



# IBM SolutionsConnect 2014

A New Era of Smart

March 13, 2014 | EDSA Shangri-La Hotel



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March 13, 2014 | EDSA Shangri-La Hotel

## MobileFirst in Action: Fresh Concepts in Mobile Application Development

Irma Kusuma  
WebSphere Technical Sales  
IBM Singapore





## Poll Question – 1

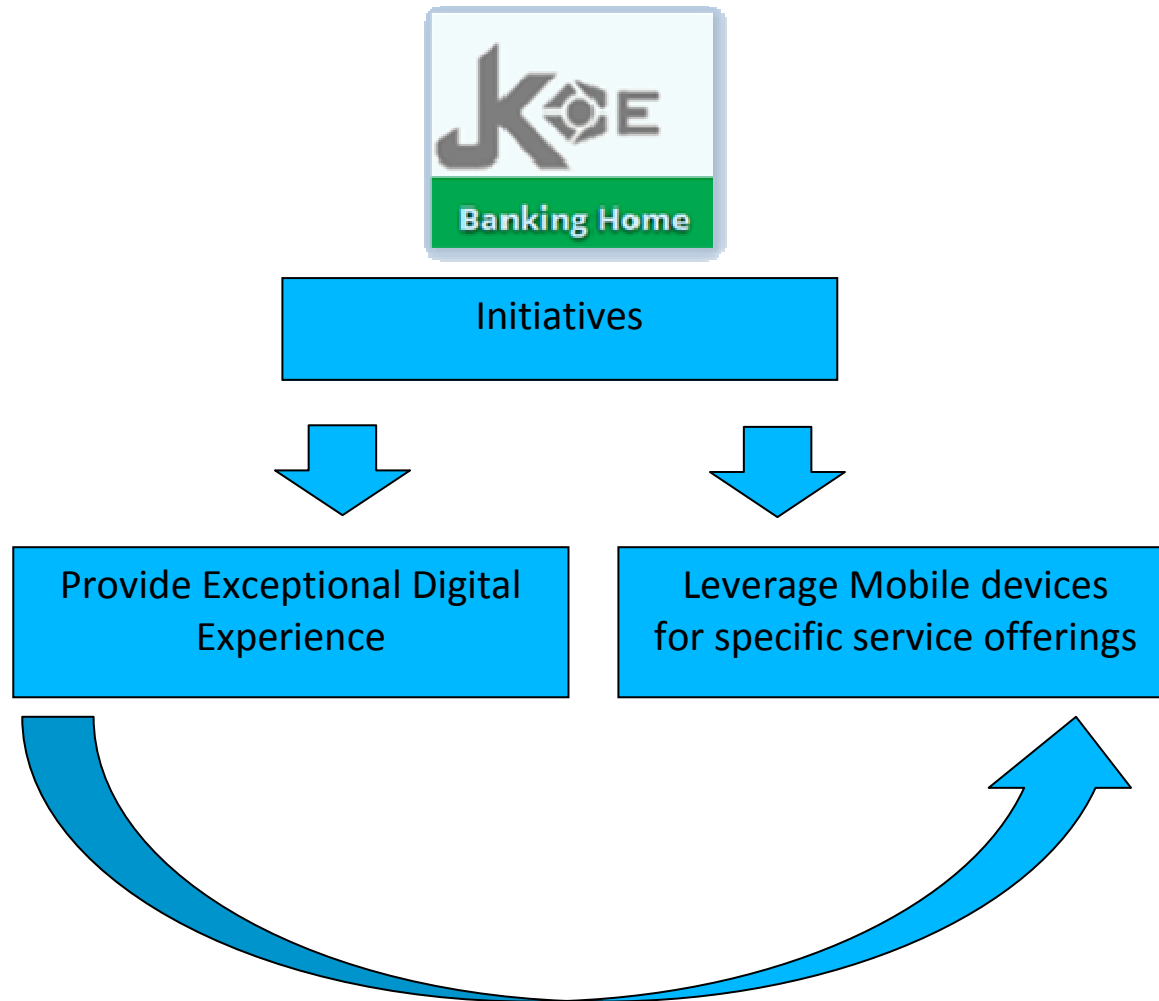
Do you have a mobile content strategy?

- A. Yes
- B. No
- C. We are going to have one soon.



## Scenario Context

- JKE Bank is a global financial institution serving clients across the world.
- JKE Bank provides a set of web-based, self-service applications, enabling its customers to access account information and other important services, minimizing the need to contact a call center or walk into a branch
- JKE Bank would like to build it's brand image by revamping the digital experience on all their channels
- JKE is embarking on a transformation program to provide exceptional digital experience to their customers
- This would involve creating great user experience on their web portal, regardless of form factor, as well as offer specific services leveraging inherent capability of mobile devices



**Continuously Build and deliver application**



## JKE Banks primary initiatives

- Provide **Exceptional Digital Experience** to its customers and staff on multiple channels
- **Build interactive and responsive** applications that it can deliver to the market faster, better and cheaper
- **Continuously deliver** the experience which the user wants



**1** *Mobile Analytics*

**2** Responsive UI Design

**3** Mobile Application Delivery



## Poll Question -2

How do you know if your customers are struggling with your web or Mobile App ?

- A. Don't Know
- B. Call center complaints
- C. Social Media complaints
- D. Poor rating and comments





## A Day in the Life of Customer Experience Management...

- Catherine is a world class marketer who works for JKE Bank. She serves in the bank's eChannels division.
- Catherine leads a team that recently started promoting its banking services portal on tablet devices.
- Catherine sources most of the marketing execution and support of the bank's public websites and social media to digital agencies.
- JKE Bank, with the help of its agency, made the decision to *leverage its standard web portal for tablet audiences*, as well





## A Day in the Life of Customer Experience Management...

- Catherine receives an email which alerts her to a mounting problem with the bank's tablet users.
- Catherine turns to her dashboard and drills down on the issue that indicates customers are increasingly spending an *unusually long time on the website but failing at trying to login.*
- As she replays and employ **usability analytics features**, *Catherine detects struggle using the heat map and scroll map overlays on the pages.*





## A Day in the Life of Customer Experience Management...

- She sees that users are repeatedly failing at the login screen. Next, Catherine observes that most of these users are also ultimately not scrolling to the area where the log-in error message is located because the user is zoomed in too tightly.
- Catherine then is able to isolate the issue to a segment of users for which the usability and content layout is not optimized for tablet experiences, especially mini tablet form factors.





## A Day in the Life of Customer Experience Management...

- Catherine determines this is a worthwhile issue to fix based on the inordinately high number of users affected.
- She has the system email a sample offending session to Peter, the website project manager with one of the bank's digital agency.
- Peter then accesses the replay and proceeds to redesign the page for a more optimal experience on tablets based on access to qualitative behavioral analytics.

Global Error Page	No	18
Global Error Page	Yes	16
Unknown Obstacle	No	329
Unknown Obstacle	Yes	44
Slow Response Time	No	14
Slow Response Time	Yes	13
Status Code Error	No	14
Status Code Error	Yes	17
Unhandled Exception	No	16
Unhandled Exception	Yes	12
<b>Totals</b>		<b>493</b>

[Email](#) [Replay](#)

Session ID	22921
Session Start	08/28/2013 00:30:20
Duration	00:00:00
Cancelled Pages	0
Avg Page Gen	0.210 (s)
Avg View Time	0.000 (s)

	Status	RT Time	Net Time	Gen Time	View Time	Size
	404	0.001	0.000	0.001	00:00:00	1
	200	0.680	0.062	0.618	00:00:00	32
	200	0.824	0.040	0.784	00:00:00	46
	200	1.055	0.049	1.006	00:00:00	56
	200	0.880	0.040	0.840	00:00:00	46
	200	2.001	0.046	1.955	00:00:00	47
	200	1.457	0.042	1.415	00:00:00	47
	200	1.594	0.042	1.552	00:00:00	47



## Collaborate by email sample offending sessions to IT

Report > Session List > Page List

Show query strings

[Email](#) [Replay](#)

**Session Summary**

TLTSID	3ECE27EB63405EA03DFE570DA44D9074	Session ID	22921
Page Count	8	Session Start	08/28/2013 00:30:20
Total Events	73	Duration	00:00:00
Connection Type	DSL	Cancelled Pages	0
Avg Round Trip	0.218 (s)	Avg Page Gen	0.210 (s)
Avg Network Trip	0.000 (s)	Avg View Time	0.000 (s)

Page	Events	URL	Status	RT Time	Net Time	Gen Time	View Time	Size
1		/spholiday	404	0.001	0.000	0.001	00:00:00	1
2		/store/	200	0.680	0.062	0.618	00:00:00	32
3		/store/index.php/olympus-stylus-750-7-1mp-digital-camera.html	200	0.824	0.040	0.784	00:00:00	46
4		/store/index.php/electronics/digital-cameras	200	1.055	0.049	1.006	00:00:00	56
5		/store/index.php/catalog/product/view/id/48/s/kodak-easysshare-c530-5mp-digital-camera/category/12/	200	0.880	0.040	0.840	00:00:00	46
6		/store/index.php/checkout/cart/	200	2.001	0.046	1.955	00:00:00	47
7		/store/index.php/checkout/cart/	200	1.457	0.042	1.415	00:00:00	47
8		/store/index.php/checkout/cart/	200	1.594	0.042	1.552	00:00:00	47



For Individuals For Businesses Access My Account

Login Home Contact Us En Español Search: [input] Go

Insurance Investments Banking

**TIME TO REMODEL?**  
**4.25% APR HELOC**  
 Start your next house project with a great rate

[Learn more about home equity](#)

**Access My Account**

Login for Individuals:  
 Select

Login for Business

Sign up  
 Privacy & Security


1-877-645-7788  
 Live Customer Care:  
 M-F, 8 a.m.-8 p.m. ET  
 More Contact Information

- Savings & Checking**
  - Deposit Rates
  - Money Market Account
  - CD Account
  - Checking Account
  - Savings Account
  - IRA
- Loans & Lines of Credit**
  - Loan Rates
  - Home Equity Loans & Lines
  - Mortgage Loans
  - Auto Loans
  - Boat, RV, Motorcycle Loans
- Credit & Prepaid Cards**
  - Visa Credit Card
  - Bank Card
  - Debit Card
  - Visa Gift Cards
- Tools & Calculators**
  - ATM Locator
  - General Loan Calculators
  - Auto Loan Calculators
  - Credit Card Calculators
  - Mortgage Calculators
  - Savings Calculators
- Bank Resource Center**
  - Log in to Online Banking
  - Sign up for Online Banking
  - Tools & Calculators
  - Learn About Banking
  - Printable Bank Forms

### Home Equity Loans and Lines of Credit

The equity in your home can help you pay a lower interest rate for your projects and expenses. Choose a home equity loan for a lump-sum payment or a home equity line of credit to take out money as you need it.

Use your home equity loan or line of credit for home projects, debt consolidation, education expenses, medical costs and new car financing.

**HOME EQUITY LOANS**

Enjoy the benefit of a fixed rate with a home equity loan today

[Learn about home equity loans](#)

[APPLY NOW](#)



**HOME EQUITY LINE OF CREDIT**

Find the flexibility you need for your expenses with a home equity line of credit

[Learn about home equity lines of credit](#)

[APPLY NOW](#)





TO REMODEL?  
% APR HELOC  
next house project with a great rate  
about home equity

**Loans & Lines of Credit »**

- [Loan Rates](#)
- [Home Equity Loans & Lines](#)
- [Mortgage Loans](#)
- [Auto Loans](#)
- [Boat, RV, Motorcycle Loans](#)

**Credit & Prepaid Cards »**

- [Visa Credit Card](#)
- [Buxx Card](#)
- [Debit Card](#)
- [Visa Gift Cards](#)

**Tools & Calculators »**

- [ATM Locator](#)
- [General Loan Calculators](#)
- [Auto Loan Calculators](#)
- [Credit Card Calculators](#)
- [Mortgage Calculators](#)
- [Savings Calculators](#)

[Log In](#) | [Home](#) | [Contact Us](#) | [En Español](#)

Search:

[Businesses](#)

[Access My Account](#)



### Access My Account

Login for Individuals:

[Login for Business](#)

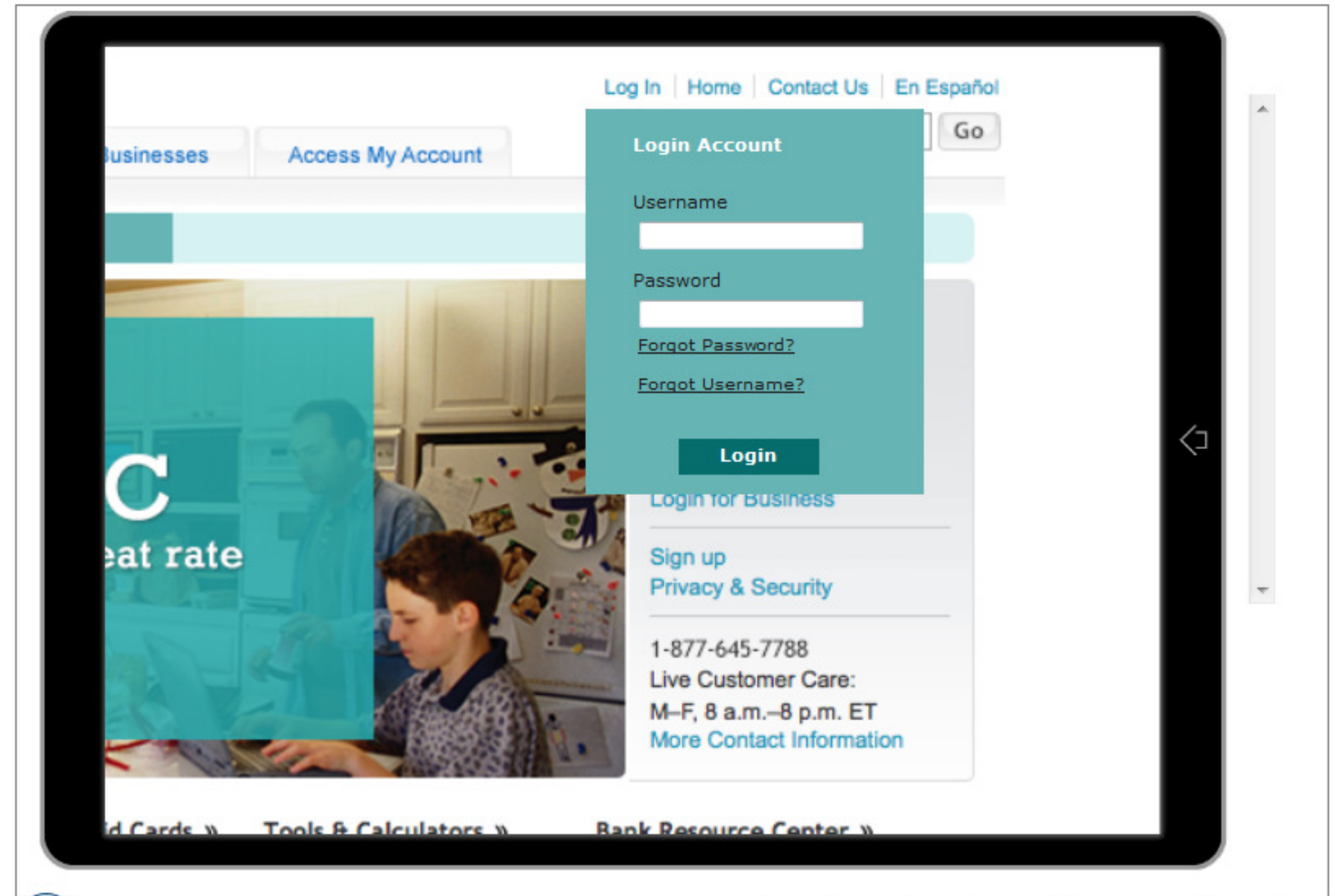
[Sign up](#)  
[Privacy & Security](#)

