

AFP® Annual Conference



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ORIGINAL
ESSENTIAL
UNBIASED
INFORMATION



The Mobilization of Cash Management The Journey, the Destination and the Future



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Agenda

- **The Bank Experience**
 - Why Mobile Banking?
 - The Rise of Smartphones
 - The Business Case
- **The Implementation Experience**
 - Design
 - Development
 - Testing and Production Rollout
 - Security Considerations
- **The Customer Experience**
 - How a mobile application impacts my business – Two Case Studies
- **Q&A**

Why Mobile Banking?

- Technology is changing the way we live and the way we work at a rapid pace. SmartPhones, like the iPhone, BlackBerry and Android devices are mature, evolving, and revolutionizing the mobile device market.
- 89% of respondents in the US and Canada ranked the mobile channel and mobile applications as the most important growth opportunity over the next 5 years.¹
- Using the mobile device has to be quick, easy and effective; initial mobile banking via text messaging excels at alerts and notifications, but is not well suited to the user for transactions, approvals and reporting – thus the rise of Smartphone Banking.
- Emergence of the Smartphone, device speeds and expanded networks have changed the landscape and will only continue to improve - 4G networks are coming!

¹ Edgar, Dunn & Company, "Global Trends in Payment Systems", December 2009

The Rise of Smartphones

Worldwide Trends

- Smartphones accounted for 19% of worldwide mobile device sales in 2Q10, representing a 50% year over year increase.¹
- By 2014, over 3 billion of the world's adult population will be able to transact electronically via mobile or Internet technology.²
- By 2013, mobile phones will overtake PCs as the most common Web access device worldwide. According to Gartner's PC installed base forecast, the total number of PCs in use will reach 1.78 billion units in 2013. By 2013, the combined installed base of Smartphones and browser-equipped enhanced phones will exceed 1.82 billion units and will be greater than the installed base for PCs thereafter.³

¹ Gartner: "Competitive Landscape: Mobile Devices, Worldwide, 2Q10", August 11, 2010

² Gartner: "Gartner's Top Predictions for IT Organizations and Users, 2010 and Beyond: A New Balance", December 29, 2009

³ Gartner: "Gartner's Top Predictions for IT Organizations and Users, 2010 and Beyond: A New Balance", December 29, 2009

The Rise of Smartphones

United States Trends

- Mobile banking usage in the United States to increase from 10 million users at the end of 2009 to almost 18 million users by the end of 2010.¹
- Smartphone market grew 41% year over year. US is the largest Smartphone market in the world.²
- ComScore reports Smartphone market share, end of July, 2010:³
 - RIM: 39%; Apple: 24%; Google: 17%
 - Together, RIM's BlackBerry, Apple's iPhone and Google's Android platforms control more than 80% of the US Smartphone market.
- Android and iPhone users spend 80 minutes per day using apps, iPod Touch users spend 100 minutes per day using apps.⁴

The time is now to embrace this new channel for our business!

¹ TowerGroup: "2010 Top Business Drivers, Strategic Responses, IT initiatives in US Mobile Banking and Payments", January, 2010

