

Testing Mobile Applications

Published by 360logica software testing Services (www.360logica.com)

[Testing Mobile applications]

Copyright 2011@ 360logica software testing services

Testing Mobile Applications

An approach towards solving the emerging technological implications of Mobile Apps. MOBILE is accelerating.....

2010 has been a great year for mobile technology. With lots of Handset manufacturers and Mobile Application developers in the market, mobile handsets and mobile application development market have done well. Along with Handset Manufacturers like Nokia, Samsung, LG, Apple and HTC all the newbie in Mobile Handset Manufacturing like Micromax, Maxx Mobile, Olive, Karbbon mobile penetrated the market well. Micromax in itself captured 12% of Mobile Handset Market share. Well now with the beginning of 2011 there would be some great things to see:

- Full Fledge 3G+ Era
- Mobile Number Portability
- Windows Phone 7

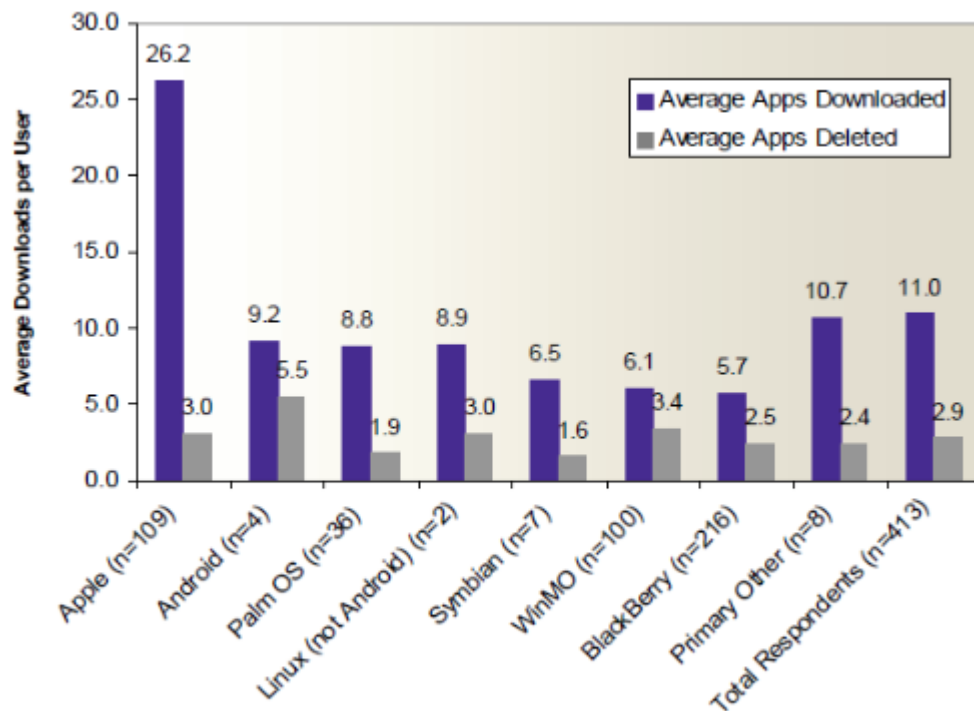
This is a real need of “Generation Next”. Its a “Mobile Revolution”.

According to Morgan Stanley, the volume of mobile users will outstrip the number of desktop Internet users by 2014.

By 2011, Nielsen expects the U.S. market will own more smartphones – with advanced browsers and connectivity – than ordinary “feature” phones.

Impact on Business:

- **Boom in Business**-As more and more software development focuses on smartphones, a new industry is building up to help developers create and rapidly deploy mobile applications. Statistics such as these have motivated an eruption of developers who are hoping to cash in on this newfound mobile boom.



Source: In-Stat, 2/2010

- **More Opportunities:**

By 2015 90% and greater would be data exchange than voice. This would be possible if and only if good mobile applications are available. If you would opt for mobile application development now may be you would get very much experienced by 2015.

- **Excel Growth:**

SOME fight wars with words, others with numbers. Hardly a day passes without new data on mobile apps, the small applications that can be downloaded to smart-phones to perform all kinds of feats, such as accessing social networks, playing games and identifying unknown music.

Mobile applications are literally paving the way for companies to generate a ton of sales and revenue. The main reason developers all over the world are calling mobile apps a "gold rush" is because companies of all sizes can greatly flourish by creating mobile applications.