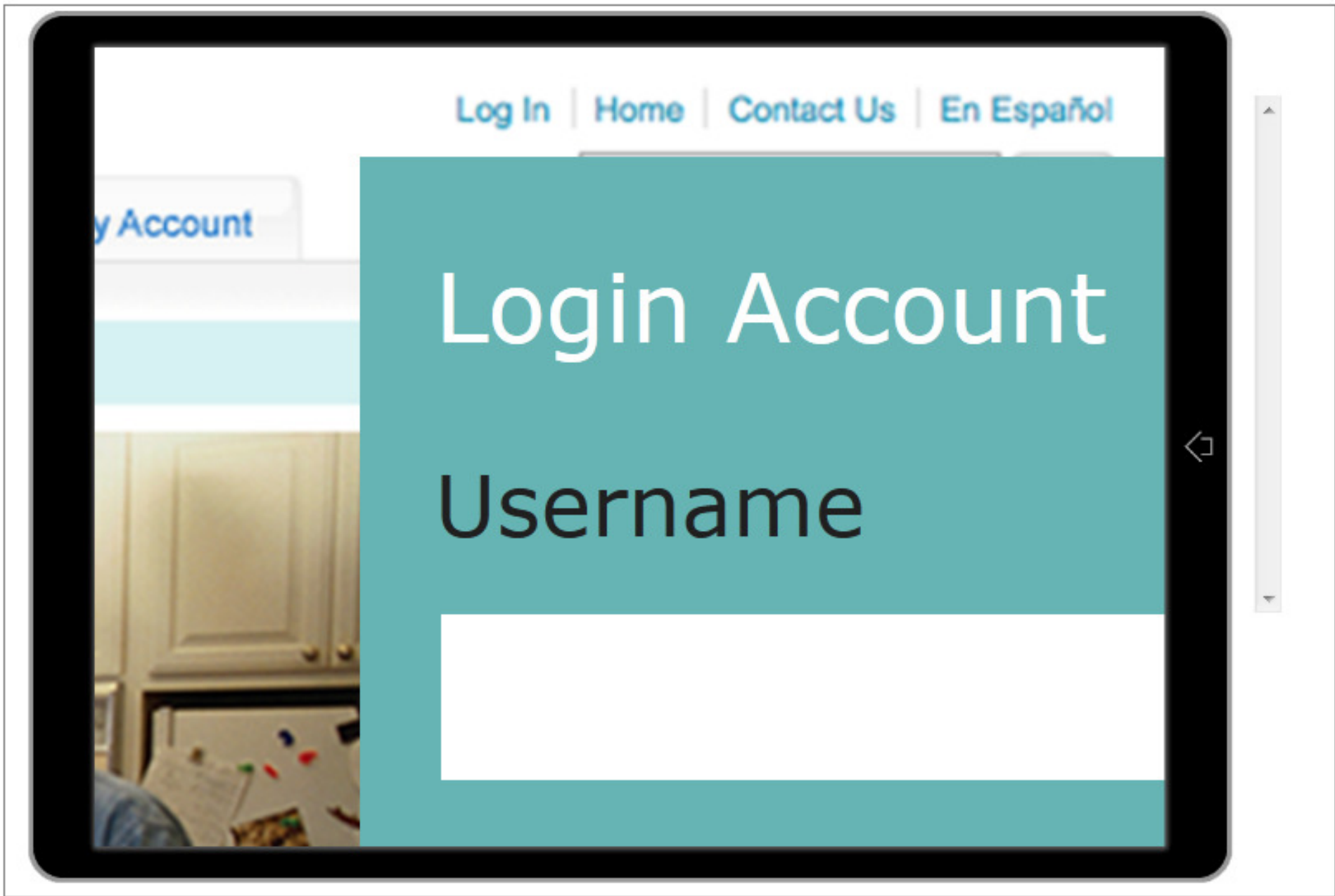
1-877-645-7788  
Live Customer Care:  
M-F, 8 a.m.-8 p.m. ET  
[More Contact Information](#)

[id Cards »](#) [Tools & Calculators »](#) [Bank Resource Center »](#)



The screenshot shows a tablet displaying a website. At the top right, there is a navigation menu with links for [Log In](#) (highlighted with a green box), [Home](#), [Contact Us](#), and [En Español](#). Below this is a search bar with the text "Search:" and a "Go" button. On the left side, there are buttons for [Businesses](#) and [Access My Account](#). The main content area features a large image of a man and a boy in a kitchen, with a teal overlay containing a large white letter 'C' and the text "eat rate". To the right of the image is a grey sidebar titled "Access My Account" with a lock icon. It contains the following text: "Login for Individuals:", a "Select" dropdown menu, "Login for Business", "Sign up", "Privacy & Security", "1-877-645-7788", "Live Customer Care:", "M-F, 8 a.m.-8 p.m. ET", and "More Contact Information". A vertical scrollbar is visible on the right side of the tablet screen.







