



Business Agility in Action.
Innovate. Transform. Grow

Best Practices for Building Mobile Applications

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05/09/2012

Mobile is the NEXT dominant phase of computing

Mobile is different:

- Transformational business models
- Faster lifecycles
- More iterative

Mobile/Wireless/Cloud



Client/Server



Web/Desktop



Host/Mainframe



IBM will play a significant part in this new era of mobile computing.

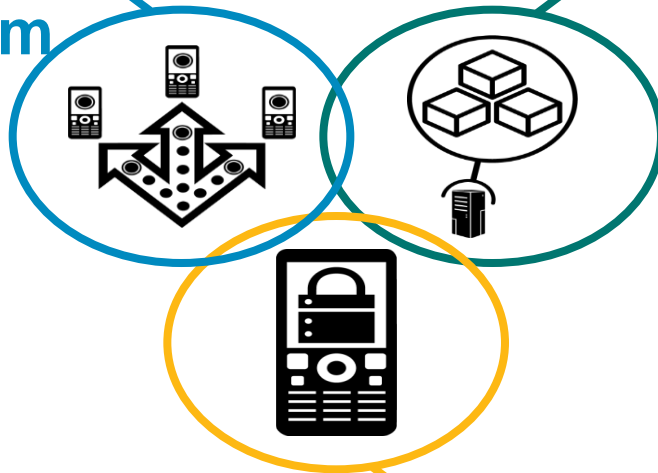


IBM addresses full range of mobile enterprise needs

Extend & Transform

Extend existing business capabilities to mobile devices

Transform the business by creating new opportunities



Build & Connect

Build mobile applications

Connect to, and **run** backend systems in support of mobile

Manage & Secure

Manage mobile devices, services and applications

Secure my mobile business



Addressing top mobile development pain points



Developing for multiple mobile platforms

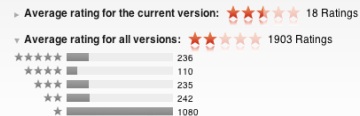
- Highly fragmented set of platforms, devices, languages, and tools **increases cost and complexity of development and test**
- Choosing not to support one or more platforms **reduces the reach of an application**



Delivering high quality apps that engage users and meet business objectives

- Poor quality can **negatively impact brand image**
- Bad ratings and comments can **cause other users to avoid trying an app**

Customer Ratings



Integrating with enterprise systems

- Recreating instead of leveraging existing business logic **increases maintenance costs and risk of inconsistent behavior**
- Lack of ready back-end services **slows front-end development and increases potential for last minute integration issues**



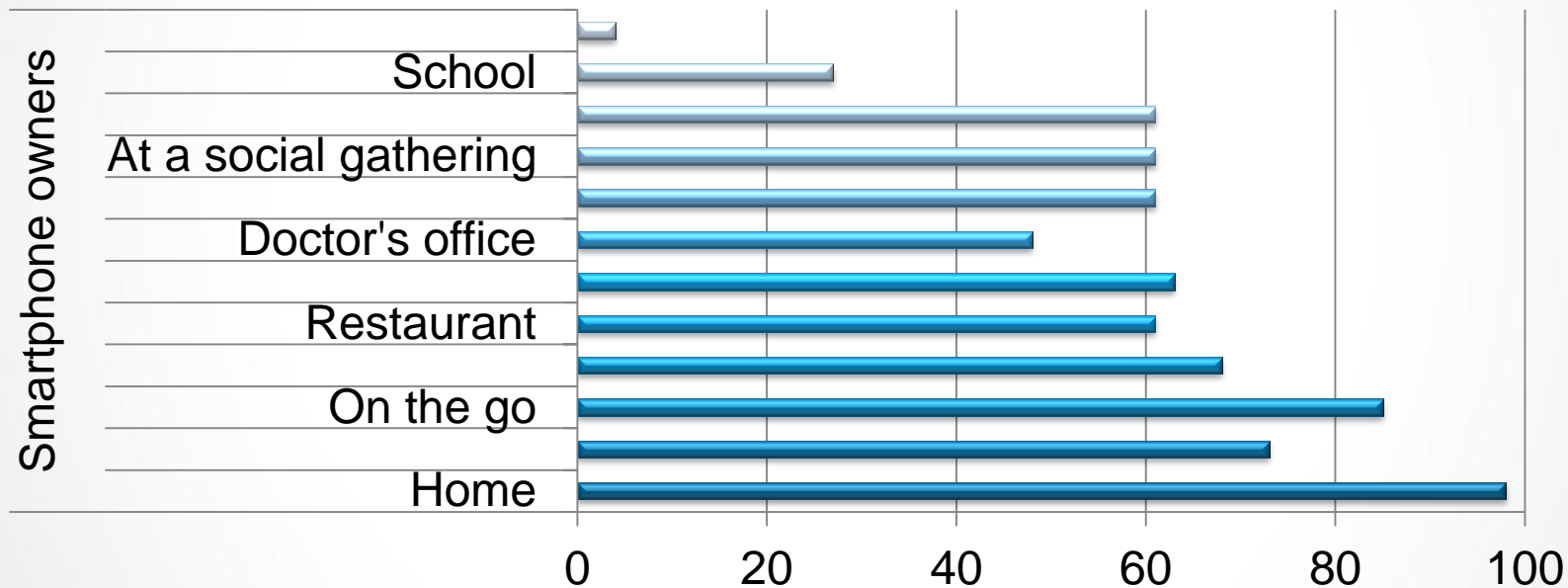
Meeting accelerated time to market requirements