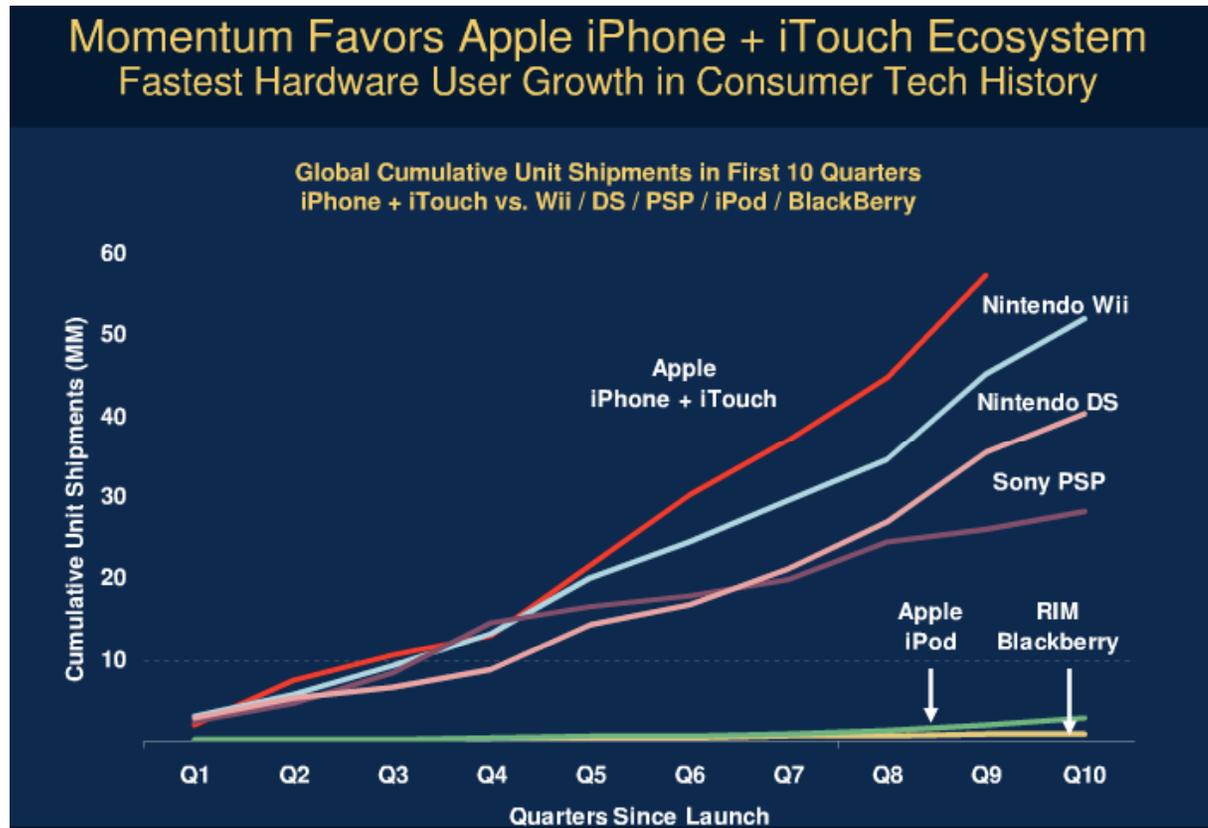
² Canalys.com: "Android smart phone shipments grow 886% year-on-year in Q2 2010", August 2, 2010

³ comScore MobilLens, 3mo AVG, July 2010

⁴ AdMob Mobile Metrics: "App Usage Survey", February, 2010

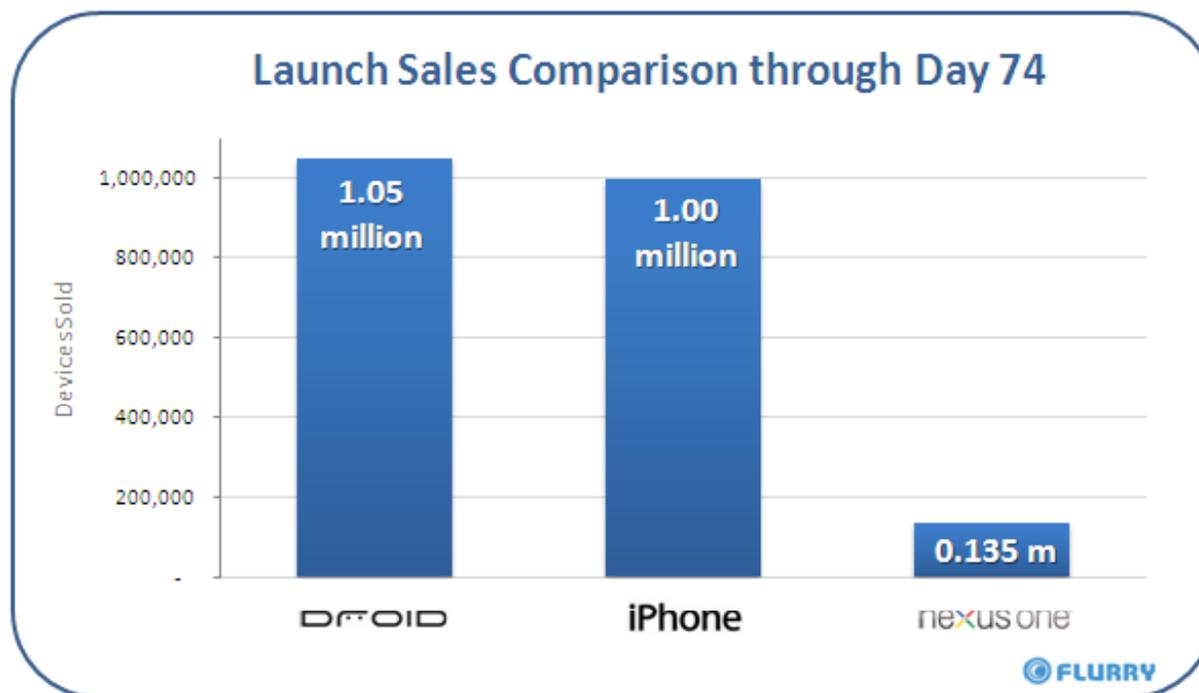
How Popular is the iPhone?