Screen Action: Rotate ↻

Log In | Home | Contact Us | En

S

Login Account

Email Address



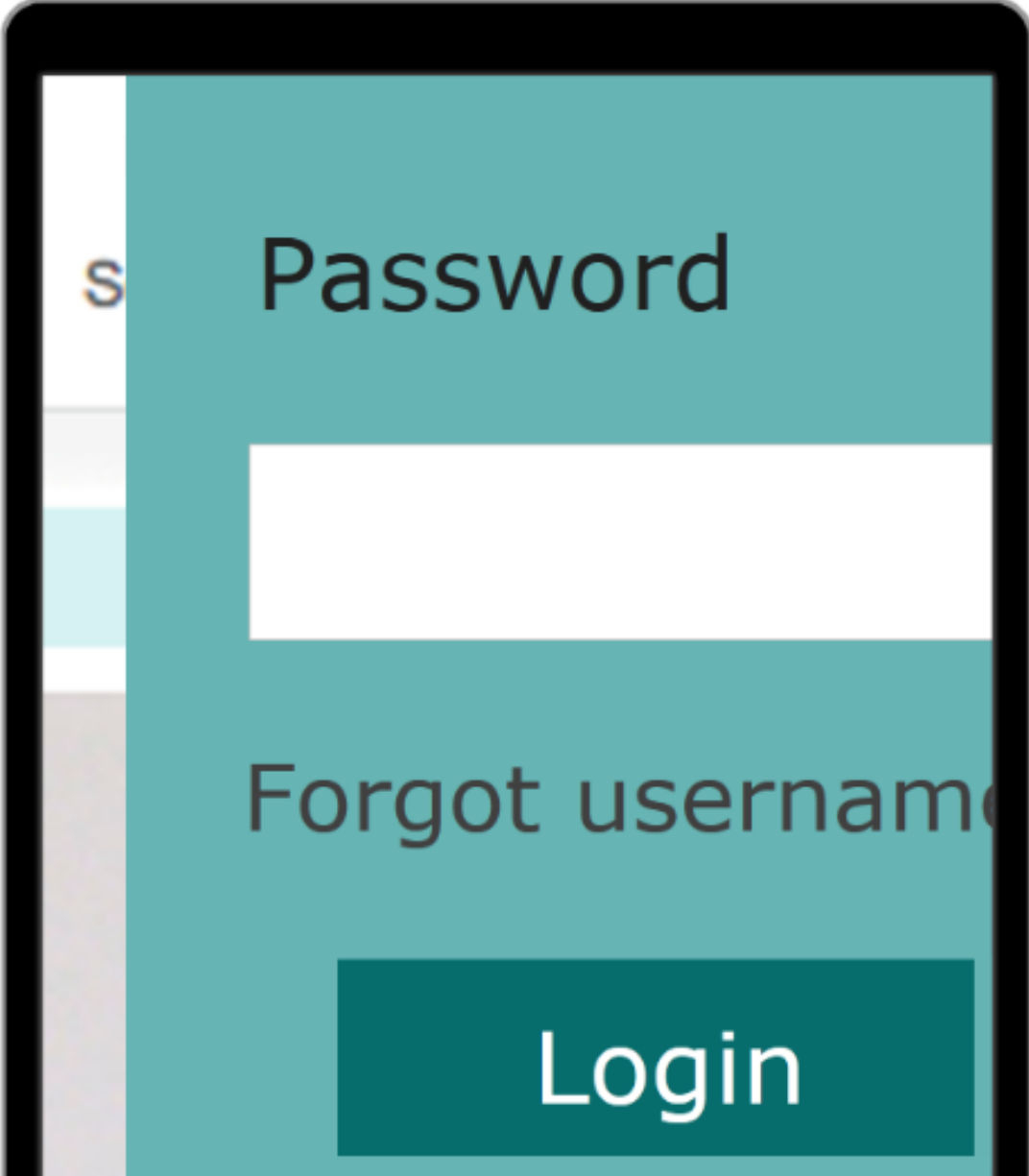


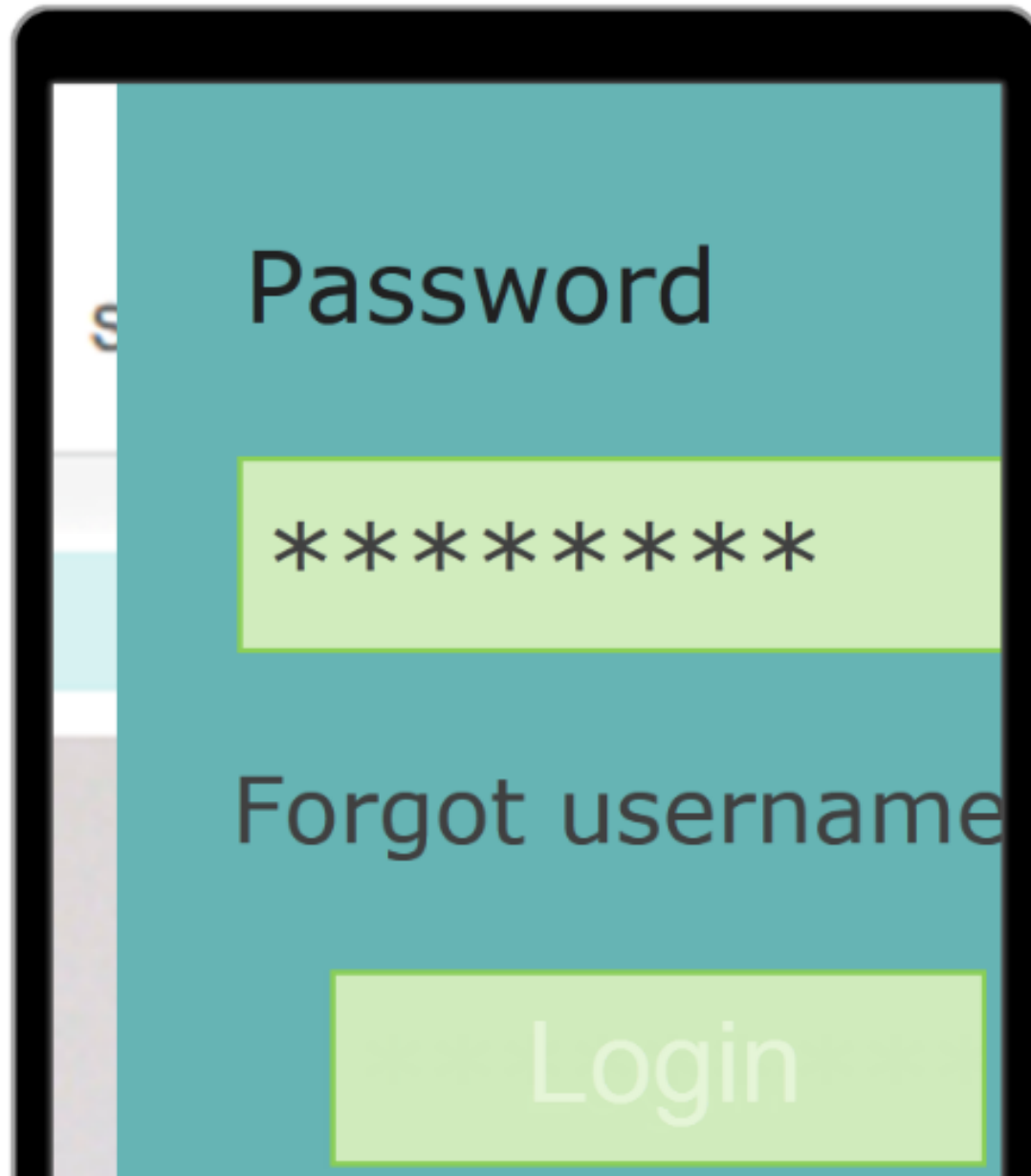
Log In | Home | Contact Us | En

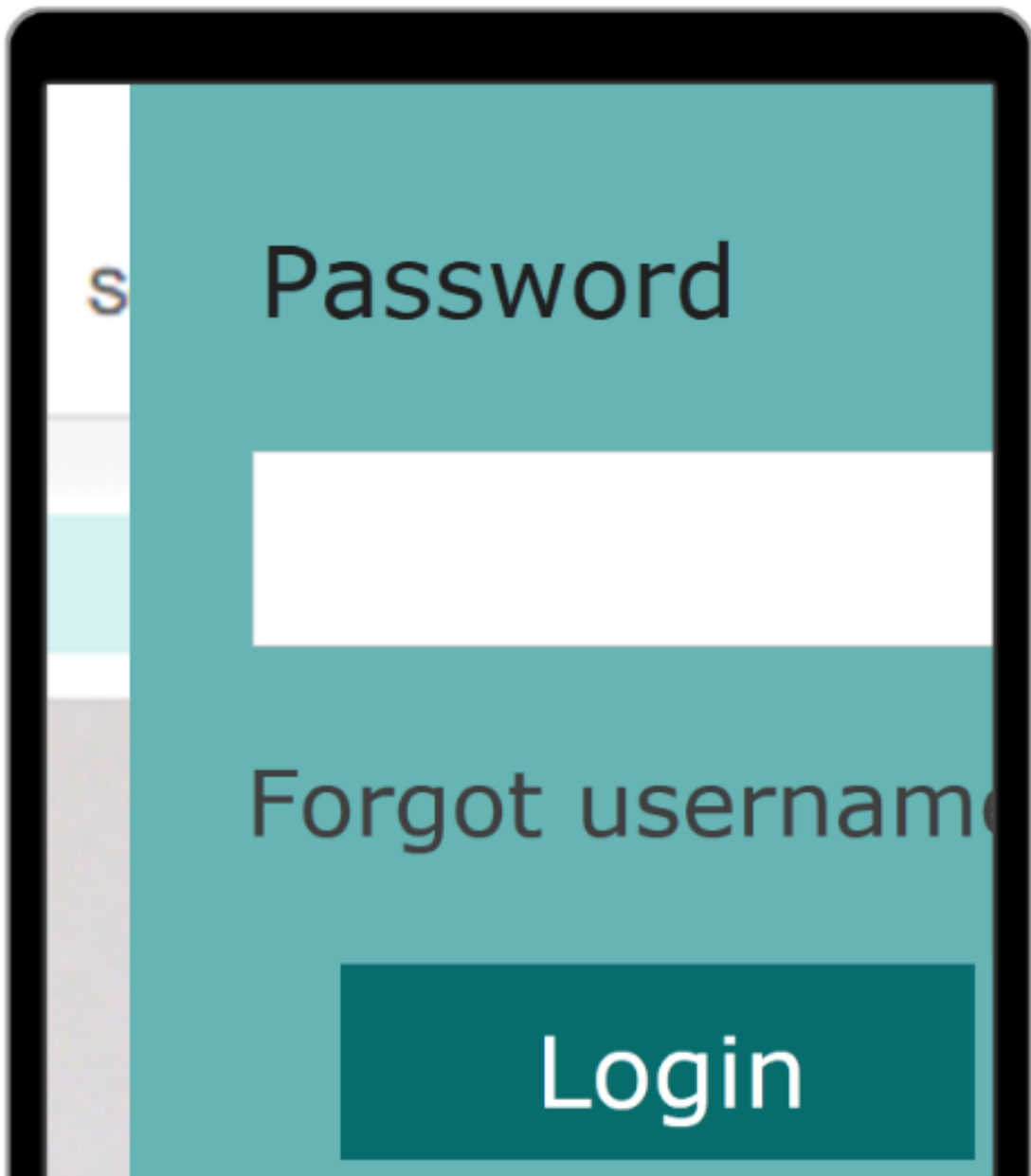
# Login Account

## Email Address

roblastname@gmail.com











s Password

Forgot username

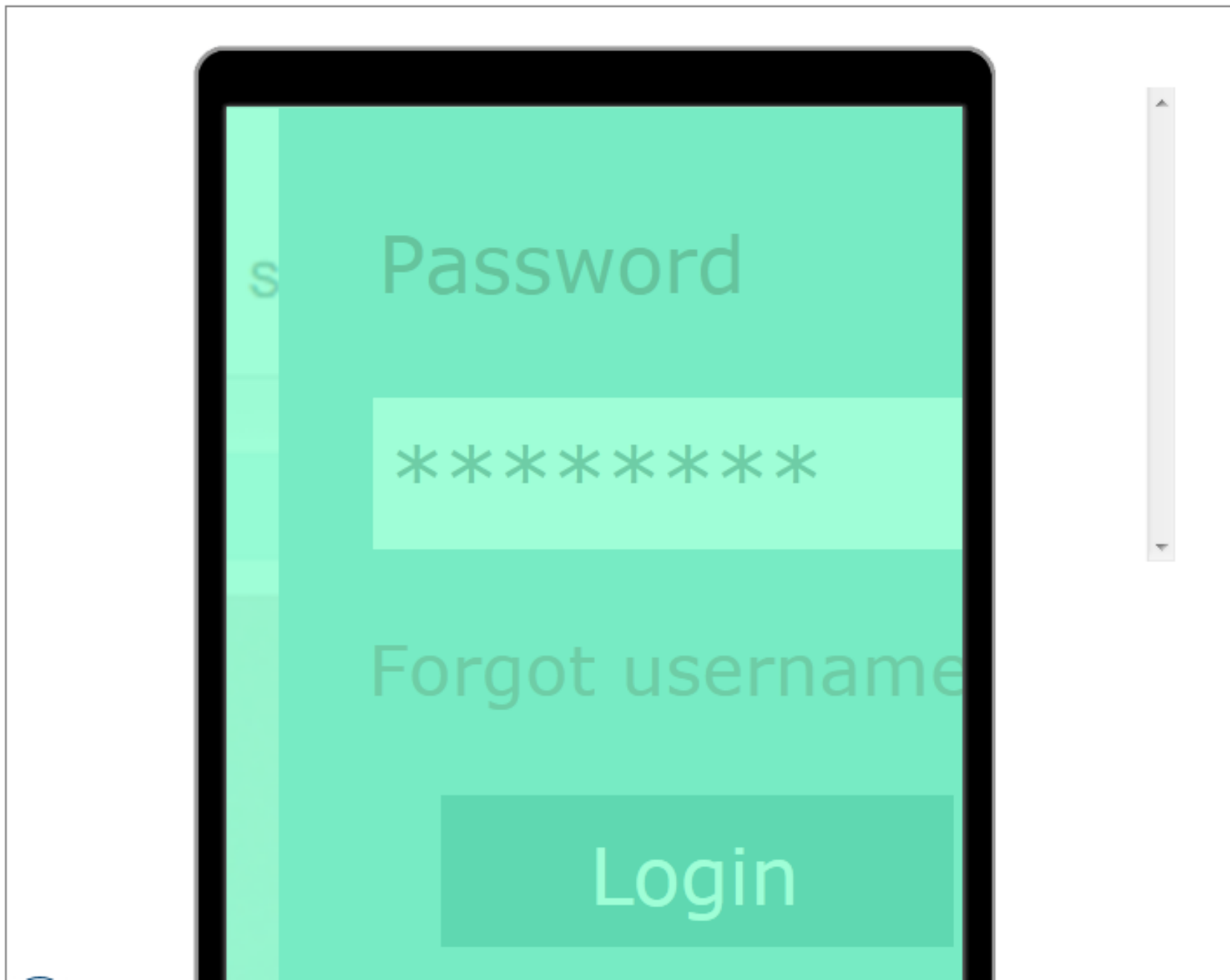
Login



Start Replay Previous Next Request Response Replay Attention Map Close

04/01/2013 Filter by date: <Add Dimension> Drill down selector:

Browser: Safari Browser Platform: Apple IOS Browser Major Version: IOS 6.2 Traffic Type: Tablet Replay Render: Safari|HTML

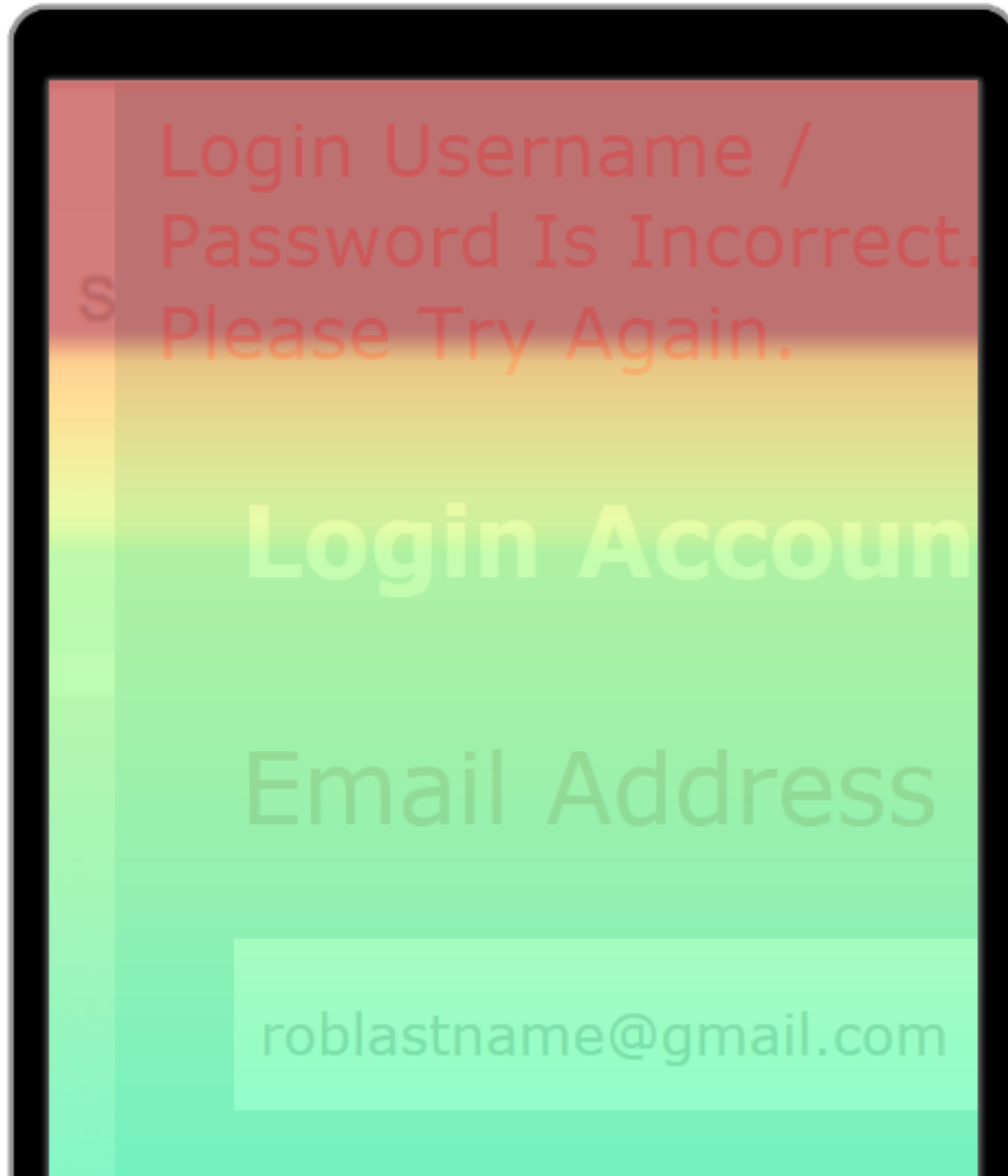


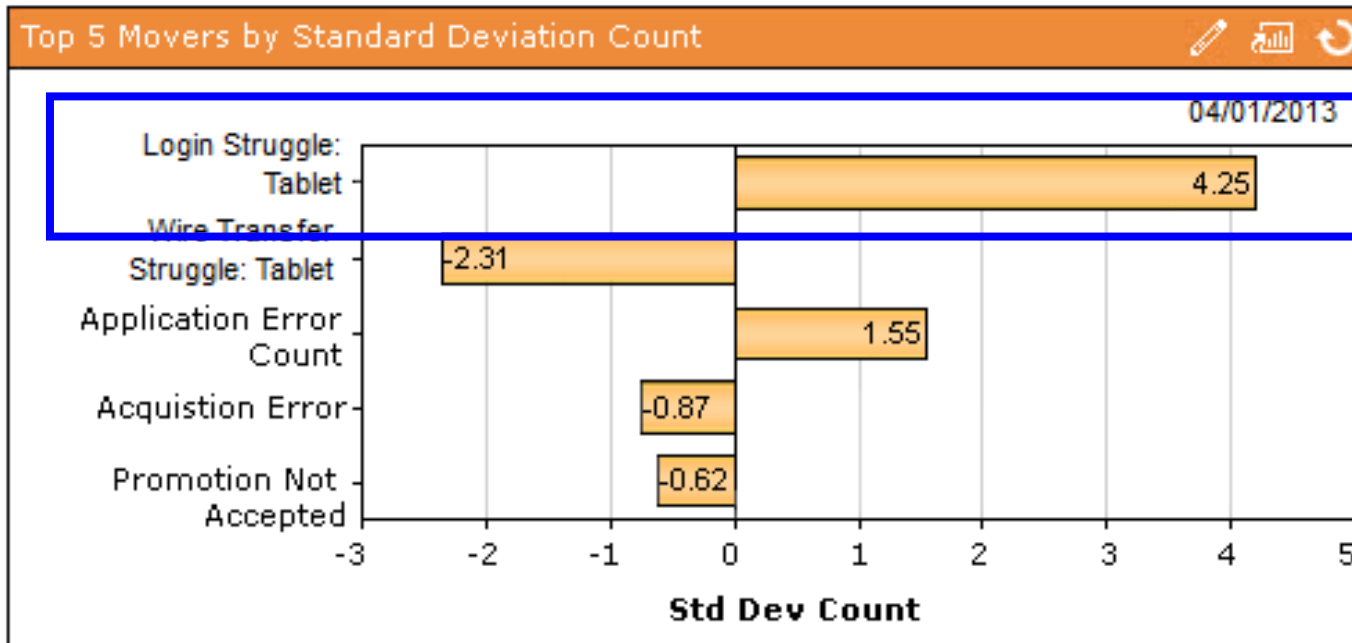


Start Replay Previous Next Request Response Replay Attention Map Close

04/01/2013 Filter by date: <Add Dimension> Drill down selector: [Icons]