- Hand-off errors and delays between teams **slows progress and responsiveness to features and fixes**
- Misalignment of stakeholders **results in late rework and increased cycle times**



Guideline 1: Know your customer

Smartphone usage location - Australia 2012

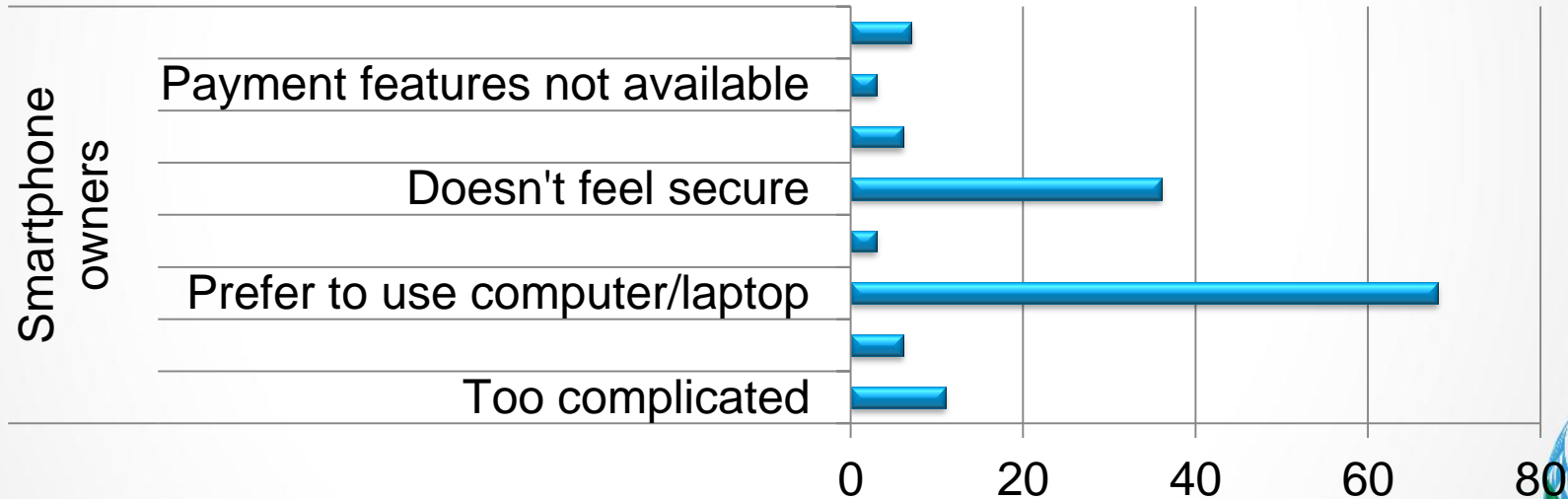


Source: www.ourmobileplanet.com



Guideline 1: Know your customer

Barriers to purchasing on smartphone - Australia 2012



Source: www.ourmobileplanet.com



Mobile is Different from Desktop



Sit back and read



Read while moving

Document-oriented



Message-oriented

Large complex apps



Purpose-built mini-apps

Context-neutral



Context-aware

Task-driven



Notification-driven

Mains powered



Battery-powered

Predictable network response



Unpredictable network response

Defined real estate (size)