Momentum Favors Apple iPhone + iPod Ecosystem Fastest Hardware User Growth in Consumer Tech History



Source: Morgan Stanley Presentation, Web 2.0 Summit, October, 2009

How Popular is the Droid?



**Droid and Nexus One estimated by tracked UDIDs, adjusted for app penetration; Apple reported that it had sold 1 million iPhone 1G devices 74 days after its initial launch*

Source: Flurry.com. "Day 74 Sales: Apple iPhone vs. Google Nexus One vs. Motorola Droid", March 16, 2010

The Business Case

Why build a Mobile Corporate Banking Application?

- Extending the Online Channel and creating a Mobile Solution:
 - Provides immediate accessibility for the executive on the move
 - Transaction initiation, decision making and approvals any time, any place
 - Greater responsiveness to time sensitive transactions and during peak periods (e.g., end of quarter, settlement periods, etc.)
 - Complements / integrates with SMS functionality already offered
 - Additional opportunity to monitor account for security and fraud prevention purposes
- Useful for the Cash Manager in any segment: from large corporate to small business users
 - All customers expect flexible access via mobile channel
- Business Continuity Planning
 - An alternative channel for business under unforeseen circumstances (e.g., laptop crashed, snowstorm, hurricane, earthquake, epidemic)
- Ability to offer multiple products through the one mobile channel

The Business Case

Why build a Mobile Corporate Banking Application?

- Leverage existing online application channel to enable shorter time-to-market and lower cost of implementation.
- Embrace new technology and establish your Bank as a leader in the mobile space
- Increase your Bank's brand recognition and awareness
- Satisfy Customer Demand for Mobile Banking applications

Mobile Applications can help cash managers and executives with their jobs – it's not just a matter of convenience.

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Implementation Considerations - Design

- Gather input from different stakeholders
 - Bank: Product, Sales, Marketing, Risk, Legal, IT
 - Vendors: Developers, Creative Design
 - Customer Feedback
 - Finalize requirements, User Interface, gather approvals before development begins
- Application Workflow
 - Do not just do the same thing the online application does. Utilize the device interface and come up with something “new” where possible. (e.g. Info Reporting)
 - Present critical information as early as possible after authentication
 - Simple, intuitive navigation, minimize “clicks”

Implementation Considerations - Development

- Leverage online application APIs whenever possible – do not reinvent the wheel!
- Apple iPhone Applications
 - Follow Apple Standards for quicker “time to market”.
 - Consider all OS versions.
 - Utilize simulator for development and testing.
 - Review and adhere to submission guidelines for Apple “app store” Certification.
 - Distribution / Delivery channel in place already, via App Store.
- Mobile Browser Applications
 - Different interface from an iPhone application, but try to keep look and feel of UI as consistent as possible.
 - Need to consider performance with UI design. “Heavier” pages take longer to render.
 - Device Detection allows application to work across all Smartphone devices with a browser.
 - Does not need certification, so application delivery and rollout is more straightforward.