Browser: Safari Browser Platform: Apple iOS Browser Major Version: iOS 6.2 Traffic Type: Tablet Replay Render: Safari|HTML







1 Mobile Analytics



2 ***Responsive UI Design***

3 Mobile Application Delivery



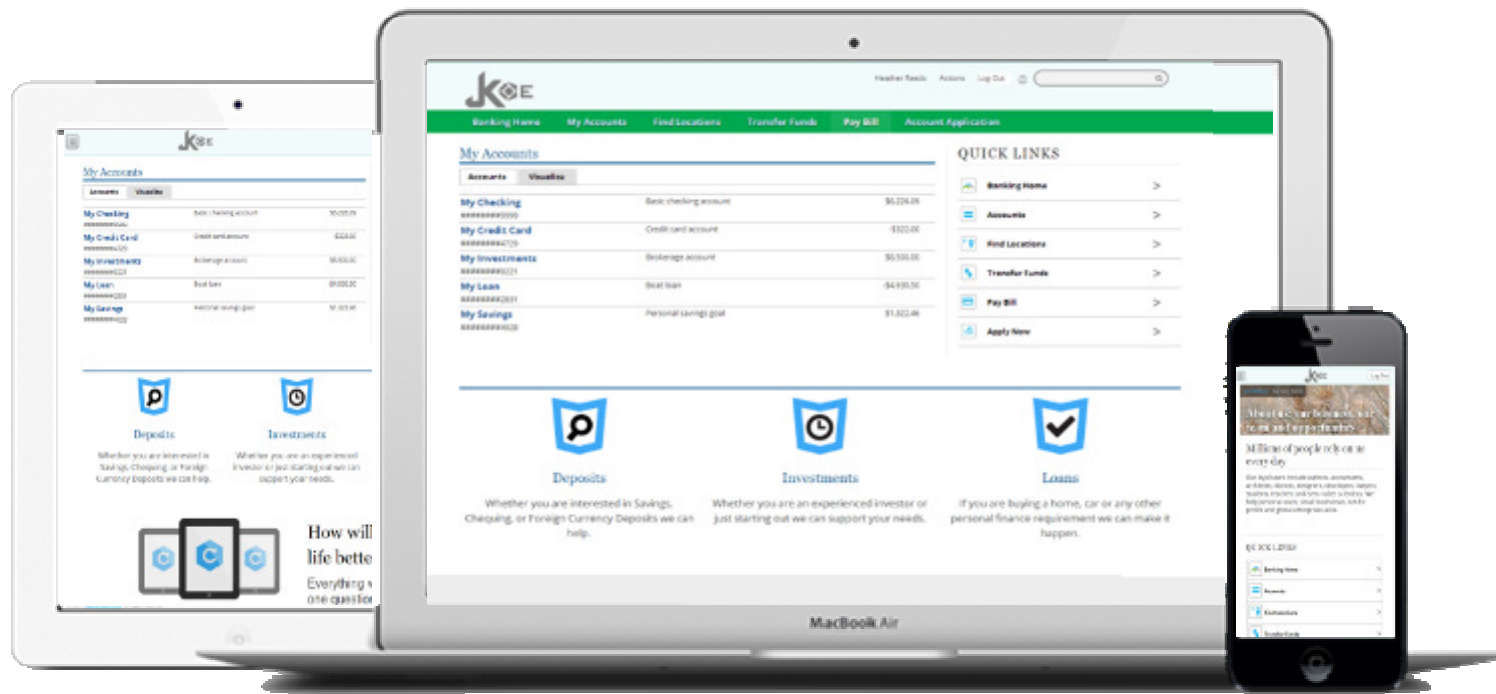
## Poll Question -3

Have you identified key services and information to serve the mobile interfaces you will target?

- A. Yes
- B. No
- C. Can't say



## Let's See How JKE Bank can Address this Business Problem...





Meet Sandra

She is a valued customer



She needs an Exceptional Digital Experience while banking anytime and anywhere





Her banking details on her laptop

The screenshot displays a banking portal for 'KOE'. The top navigation bar includes 'Banking Home', 'My Banking Home', 'My Account', 'My Accounts', 'Find Locations', 'Transfer Funds', 'Pay Bill', and 'Account Application'. The user is identified as 'Heather Reeds' with options for 'Actions' and 'Log Out'.

**My Accounts** (Left Column):

- My Checking: \*\*\*\*\*9999
- My Credit Card: \*\*\*\*\*4729
- My Investments: \*\*\*\*\*9221
- My Loan: \*\*\*\*\*2831
- My Savings: \*\*\*\*\*4928

**My Checking** (Middle Column):

Date	Type
06/24/2013 01:43 PM	All
06/24/2013 01:42 PM	All
06/21/2013 01:31 PM	All
06/21/2013 01:29 PM	All
06/21/2013 01:20 PM	All
06/21/2013 01:27 PM	All
06/21/2013 11:39 AM	All
06/21/2013 11:38 AM	All
06/21/2013 11:38 AM	All
06/21/2013 11:38 AM	All

**My Accounts** (Right Column - Balances for all accounts):

Balances for all accounts

- My Investments: \$8,500
- My Checking: \$6,226.09
- My Savings: \$1,322.46

**QUICK LINKS** (Far Right):

- Banking Home
- Accounts
- Find Locations
- Transfer Funds
- Pay Bill
- Apply Now

**Service Tiles:**

- Deposits:** Whether you are interested in Savings, Chequing, or Foreign Currency Deposits we can help.
- Investments:** Whether you are an experienced investor or just starting out we can support your needs.
- Loans:** If you are buying a home, car or any other personal finance requirement we can make it happen.

Footer: A New Era of Smart (left), IBM logo (right)



She starts a new account application at home

Heather Reeds Actions Log Out

Banking Home My Accounts Find Locations Transfer Funds Pay Bill Account Application

Do Banking > Account Application

Please follow the steps below to open an account.

### Account Application

#### Basic Information (1 of 4)

Last Name *	<input type="text" value="Reeds"/>	Primary ID Type	<input type="text" value="Drivers License"/>	Name On Card	<input type="text" value="Heather Reeds"/>
First Name *	<input type="text" value="Heather"/>	Primary ID Number *	<input type="text" value="123"/>	Date Of Birth	<input type="text" value="-"/>
Middle Name	<input type="text"/>	Additional ID Type	<input type="text" value="Social Security Number"/>	Nationality	<input type="text" value="Singapore (SG)"/>
		Additional ID Number	<input type="text" value="124"/>	Gender	<input type="radio"/> Male <input checked="" type="radio"/> Female


Welcome to the JKE Bank Account Opening Experience

This account application is just one of our digital services delivered ANYTIME and ANYWHERE.

But realizes she has an appointment...



## An email to re-engage


 **To:** Heather\_Reeds@email.com,  
**Cc:**  
**Bcc:**  
**Subject:** JKE Bank - Application Finished?  
Default custom expiration date: 11/07/2014

Hi Heather,

We noticed your application for a new account was not completed. Would you like to continue the application?

If so we have preserved your data and you can start where you left off by clicking [here](#).

Thanks for banking with ~~JKE~~ Bank





Smartphone to enter details? No problem.

The screenshot shows a desktop browser window with the JKE Bank logo and a 'Log Out' button. The page title is 'Do Banking > Account Application'. A banner image with pink flowers and a building contains the text 'Please follow the steps below to open an account.' Below this is a section titled 'Contact Information (3 of 4)'. The form includes fields for 'Home Phone' (+65 6666-4444), 'Mobile Phone' (+65 9999-4444), 'Primary Phone Choice' (radio buttons for Home and Mobile, with Mobile selected), 'Email Address 1', 'Email Address 1 Confirm', 'Email Address 2', 'Email Address 2 Confirm', and 'Preferred Statement Choice' (radio buttons for Electronic and Paper, with Electronic selected). At the bottom of the form are 'Back' and 'Next' buttons. Below the form is a heading 'Welcome to the JKE Bank Account Opening Experience' and a sub-heading 'This account application is just one of our digital services delivered ANYTIME and ANYWHERE.' The browser's address bar and taskbar are visible at the bottom.

The screenshot shows a smartphone browser window with the JKE Bank logo and a 'Log Out' button. A search bar at the top contains the text 'Search Site'. Below the search bar is a navigation menu with the following items: 'Banking Home', 'My Accounts', 'Find Locations', 'Transfer Funds', 'Pay Bill', and 'Account Application' (highlighted in blue). Below the menu is a banner image with pink flowers and a building containing the text 'Please follow the steps below to open an account.' Below this is a section titled 'Contact Information (3 of 4)'. The form includes fields for 'Home Phone' (+65 6666-4444), 'Mobile Phone' (+65 9999-4444), and 'Primary Phone Choice' (radio buttons for Home and Mobile, with Mobile selected). The browser's address bar and taskbar are visible at the bottom.



Sandra can complete the details on-the-go and get aided by her GPS on the closest branch where she can finalize process.

☰ **KOE** Log Out

### Bank Locations

[Find Nearby Locations](#)

**List** **Map**

- Branch 2394.0 miles**  
399 Ke Yuan Road, Zhangjiang Hi-Tec...  
[Shanghai Get Directions](#)
- ATM 2395.0 miles**  
1st Floor Simulated Location  
[Shanghai Get Directions](#)
- ATM 2395.0 miles**  
1st Floor Simulated Location  
[Shanghai Get Directions](#)
- ATM 2396.0 miles**  
1st Floor Simulated Location  
[Shanghai Get Directions](#)
- ATM 4069.0 miles**  
NH02, Level 2 601 Pacific Highway  
[St. Leonards Get Directions](#)

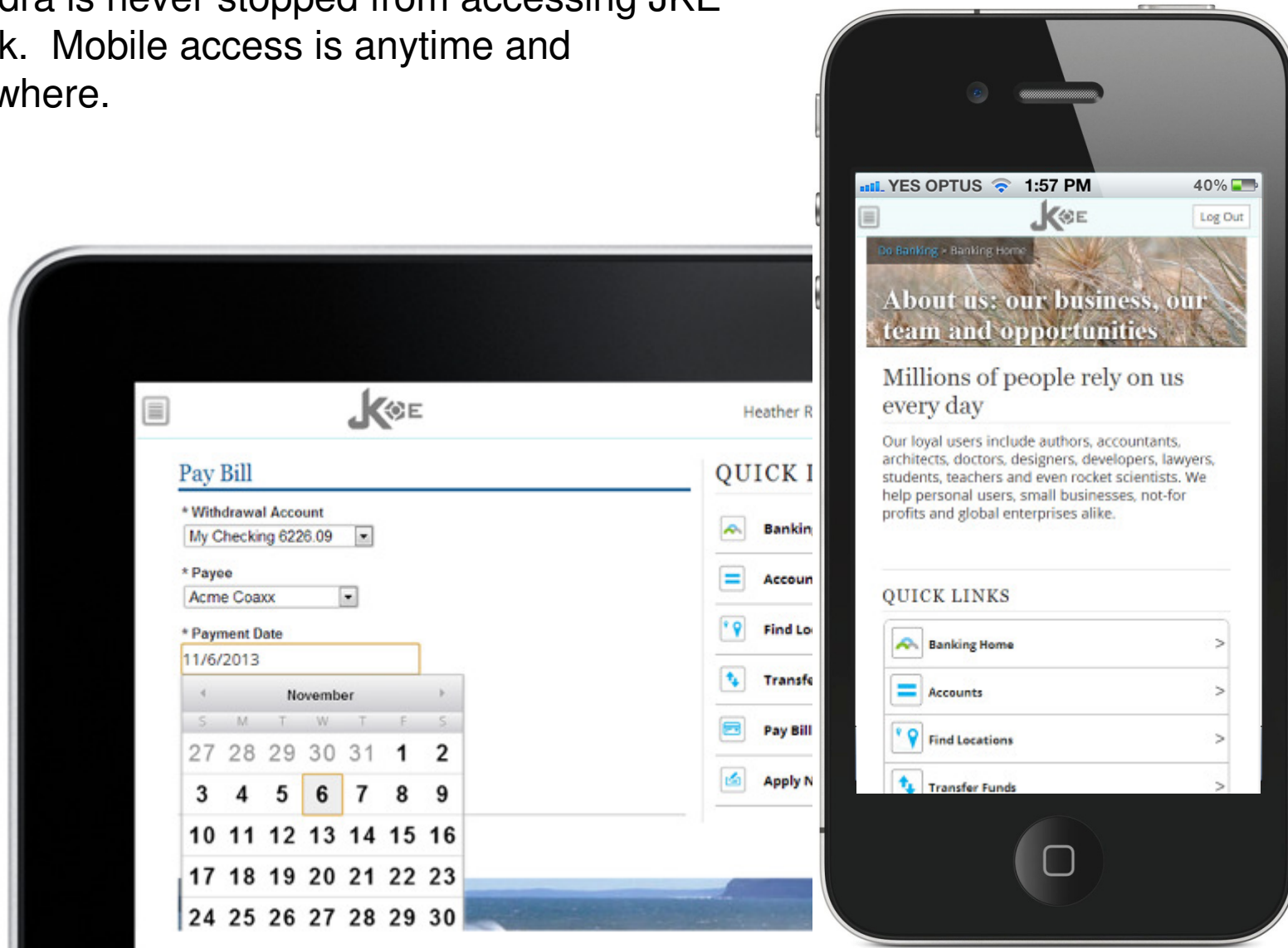
### QUICK LINKS

- Banking Home** ▾
- Accounts** ▾
- Find Locations** ▾
- Transfer Funds** ▾
- Pay Bill** ▾





Sandra is never stopped from accessing JKE Bank. Mobile access is anytime and anywhere.





Quick interlude...let's see it in action

The screenshot shows a banking portal with the following elements:

- Header:** K&E logo, user name Heather Reed, Actions, Log Out, and a search bar.
- Navigation:** Banking Home, My Accounts, Find Locations, Transfer Funds, Pay Bill, Account Application.
- My Accounts Section:**

Account Name	Account Type	Balance
<b>My Checking</b> #####9999	Basic checking account	\$6,226.09
<b>My Credit Card</b> #####4729	Credit card account	-\$322.00
<b>My Investments</b> #####9221	Brokerage account	\$8,500.00
<b>My Loan</b> #####2831	Boat loan	-\$4,930.50
<b>My Savings</b> #####4928	Personal savings goal	\$1,322.46
- QUICK LINKS Section:**
  - Banking Home
  - Accounts
  - Find Locations
  - Transfer Funds
  - Pay Bill
  - Apply Now
- Service Promotions Section:**
  - Deposits:** Whether you are interested in Savings, Chequing, or Foreign Currency Deposits we can help.
  - Investments:** Whether you are an experienced investor or just starting out we can support your needs.
  - Loans:** If you are buying a home, car or any other personal finance requirement we can make it happen.