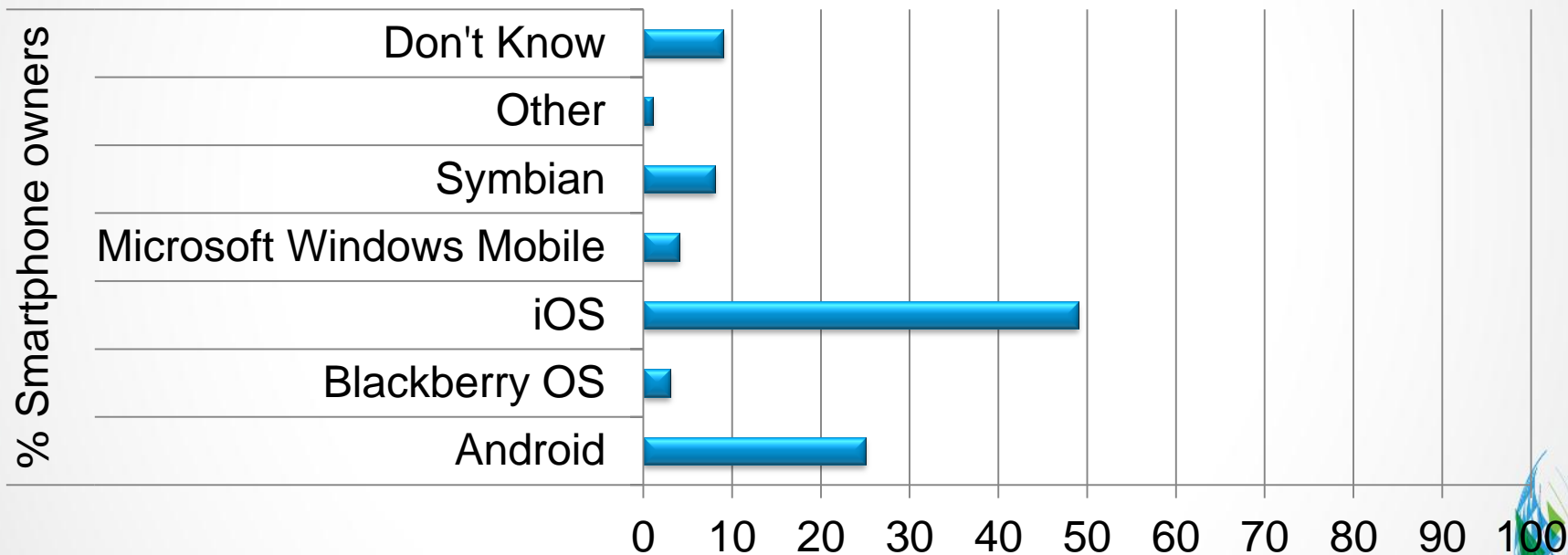


Variable real estate (size)



Guideline 1: Know your customer

Operating System - Australia 2012



Source: www.ourmobileplanet.com



Guideline 2: Develop for multiple mobile platforms



App development using native and/or familiar web technologies:

- HTML5
- CSS3
- JavaScript



App delivery in variety of forms:

- Mobile Web app
- Hybrid app
- Native



Compatible with prominent HTML5 libraries and tools:



Guideline 3: Design and functional quality critical to success



- Customers demand good user experience
- Customer facing (B2C) applications
 - ‘Face of the Business’
 - Engage customer personally and drive loyalty
 - User experience is key to brand perception
- Employee facing (B2E) applications
 - Increase worker productivity
 - Speed decision making and action
 - Poor user experience compromises investment



Customer Ratings



Focus on user experience first to achieve outside-in Design



Requirements Management (/rm)

JKE Banking (Requirements)

Project Dashboard Artifacts Collections Modules Reports

JKE Banking (Requirements) > JKE Business Recovery Matters Project > User Story Elaboration > Storyboards >

Go to Frame List 362: Dividend Contribution - Mobile

1 The app displays the Dividend Contribution screen

2 The user selects Choose an account to pay from

Overview

362: Dividend Contribution - Mobile

Description: JKE Banking - Mobile

Project: JKE Banking (Requirements)

Team Ownership: JKE Banking (Requirements)

Created On: Apr 21, 2012 11:14:17 AM

Created By: Bob

Modified On: Apr 21, 2012 12:13:19 PM

Modified By: Bob

Is Suspect: Select a profile

Type: Storyboard

Format: Storyboard

Status: Draft

Comments

Links (13)

Where Used

IBM

Unsupported browser

Jazz

- ✓ Collaborate as a team using comments and annotations
- ✓ Get feedback from non-technical stakeholders

Testing the end-to-end mobile solution



Testing involves much more than just the mobile front-end



Guideline 4: Integrate with existing systems



- Mobile applications need to connect to enterprise back-end data and services
- Existing programs and services may need to be modified for the mobile app
- Multiple skills will be involved, responsible for different parts of the mobile application

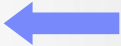
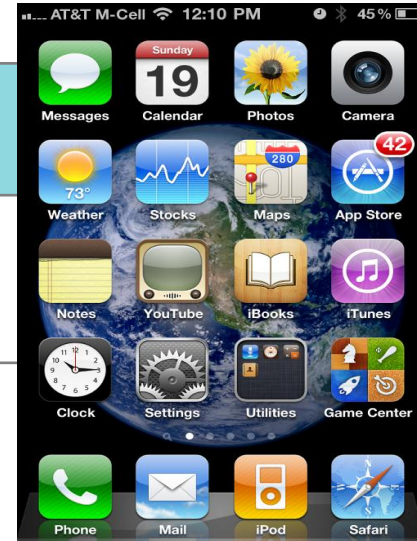


