The necessity of reaching beyond the lab in mobile app testing

StarCanada | 2013

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Agenda
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• The Mobile App Landscape
• The Limits of the Lab
• Real-World Examples
  – USA Today
• What you can do
• Q&A
Mobile App Landscape
Changing Rapidly
Mobile Apps Boom Market

• **ABI**: mobile revenues will hit $133 billion in 2014
• **B2B mobility no longer just for email**
  – Business apps: CRM, ERP, HR systems
  – Productivity apps: docs, spreadsheets, presentations
  – Collaboration apps: email, IM, publishing
• **B2C mobility growth even steeper**
  – Retail: location-intelligent m-commerce
  – Media: magazines & newspapers going purely digital
  – Travel: mobile bookings, check-ins, maps, deals
  – Education: tablets in every classroom
  – Healthcare: patient records, physician notes
  – Social: no explanation required
  – Gaming: ditto
Mobile’s Just Getting Started

Global Internet Device Sales

*BI INTELLIGENCE*

We are here

Smartphones

Tablets

Personal Computers

Units 1,500,000,000


In-The-Wild Testing for Functional + Security + Load + Localization + Usability
Changing Mobile App Landscape

• No company or industry is immune
  – Retail: geo-aware m-commerce
  – Media: going purely digital
  – Travel: bookings, check-ins, maps
  – Education: tablets in classroom
  – Healthcare: patient records, notes
  – Social: no explanation required
The Future Is Here

Source: Business Insider, 2012

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G-20 Internet Access

Source: Business Insider, 2012
To Make Matters Worse

- Users less tolerant of spotty quality
- Social & app stores give every user a megaphone
- Switching costs lower than ever
- Opportunity cost of imperfect app quality has spiked
More Than Just Mobile

- Fragmentation of users, devices, OSes, browsers, locations
So What Could Possibly Go Wrong?

Review: Google Maps puts Apple in its place

Mashable
By Samantha Murphy, Mashable
updated 5:29 AM EST, Fri December 14, 2012 | Filed under: Technology

Parmy Olson, Forbes Staff
I cover agitators and innovators in mobile.
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Facebook fixes its iOS app that kept crashing on launch, says it was because of server issues

BY KEN YEUNG ON 1 NOV '12

Summary: Hidden features, reduced discoverability, cognitive overhead from dual environments, and reduced power from a single-window UI and low information density. Too bad.
The Limits of the Lab
Understanding the Landscape

In The Wild

In The Lab

In-The-Wild Testing for Functional + Security + Load + Localization + Usability
Needing a New Approach

The Test Lab Is Here

Users Are Here

- Testing only inside the lab is no longer sufficient
- Mobile apps require more test coverage and a new mindset
At the Forefront of Innovation

- **Timeline of USA Today Pioneering**
  - **1982**: 1st national newspaper to introduce color
  - **1996**: Early adopter of active web presence
  - **2008**: Among 1st major media brand with native apps
    - iOS, Android, Windows Phone, Kindle, Nook, Connected TV, gaming
  - **2012**: Redesigned & re-launched entirely new UI/UX across all
    - Printed paper + website + 14 native apps
Impact on Testing

- Great for USA Today’s readers
- Great for USA Today’s sales & marketing
- Vast pressure on IT leaders to ensure consistent quality across:
  - Device makers & models
  - Browsers
  - OSes
  - Carriers
  - Languages (localized content)
  - Locations (geo-based intelligence)
The Goal

- **Maintain Quality**
  - Launch nothing less than a 4.5 star app
  - With every new version, across 14 native apps.

- **Increase Test Coverage**
  - Real-world conditions
  - Cost-effective
  - Scalable

- **Meet Tight Deadlines**
  - Must have apps ready
    - For each new platform that gains traction
    - For each new device
Two Distinct Choices

- **Traditional Outsourcing**
  - Hidden costs
  - Little connection to user base
  - High noise-to-signal ratio

- **Crowd- and Expert-sourcing**
  - Lives outside the lab, in the wild
    - Professional testers
    - Real devices
    - Real-world conditions
  - Mirrors USA Today’s user base
    - Technically
    - Geographically
    - Demographically
  - Profiled community of rated testers
  - Increasingly popular complement to in-the-lab testing
In-the-Wild Testing

- uTest’s In-the-wild testing solution for USA Today
  - Provide on-demand complement to in-house QA/QE team
  - Enable USA Today to tap into 60,000+ testers from 190 countries
  - Extend USA Today’s testing beyond the lab to reduce escape rate
    - Across OS, browsers, devices & carriers
    - Across locations, languages, industries & hobbies
  - Dedicated uTest project manager
    - Test team management
    - Triaging services
  - Team of dedicated remote testers + large team of on-demand flex testers
The Approach

- **Testing Scope**
  - USA Today specified needs via detailed test cases
  - Worked with uTest to coordinate tester selection, which varied by product and project, and access to uTest platform to consume results
  - uTest would also conduct exploratory testing, tapping into tester creativity
  - Testing was done for iPhone, iPad, Android & Kindle Fire
**Mobile Test Objectives**

- **Tester Location**
  - USA Today needed testers from all over the globe, including Greece, Singapore, India, Canada, Spain, Israel, UK, US and other locations

- **Test Team Size**
  - Some test cycles with broader objectives, such as the new iPad application, involved 60+ testers. Others, where the scope was much tighter, required smaller teams of 10-12 testers

- **Device Coverage**
  - Where fragmentation is an issue (eg: Android) USA Today worked to ensure testing extended to a pre-set list of the most popular devices and operating systems
Mobile Test Results

• **Hit the Ground Running**
  – USA Today needed to launch the new app for the Kindle Fire the same day the device launched
    - Able to test the app with testers all over the world, almost instantly

• **Flexibility**
  – Test team size could be tailored to maximize value and minimize costs
  – USA Today’s team could see test results in real time to view latest bug reports, user reviews and test case results

• **Quality**
  – Usually a lack of mobile testing talent
  – Real-world testing met their needs
  – USA Today able to consistently meet 4.5 star app-store rating goal
A Call To Action For QA Leaders (Three, Actually)
1. Keep On Keeping On

- Keep testing in-the lab
  - Keep training
  - Keep automating
  - Keep challenging
  - Keep innovating
2. Look beyond the Lab

• Thousands of companies have moved a portion of testing closer to where users live. Why?

1. Apps consumed under endless range of environments
   - Exponential spike in devices, OSes & browsers
   - Imperfect connectivity
   - Infinite number of locations

2. Users have less patience than ever for buggy apps
   - Switching costs lower
   - App quality issues carry higher costs

3. In-the-lab testing *alone* cannot meet the demands of modern apps
And Lead The Expedition

• In-house QA leadership is vital
  – You have the business and product context
  – You know your risk profile
  – You know what your firm cares about
3. Be The Voice For QA

- Mobile Challenges will be “met” – with or without QA’s buy-in
- Want QA to be heard? Want quality to be built in?
  - **Don’t wait:** No one else is coming to the rescue
  - **Get informed:** Develop an thoughtful opinion
  - **Get involved:** Find out when/where decisions are being made
  - **Be proactive:** Build a plan for quality from the ground up
- **Be protective:** You’re a protector of the user… of the brand
Questions?
Answers.