Meet Garland

He is a Channels Representative



He needs the bank to have the right message for the right channel





Garland needs to make his content appropriate for the channel with targeting features

The screenshot displays a banking website interface. At the top, there is a navigation bar with the following items: Banking Home, My Accounts, Find Locations, Transfer Funds, Pay Bill, and Account Application. Below the navigation bar, there is a main content area with a banner image and the text "About us: our business, our team, our opportunities". Below the banner, there is a headline "People rely on our banking services every day" and a sub-headline "People rely on our mobile banking services every day". A "Targeted Spot" overlay is visible on the right side of the page, showing the content "People rely on our mobile banking services every day" and a "Segments" section with a "Smartphone User" segment selected. Two blue arrows point from the overlay to the main content area.

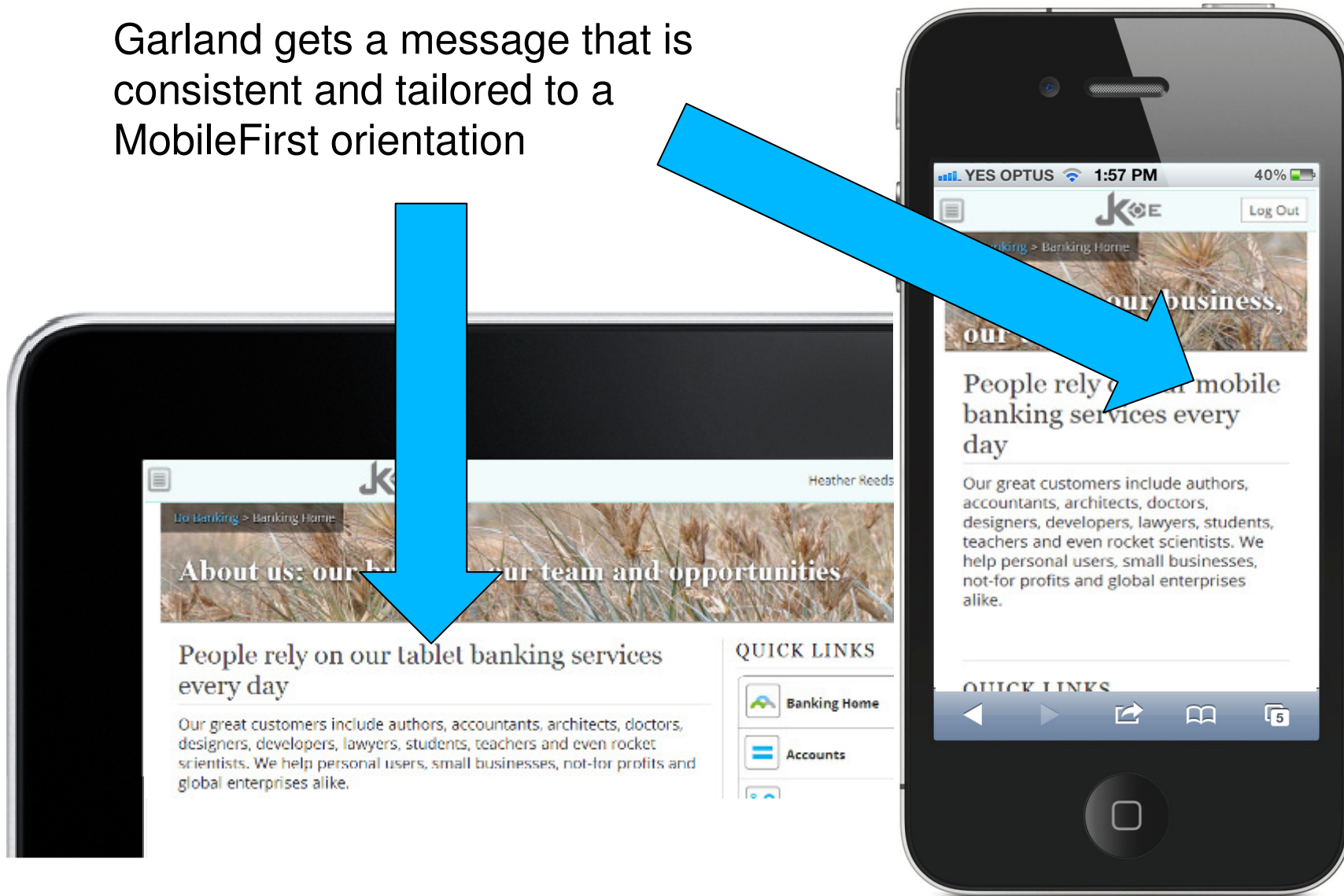


Garland configures the targeting in WYSIWYG interface and inline to the page


The screenshot shows a WYSIWYG editor interface for configuring content targeting. At the top, there is a navigation bar with the user name "Heather Reeds", "Actions", and "Log Out", along with a search bar. Below this is a green navigation menu with items like "Transfer Funds", "Pay Bill", and "Accounts". The main content area features a banner image of wheat with the text "team and opportunity" overlaid. Below the banner, there is a section titled "Services every day" with a list of professions: "architects, doctors, designers, market scientists. We help personal enterprises alike." A dialog box titled "Targeted Spot" is open over the content. The dialog shows the content display is "Targeted" and the appearance is "Default". Under the "Targeting Rule" section, there are three rules listed: "People rely on our mobile banking services every day" (with "Smartphone User" selected), "People rely on our tablet banking services every day" (with "Tablet User" selected), and "People rely on our banking services every day (Default Content)". The dialog also includes "Save" and "Cancel" buttons.



Garland gets a message that is consistent and tailored to a MobileFirst orientation





1 Mobile Analytics 

2 Responsive UI Design 

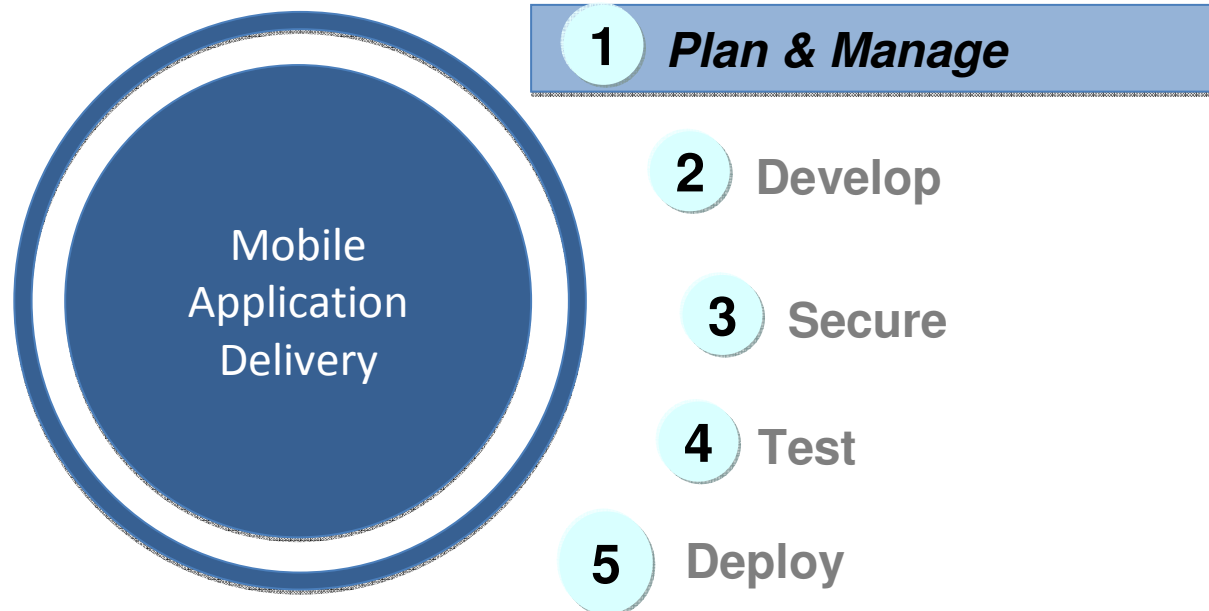
3 ***Mobile Application Delivery***



## Poll Question -4

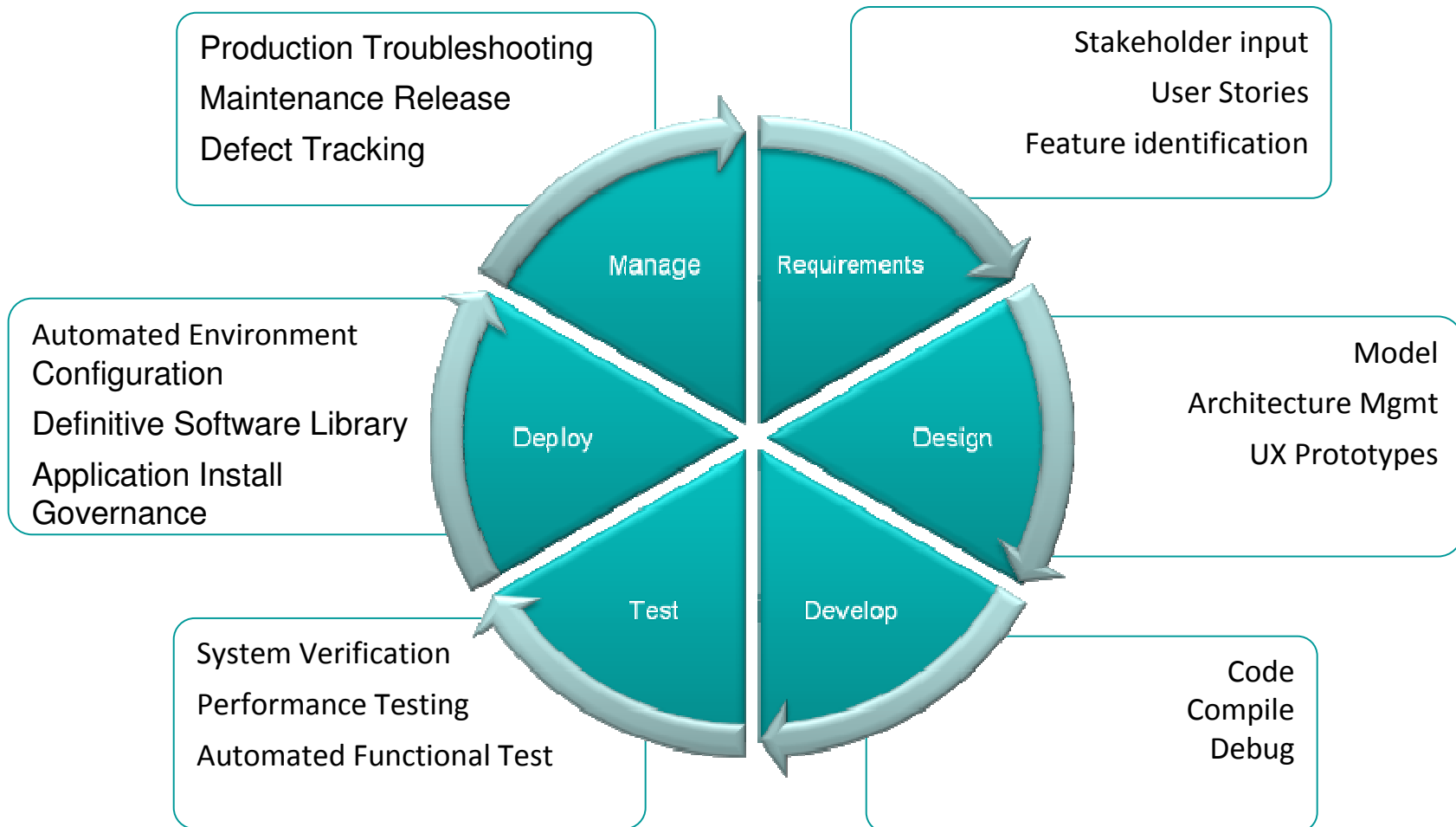
Mobile Application Developers in my organization :