Guideline 5: Agility is key

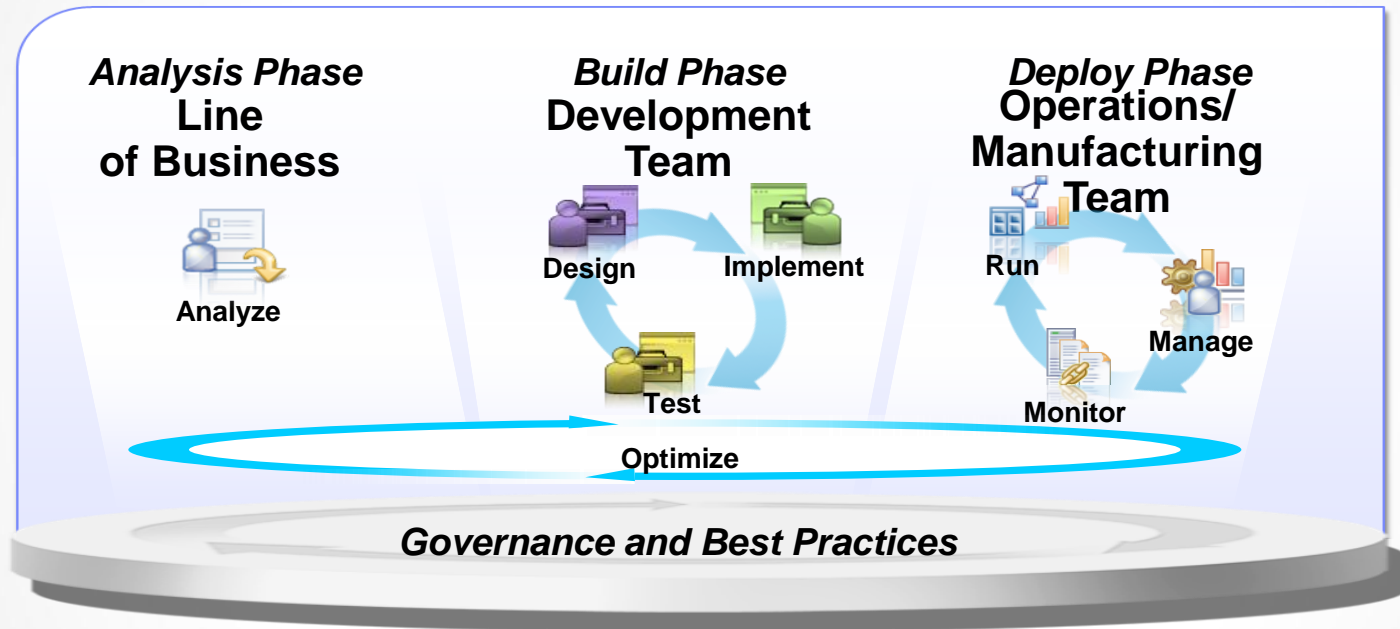
Meeting tight time-to-market requirements, mobile is pushing traditional delivery approaches to the breaking point



	Mobile Apps	Desktop Apps
Time-to-market	Weeks to Months	Months to Years
Frequency of updates	Once every several weeks	12-18 month cycles



Lastly, Mobile development is more than just coding



Coding is just one component of the mobile application development lifecycle



Guideline 6: Mobile development is a **team** sport

- Software development **involves a team of people** with diverse skills using different tools
 - Design, development, test, operations, etc.
- Tools can make or break collaboration
 - Fragmented tools create silos
 - Integrated tools break down barriers
- Effective development depends on ...
 - Defined goals
 - Transparency of progress and quality trends
 - **Aligning teams across the entire application development lifecycle**



IBM delivers a scalable and incrementally deployable mobile solution



Developing for multiple mobile platforms

- ✓ Cross-platform mobile web and hybrid app development, test, and build
- ✓ Manage plans, tasks, code, builds from a common development workbench
- ✓ Agile planning



Delivering high quality apps that engage users and meet business objectives

- ✓ Linkage and traceability across all phases of development
- ✓ UI sketching and storyboarding
- ✓ Test plan optimization and management and integration with mobile “Device-clouds”

Customer Ratings



Integrating with enterprise systems

- ✓ Integrate Worklight Studio with the Rational IDEs to create a comprehensive IDE for all parts of the app (UI, mid tier, back-end)
- ✓ Extend enterprise assets as mobile-consumable services and connect via Worklight adapters



Meeting accelerated time to market requirements

- ✓ Automate and manage continuous, end-to-end build and deployment process with RTC
- ✓ Deploy to private dev/test app
- ✓ Reduce cycle times by aligning dev and operations teams



Thank You