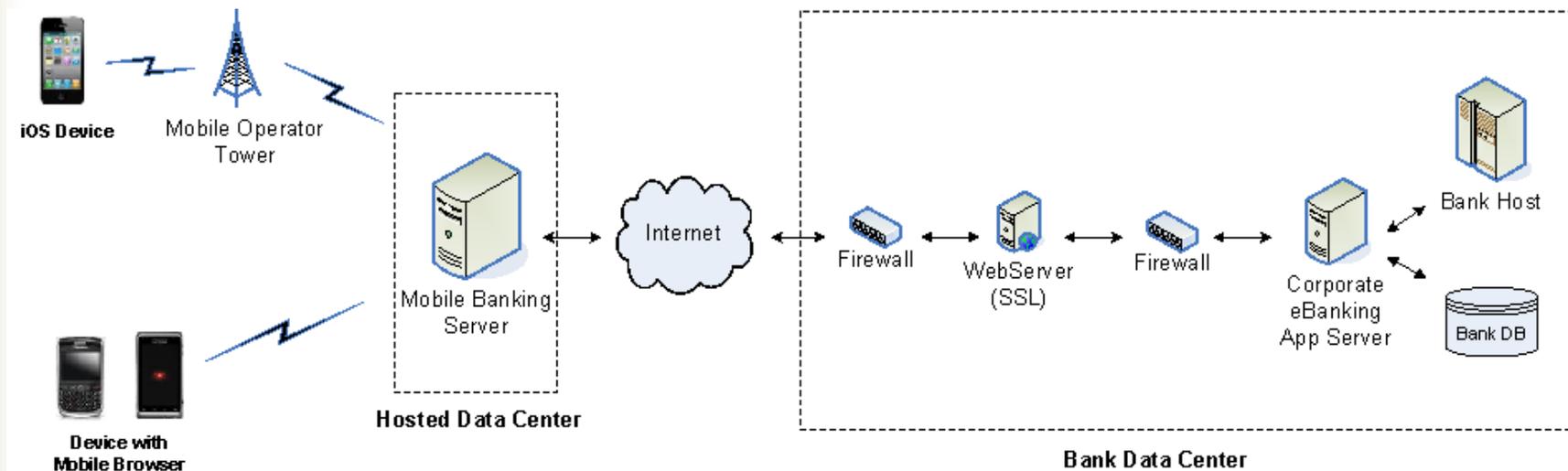
Implementation Considerations – Testing and Production Rollout

- Try to use simulators when possible for basic Unit Testing of iPhone or Mobile Browser app.
- Project budgets must include devices for formal QA testing, though take advantage of device simulator subscriptions if possible.
- Leverage existing online channel infrastructure where possible.
- Plan for Apple Certification window.
- Plan for Internal Training and Support for all Bank Staff.
- Create the buzz! Marketing Strategy (internal and external), Demos, Press Releases, etc.

Security Considerations

- Similar to online web applications, mobile sessions are encrypted using the same HTTPS / SSL protocol.
- Protect the customer's data at all times!! Do not store customer data on the device!
- Mask sensitive data where possible (e.g. logon credentials, account numbers, etc)
- Authentication into Mobile apps should be protected by the same secure logon credentials available via the online channel (e.g. user name, password, challenge questions, tokens, etc.)

Security Considerations



- Components to consider during the transmission “lifecycle”:
 - 3G mode: Transmission of session data (requests and responses) from the user’s iDevice to the mobile operator’s network to mobile banking server → data is transmitted over encrypted HTTPS protocol.
 - Wireless mode: Transmission of session data from the user’s device to the mobile banking server → data is transmitted over encrypted HTTPS protocol.
 - 3G or Wireless mode: Transmission of session data from / to the Data Center / mobile banking server to the Bank’s online application environment (web server to application server) → data is transmitted over encrypted HTTPS protocol.

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The Customer Experience

Gemino Healthcare Finance

- Headquartered in Philadelphia, PA
- Founded in May of 2007
- Provides revolvers and term loans (\$2MM to \$10MM) to health care providers such as nursing homes, hospital surgery / outpatient centers, home care, hospice, imaging centers and others involved in the delivery of health care services.

The Customer Experience

Case Study #1

- The Situation: Single user has wire approval and release ability for entire company. When traveling or on vacation, this authority is granted to another user, which carries a risk.
- The Solution: With a Smartphone banking application, the user can log on at any time from any location in the world and make instant approval and release decisions.
- Bonus: With an existing SMS mobile banking module in place, an even better customer service experience can be created. Online application generates an SMS message to the user notifying her she has wire transactions ready to approve and / or release. SMS arrives on the user's device, wherever the user is. User immediately logs on to the Corporate Banking mobile application and takes care of the wire item on the fly!

The Customer Experience

Case Study #2

- The Situation: Desire to minimize company's daily interest expense / exposure.
- The Solution: With a Corporate Banking Smartphone application, from anywhere at any time the user has immediate access to company positions. User can review account summary information and / or drill down into account history to see if specific transactions have cleared. User can make decisions about current positions and initiate transfers to pay back the daily loans.
- The Bonus: Utilizing an existing SMS mobile banking module provides an even better customer service experience. User can define account balance and transaction SMS alerts. SMS arrives on the user's device, wherever she is. User immediately logs on to the Corporate Banking mobile application, reviews account information and transfers the money.

Q & A

Questions & Answers

Thank you!

The End