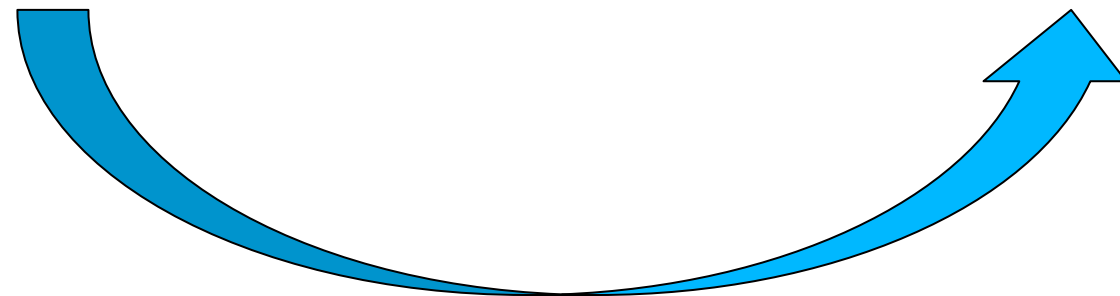
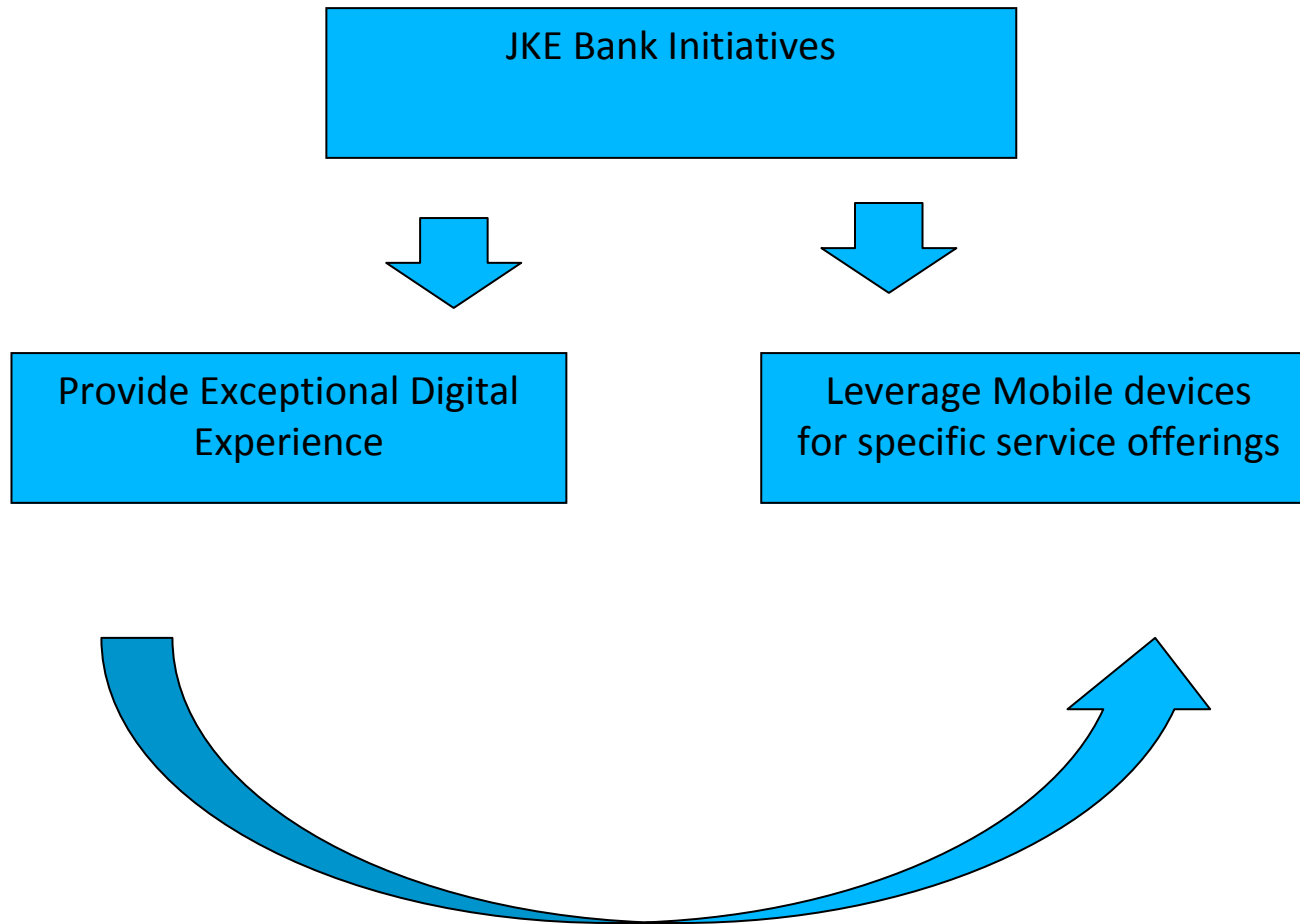
- A. Less than 5
- B. Between 5 -10
- C. More than 10





# Multichannel Software Development is MORE than Coding



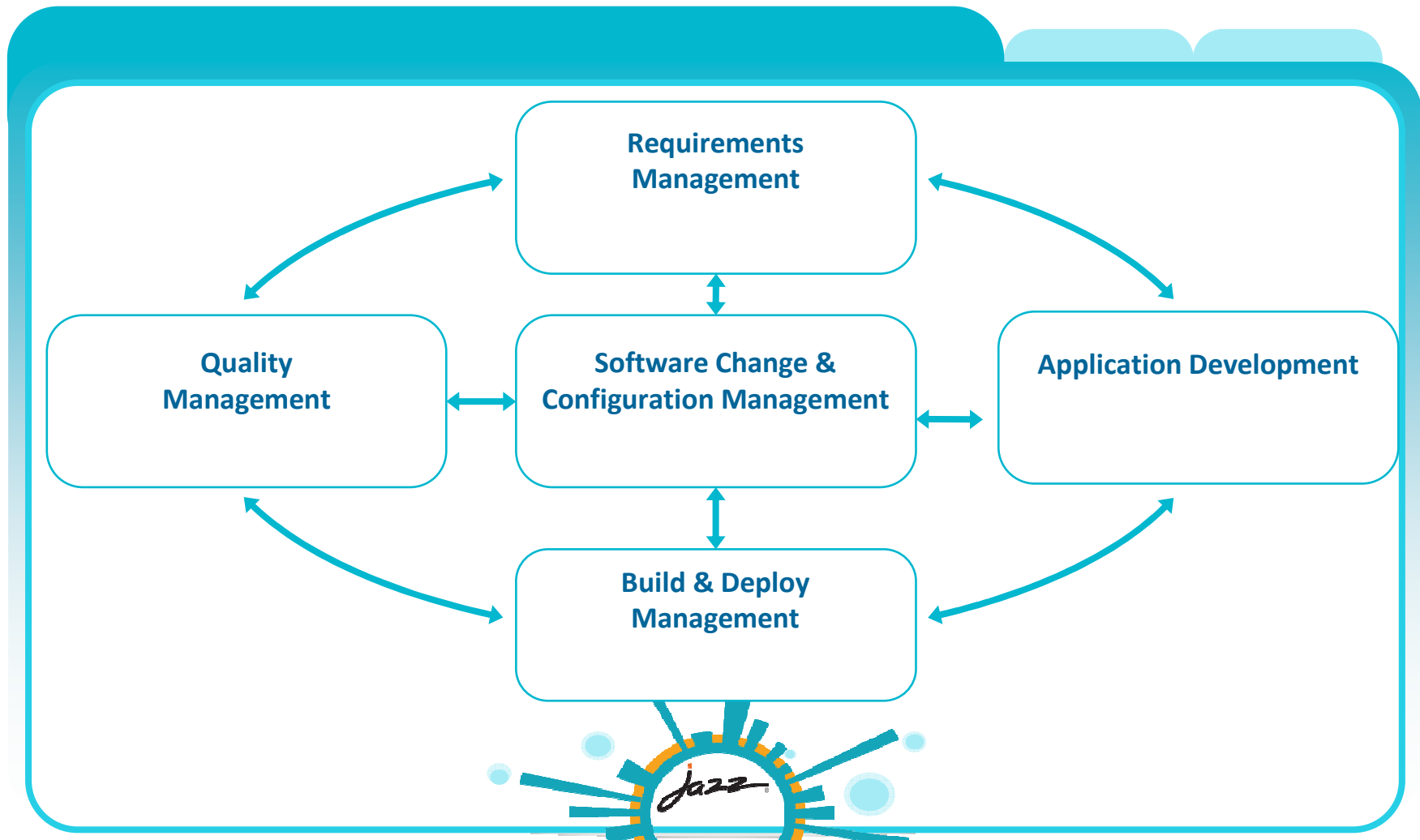


Continuously Build and Deliver Application



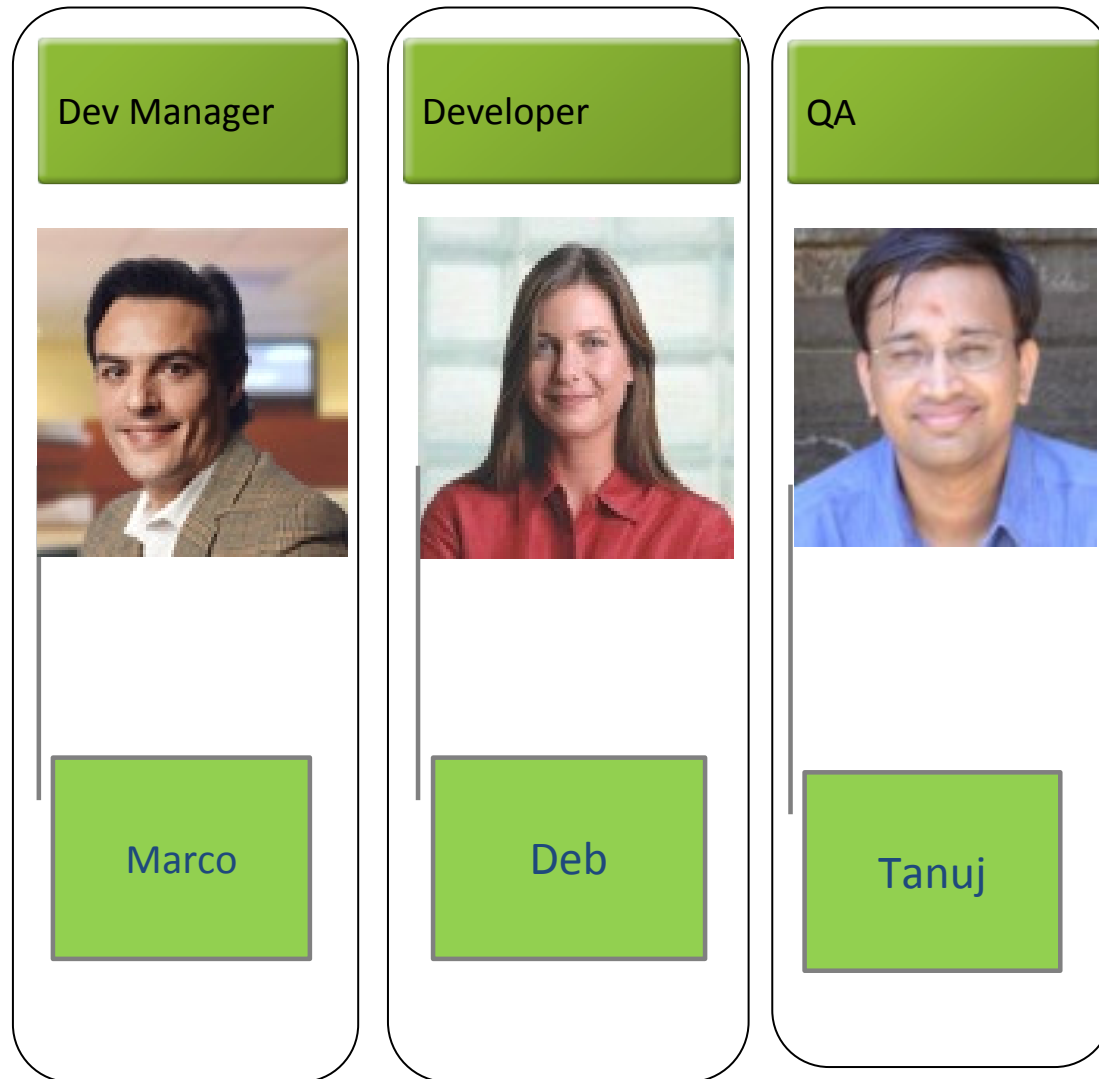


## IBM Solution for Application Delivery on Multichannel





## Building Exceptional User Experience on Multiple Channels





## Continuously Build and Deliver Application

### Scene 1

- It has been noticed that there are many users who are struggling with the mobile application because there are several dozen charities to choose from.
- There also have been request from many that they would like to donate to charities that nearby to their location so that they can contribute to community – aligned to a requirement previously captured but not yet implemented.
- Both the initiative has been passed on to development to incorporate into the **next release of the mobile application**.
- The development manager **Marco** looks at the new request and passes it on to a Business Analyst. Business Analyst documents the complete requirements document.
- **Marco** approves the requirement after a review and gives it to user experience designer.
- The UI designer creates UI Sketches. **Marco** approves the UI Sketches and assigns the **Deb** to implement the story.



1 Plan & Manage ✓

2 *Develop*

3 Secure

4 Test

5 Deploy



## Poll Question -5

Do you have a standardize Mobile Application platform for developing enterprise Mobile application ?

- A. Yes
- B. No
- C. Can't say



## Leverage Mobile Devices for Services offerings

### Scene 2

- **Deb** gets a notification of a new task on her dev environment. She looks at Use Case requirements, User Sketches, Traceability links and understands the impact of the change. Deb accepts the task and provides an estimate of the effort.
- **Deb** checks out project file from source control configuration , builds the UI , codes and does unit testing. Deb also checks the vulnerability of the application code that she is writing.
- **Deb** then delivers the modifications to merge with code of other people.



