platforms, etc.

- User expectations are high
  - Biased by Consumer experiences

- IT optimized for web
  - Technology expertise, headcount, processes
  - Now must address demand for mobile
    - Multiple platforms and form factors
We’ll Just Use Our Existing Web Application
Adjusted Web UI for Mobile
Understand Your Mobile Requirement

- Which device are you targeting?
- What network are you using?
- Which device feature do you leverage?
- What is your end-users profile?
Mobile Development with Oracle Tools
3 Types of Mobile Application

**Mobile Web Apps**
- Online application accessed through mobile device browser
- Browser governs access to local storage and device services (camera, GPS, etc.)
- Highly reusable code
- Highly portable

**Native Mobile Apps**
- Application installed & runs on device
- Optimized for specific mobile platform and form factor
- Direct access to local storage and device services
- Code reuse can be complex
- Portability requires work

**Hybrid Mobile Apps**
- Application installed & runs on device with HTML5 UI
- Optimized for specific mobile platform & form factor
- Direct access to local storage and device services
- Code reuse simplified
- Portability simplified

Mobile Web App (Viewed in Safari)
Native App (iOS)
Oracle APEX

- Templates for mobile UI accessed from browser
- Based on jQuery Mobile components
Oracle ADF – Multi Channel Framework

Database

Legacy Systems

Web Services

Oracle Applications

Oracle ADF

Web

Mobile

Cloud

Office
Mobile Web Applications with Oracle ADF

Two Options

- Oracle ADF Faces
  - Targeting tablets
  - Good network
- Oracle ADF Mobile Browser
  - From feature phones to smart phones
  - Slower network
Oracle ADF Faces

Mobile Optimizations

- Touch gesture
- HTML5 rendering
- Flow layout
- Smart table
- More…
Oracle ADF Mobile Browser

Mobile Optimizations

- Supports smart and feature phones
- Adapts to Browser Capabilities
- 60+ components
- Mobile optimized css
Introducing Oracle ADF Mobile
Oracle ADF Mobile
New Hybrid Mobile Solution

Oracle ADF Mobile

Java

HTML5

Built On Standards

Use Existing Skills Set
ADF Mobile Overview

- Thin Native container on each platform
  - Allows for native application install
  - Allows for device interaction
- HTML5/JavaScript based Frontend
- Java Backend
UI Development

- Device native user experience
- Spring board and tab bar for feature navigation
- Advanced HTML5-based UI
  - Full animation, gesture, and touch interaction support
- Interactive Data Visualization Components
Business Services Development

- Code logic with Java
- Lightweight JVM
- Native library on device
- Easy access to remote services
  - SOAP
  - REST (JSON/XML)
Integrated Development Environment

Focused on Productivity

- Oracle JDeveloper Extension
- Declarative and visual development
- Integration with Apple Xcode and Android SDK
- Consistent tooling
  - Component based UI construction
  - Task Flows
  - Data Controls
  - Packaging
  - Deployment
  - Debugging
UI Content options

- **Local AMX File**
  - JSF-like file built visually in JDeveloper
  - Generated into HTML/JS on device at RT

- **Remote URL**
  - Any server-side HTML
  - ADF Mobile Browser Apps
  - ADF Faces Apps

- **Local HTML File**
  - Coded with any third-party HTML5 frameworks
ADF Mobile XML Components (AMX)

- XML format built visually in JDeveloper
- 50+ Components
- Declarative data binding
- Rendered into HTML5 on device at RT
Rich Component Set

• Basic Components
  -Currency
  -Alert
  -Highlight
  -Connect Using
  -Wifi
  -Item 1
  -Item 2
  -Item 3

• Lists
  -ListView
  -Forms

• Charts

• Gauge

• T-Maps

• Carousel

• GeoMap
ADF Controller

- Define the flow of your application
- Navigate between pages
- Similar to ADF Web Controller
ADF Binding – Simplify UI Creation

- Drag and drop service components to create UI components
- Drag data or methods
- Drop as various UI components
Device Features Interaction

- Leverages PhoneGap/Cordova
- Drag and drop to use
  - Email
  - SMS
  - Contacts
  - GPS
  - Camera
- Or access programmatically
Access and Security

- **Authentication:**
  - Out of the box integration with Oracle IDM
  - Offline authentication
  - Single login across Features

- **Access Control:**
  - Role based access

- **Encryption:**
  - Credential store
  - Local data
  - Communication channels
ADF Mobile Architecture

Device Native Container

- Java VM
- ADF Model
- Java Business Logic

Encrypted SQLite DB
ADF Mobile Architecture

Device Native Container

HTML5 & JavaScript Presentation
- ADF Mobile
- XML View
- Local HTML
- ADF Controller

Web View
- Server HTML

Java VM
- ADF Model
- Java Business Logic

Encrypted SQLite DB
ORACLE ADF MOBILE

ENOUGH WITH THE SLIDES!
ADF ACADEMY
FREE ONLINE COURSE ON ADF MOBILE

Summary

- Oracle ADF Mobile – On-Device iOS and Android Applications
- Abstract Complexity and Simplify Development
- Reuse your Java and ADF skills
- Learn More: http://oracle.com/ADF
Join the JDeveloper / ADF Community

Twitter
twitter.com/JDeveloper

Facebook
facebook.com/JDeveloper

Oracle’s JDeveloper PM blog
blogs.oracle.com/ JDeveloperpm
Let’s keep in touch!

Twitter
twitter.com/BlueberryCoder

Official blog
blogs.oracle.com/blueberry

ADF Insider Essentials channel
www.youtube.com/user/ADFInsiderEssentials