## IBM MobileFirst Platform: Build, Connect, Run, Test

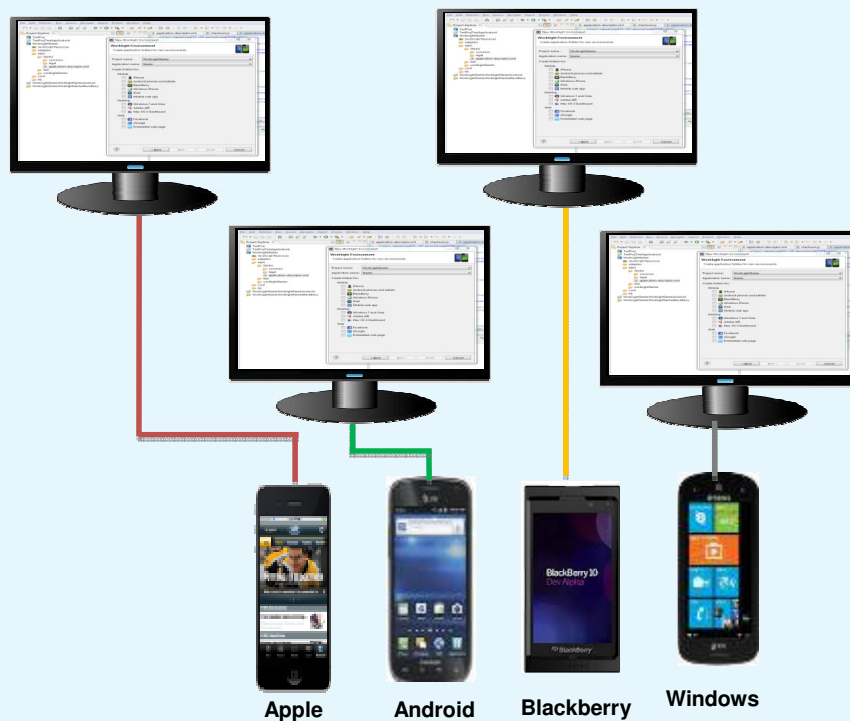




## Multi-platform Development with a Shared Codebase

### From the complexity of many...

- Multiple sets of tools & frameworks
- Four codebases to develop and maintain



### To the simplicity of one

- One development environment
- One codebase to develop and maintain



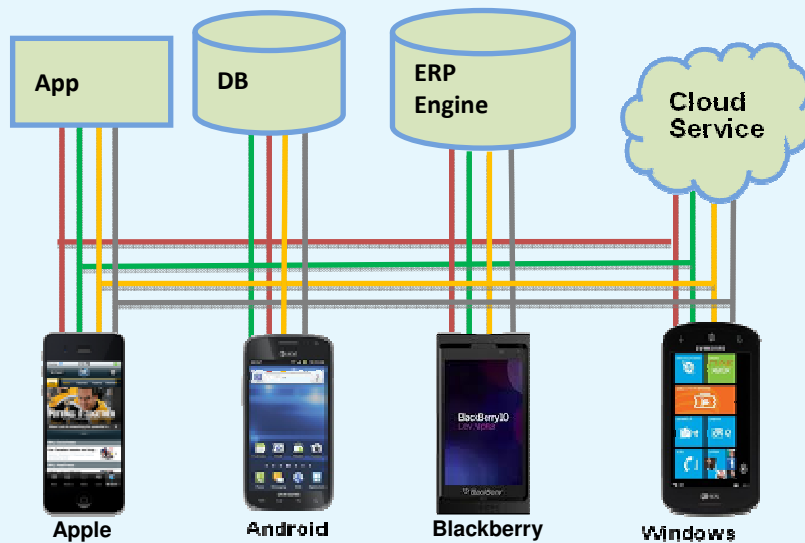




## Controlled Back-end Integration

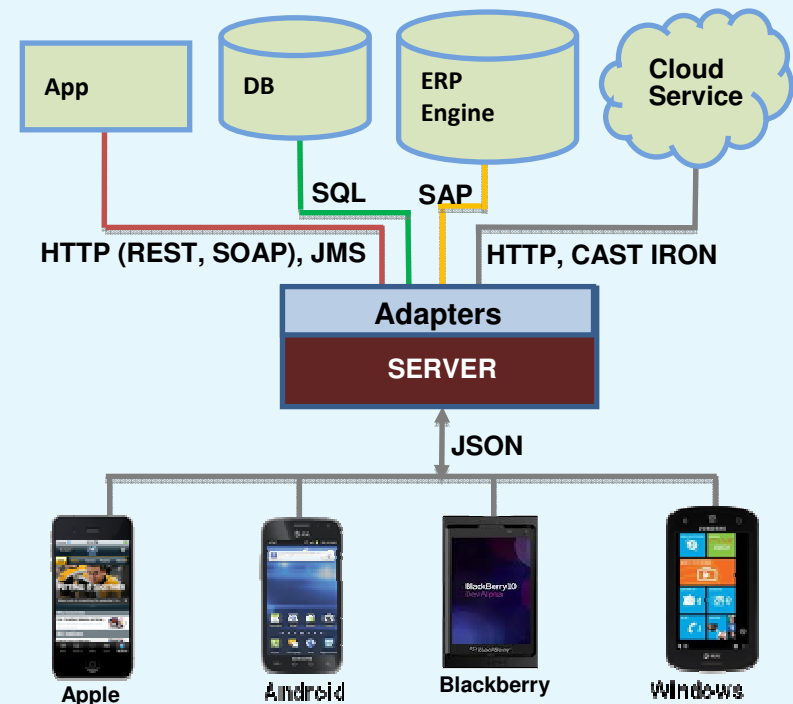
### From multiple point-to-point integrations

- Multiple sets of integrations to enterprise resources to build and maintain
- YOU manage caching, synchronization and end-to-end encryption



### To streamlined, transparent access

- Transforms enterprise data into mobile-friendly, JSON format
- The server manages update, data synchronization and end-to-end encryption

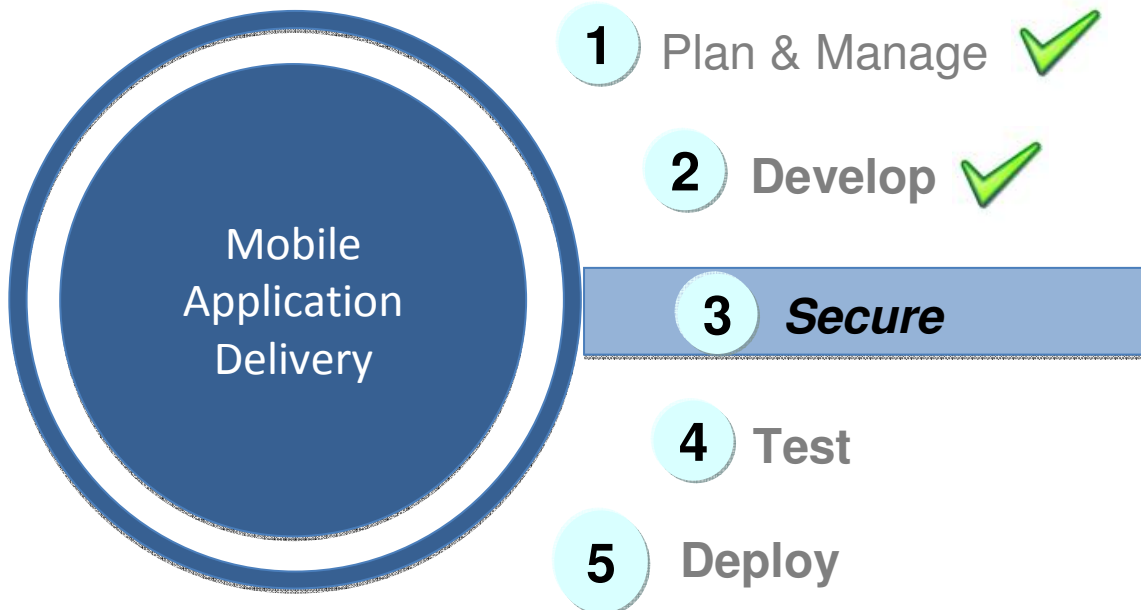




## Rich Mobile Simulator for Hybrid Applications

The screenshot displays the 'Mobile Browser Simulator' application. The browser's address bar shows a local URL. The main content area features two side-by-side mobile device emulators. The left emulator is labeled 'Apple iPhone 3GS' and the right is 'Apple iPhone 4 and 4s'. Both show a mobile application interface with a top navigation bar containing a Twitter icon and an RSS icon. Below the bar is a list of menu items: 'IBM Innovate', 'Mobile', and 'Jazz', each with a right-pointing arrow. To the left of the emulators is a sidebar with a 'Cordova' section containing expandable categories: Device, Events, Accelerometer, Battery, Camera, Capture, and Compass. The 'Compass' category is expanded, showing a heading of '352.286' and a compass graphic. Below the compass are 'Next' and 'Start' buttons. Further down are 'Contacts', 'File', 'Geolocation', and 'Network' categories.

Simplify first step of testing during development





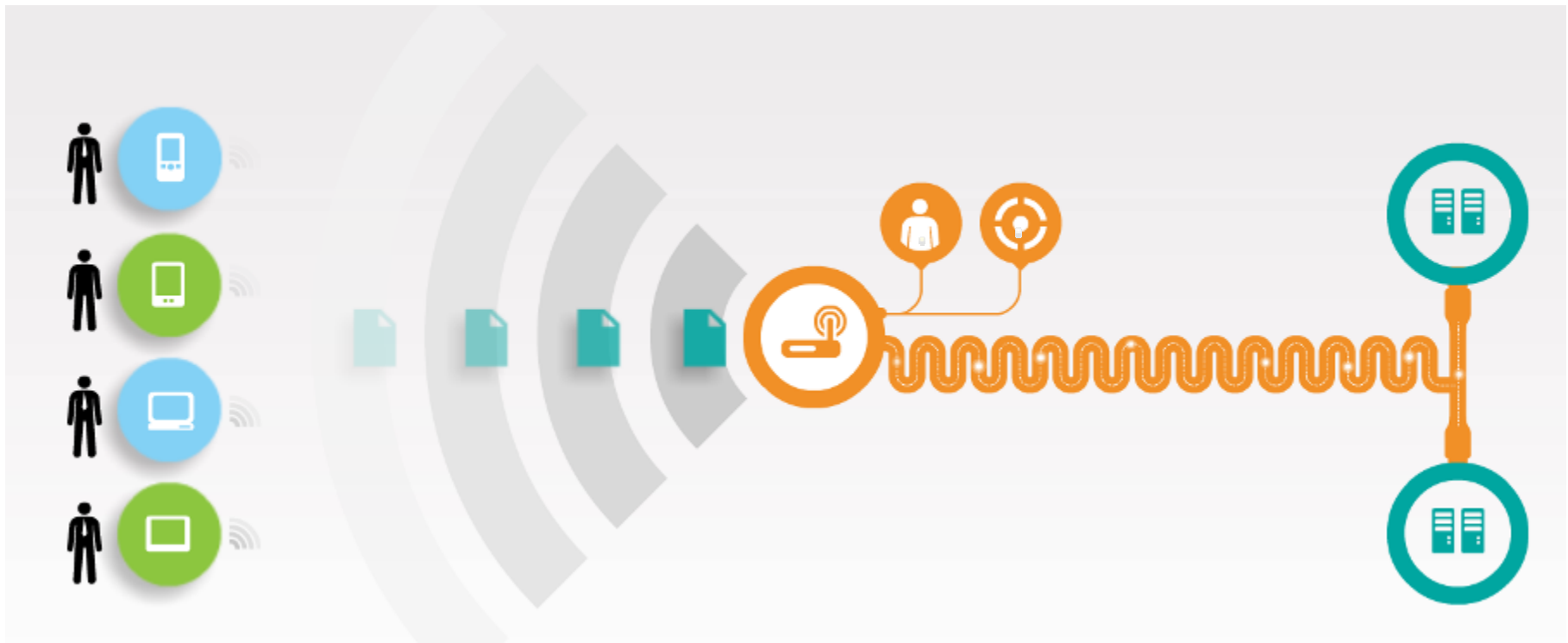
## Poll Question -6

What is your current approach to testing the security requirements for mobile applications?

- A. Perform a manual test on infrequent basis
- B. Testing using outsourced pentest services on periodic basis
- C. Incorporated into SDLC through automated tools
- D. No specific testing specifically for security use cases



## IBM MobileFirst's Approach to Security



### Device Management

Security for endpoint device and data

### Network, Data, and Access Security

Achieve visibility and adaptive security policies

### Application Layer Security

Develop and test applications

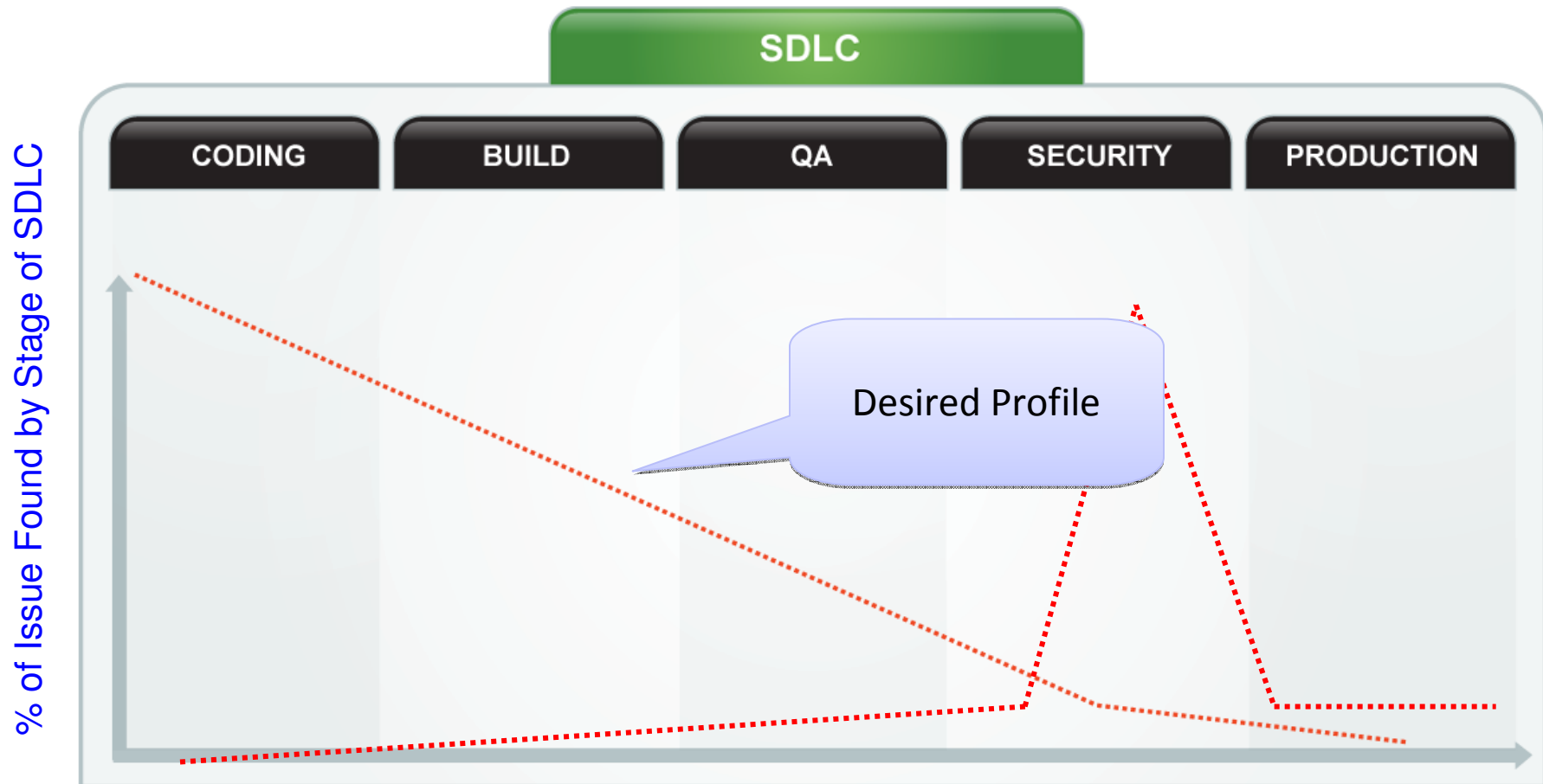


## Security Testing within the Application Cycle





## Security Testing within the Application Cycle





# IBM MobileFirst Security: Make Application Secure by Design

## Advanced Security Assessments

### Dynamic Analysis

- Analysis of a running/ deployed application
- Key requirements
  - Threat coverage: WASC, OWASP Top 10, etc
  - Web Services/ SOA
  - Web 2.0 & Rich Internet Applications

### Static Analysis

- Scanning source code for security issues
- Key requirements
  - Application/language support
  - Ease of use for non-security users (developers and build managers)

### Runtime & Hybrid Analysis

- Glass box testing with runtime analysis
- Automated correlation of static & dynamic results
- Key requirements
  - Precise & Actionable results
  - Broad threat coverage

## Collaboration & Governance in Application Lifecycle

*Security testing, shared results, assign ownership*



*Track corrections and integrate with development systems*





1 Plan & Manage ✓

2 Develop ✓

3 Secure ✓

4 *Test*

5 Deploy



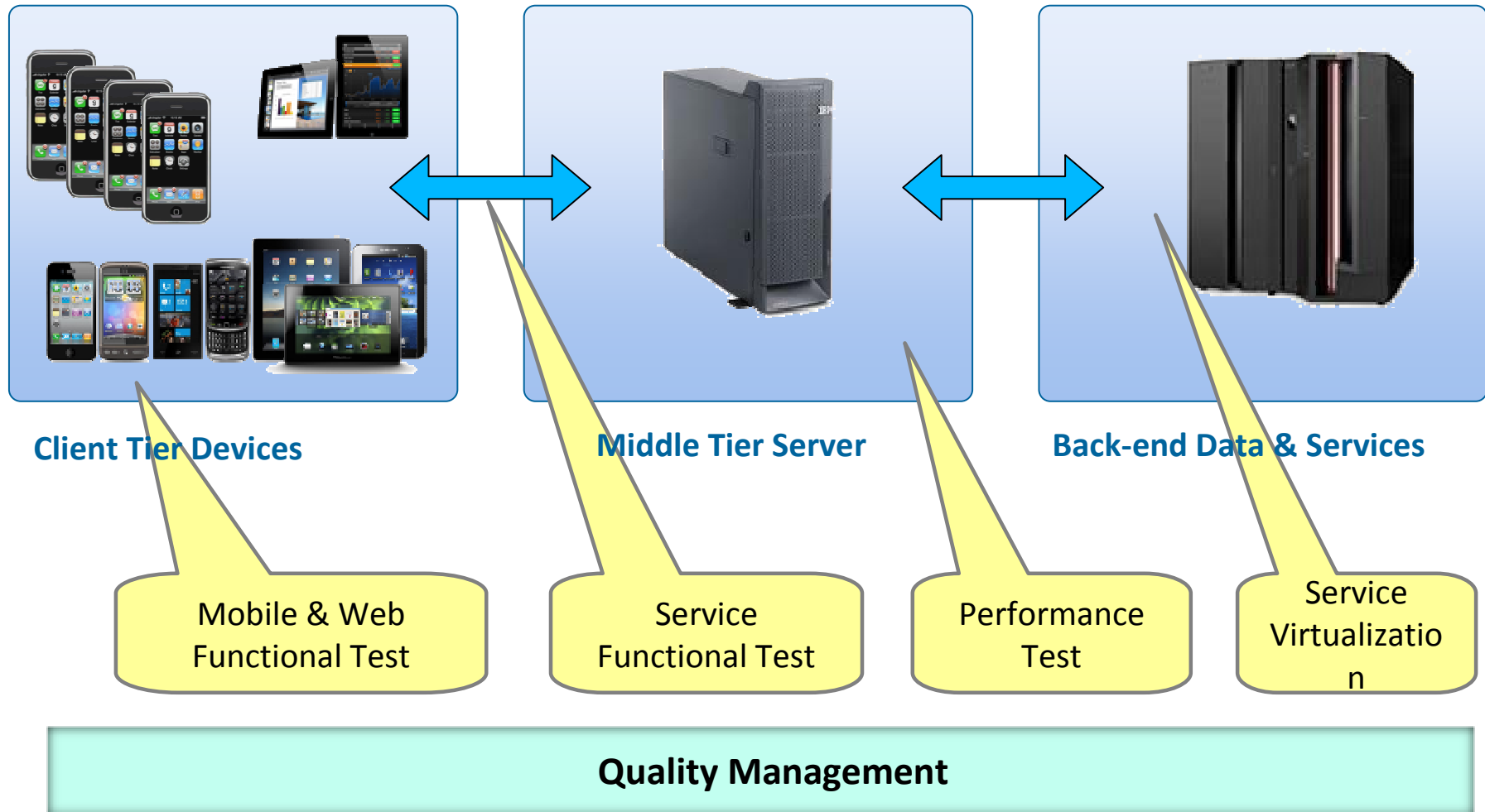
## Leverage Mobile Devices for Services offerings

### Scene 3

- **Tanuj** now needs to test the application which is already built and deployed on the server.
- **Tanuj** does the regression testing of the mobile application on various devices.
- **Tanuj** then rechecks by running the automated test scripts and approves of the quality
- The application is ready to be deployed

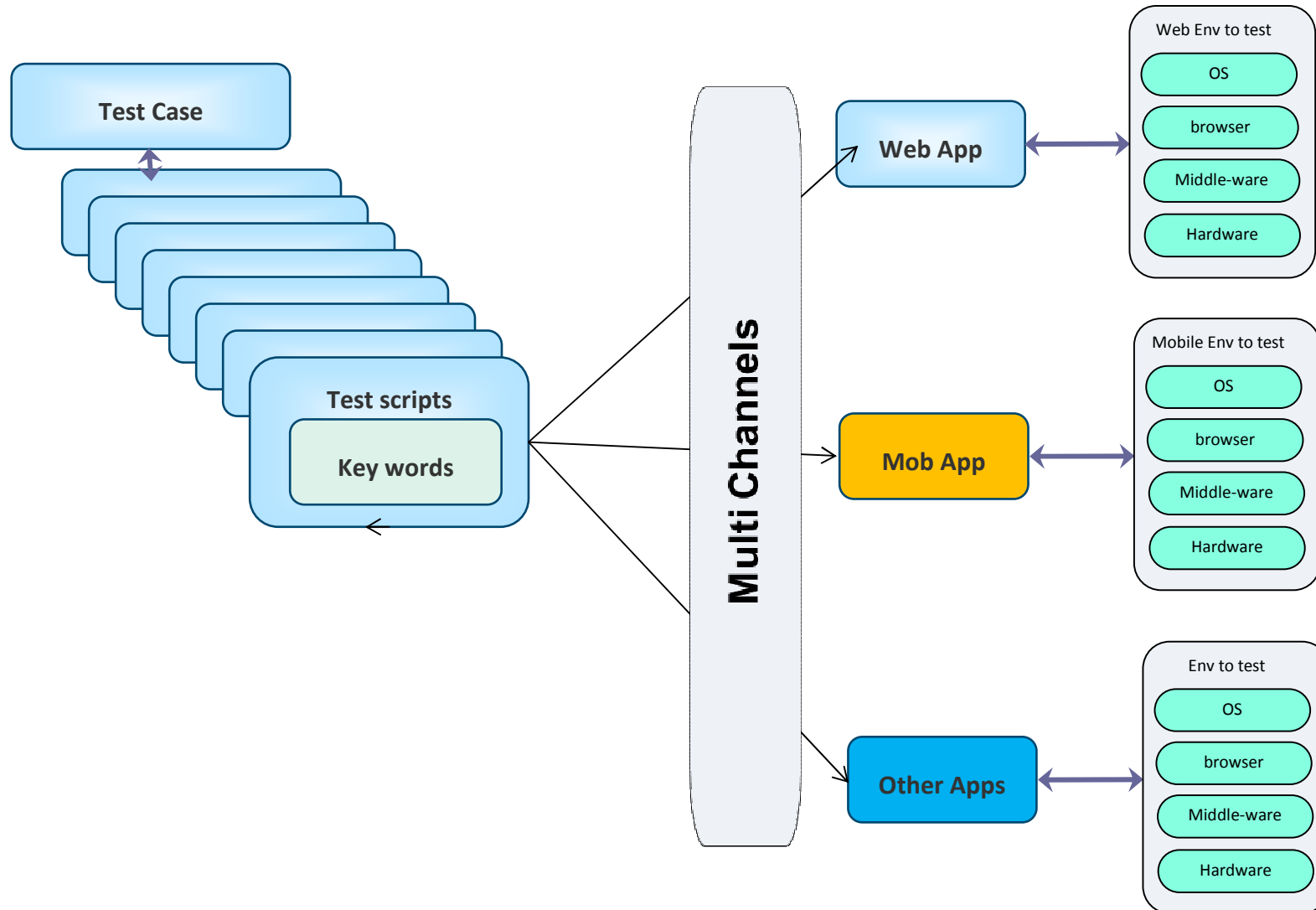


## Testing the End-to-end Mobile and Web Solution





# Meeting the Challenge of Multichannel Testing

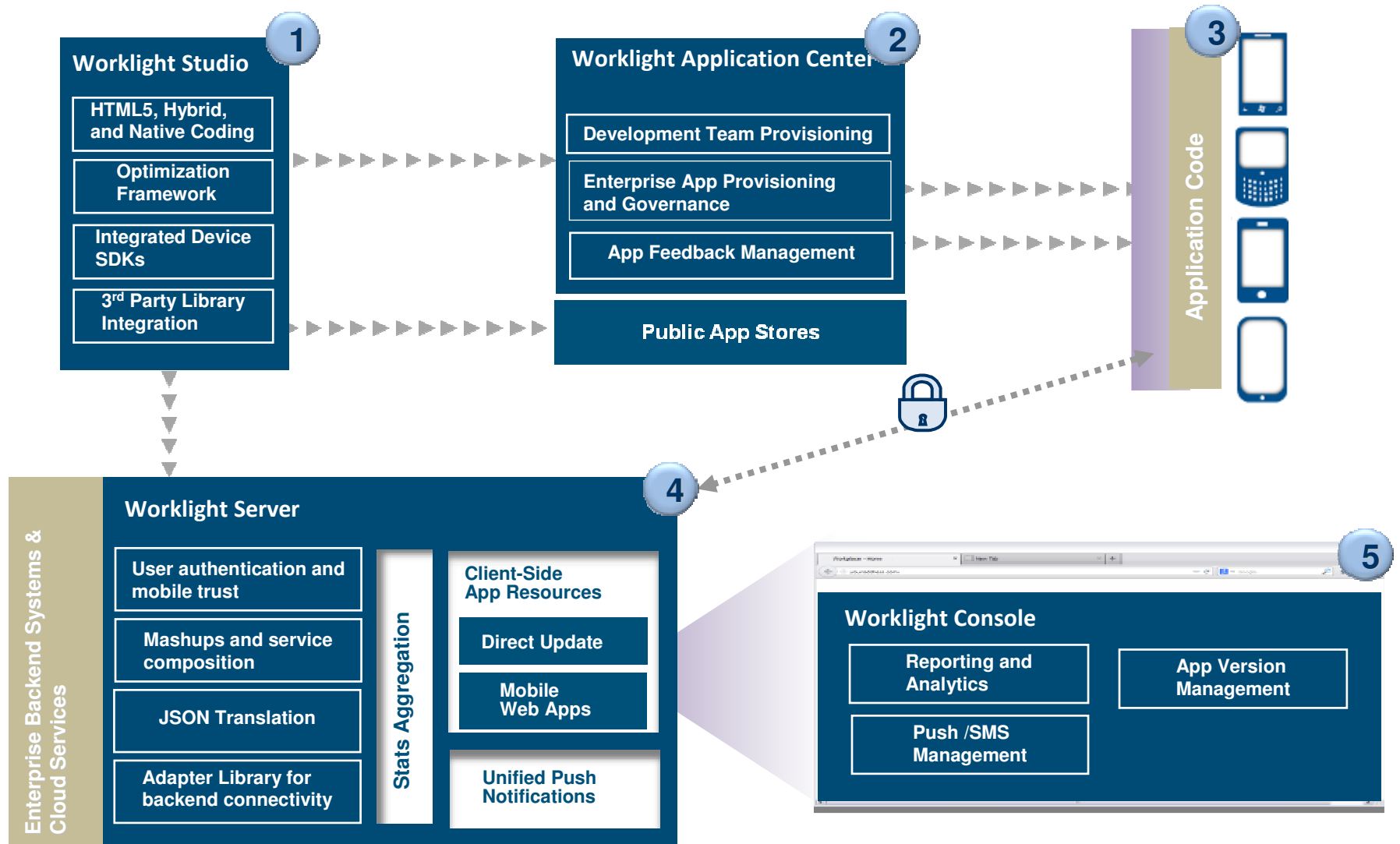


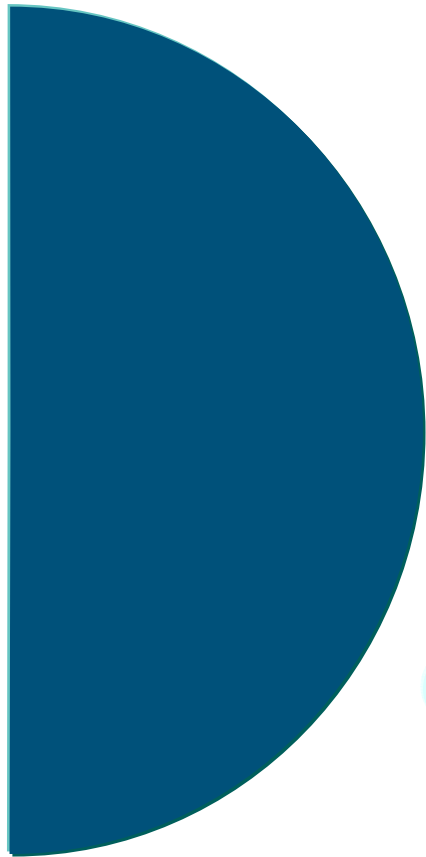





- 1 Plan & Manage ✓
- 2 Develop ✓
- 3 Secure ✓
- 4 Test ✓
- 5 **Deploy**



# IBM Mobile Application Deployment





- 1 Mobile Analytics 
- 2 Responsive UI Design 
- 3 Mobile Application Delivery 



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**Thank You**