But are we on a write move to cope up with the right Development with expected Quality Assurance?

Are you keeping up with customers?

Mobile Applications goes on:

- Multiple Handsets - i Phone, Android Apps Mobiles, Blackberry, Nokia, Windows Mobile
- Multiple Carriers – Vodafone, Airtel, Aircel, Idea, Virgin, Tata, BSNL, MTS.
- Multiple Platforms - Android, i Phone Apps, Palm, Pocket PC, Brew, J2ME, Windows Mobile and Symbian.

Phases in Developing in Mobile Applications goes on:



QA of Mobile Applications Depends upon:

- Version/Build Number.
- Handsets.
- Test locations.
- Testers.
- Carriers.
- Test Plan Numbers.
- Test Plan Status.

Are We :

- ☐ Defining a right testing strategy and plan for mobile devices including mobile phones and smart phones.
- ☐ Creating customized manual and automated test sets.
- ☐ Creating LAB environment for remote testing using various phone simulators and Mobile Complete environment.
- ☐ Integration testing of devices and applications with backend infrastructure.
- ☐ Managing complete QA/SDLC life-cycle including remote execution.
- ☐ Testing and monitoring applications across the diversity of handsets and global operators.
- ☐ Testing applications on selected handsets.
- ☐ Certifying devices with changes in application based on data-driven automated tests that enable regression testing.

- ❑ Enabling remote testing capabilities for any device on any global carrier (GSM, CDMA).
- ❑ Testing application on pre-market devices.

Right Activities at a Glance-

Are we providing a Testing service which includes Network Testing, Hardware Testing, User Interface Testing, Installation & Activation Testing, Messaging Service Testing, File Format Testing, Value Added Services Testing, Multimedia Application Testing, WAP & Internet Application Testing, Connectivity Testing, and Field Testing on handsets. The model that 360logica follows, for testing handsets has been outlined below:



Now a Question arise where the Role of QA comes into existence?

- Its not after launching the applications or Maintaining the Application after getting a feedbacks from Customers.
- Remember it will be too late to tackle an unwanted situation of BUGS Resolution.
- QA must be involved right from the first or topmost Phase of Ideate.
- Their must be an exact phase to tackle the situations and Testing must goes on in Chunks with respect to the Development.
- The portability of different handsets and their respective Platforms differs from one another.
- It's like you can say that some of the things goes well on one Platform but the Application user is independent to use the given sets or a given Platform.
- Your application must prove itself compatible on every platform and sets.

Platform	Symbian			iPhone	Android	WinCE
	Flashlite	J2ME	Symbian C++	iPhone	Android	WinCE PDA
Rich GUI	✓	✓	✓	✓	✓	✓
Backend Integration	✓	✓	✓	✓	✓	✓
Application Integration	✓	✓	✓	✗	✓	✗
SMS Communication	✓	✓	✓	✓	✓	✗
GPRS communication	✓	✓	✓	✓	✓	✓
Wi-Fi Communication	✓	✓	✓	✓	✓	✓
NFC communication	✗	✓	✗	✗	✗	✗
Bluetooth Communication	Yes(using third party library)	✓	✓	✗	✗	✗
Testing on various devices	✓	✓	✓	iPhone	Google phones	✓

360Logica – Value Addition(A complete 360 degree approach to give the best Result in a given span of time).

360logica offers you dedicated multiplatform mobile software testing lab. With need of looking at mobile software industry evolution, today's every user want to access their necessary application or software through mobile and most of the software companies are releasing mobile version of their software. We see, analyze, and test thoroughly such small and big mobile applications in our lab.

360logica has built strong domain expertise in mobile and wireless softwares. we have accumulated an extended experience in testing of system software, corporate and consumer applications for different mobile platforms – Iphone, Blackberry, Palm, Pocket PC, Windows Mobile and Symbian etc.

Our team includes specialists in Java ME, BREW, Browsing, SIM Tool Kit and a host of other technologies, allowing multiple fast-turnaround testing services for mobile applications on real handsets: OTA Download & Install, Java ME Quality, SIM Tool Kit application.

High Level Activities:

360 provides a Testing service which includes Network Testing, Hardware Testing, User Interface Testing, Installation & Activation Testing, Messaging Service Testing, File Format Testing, Value Added Services Testing, Multimedia Application Testing, WAP & Internet Application Testing, Connectivity Testing, and Field Testing on handsets.

Server Application

- ❑ J2ME, .Net

Location based Application testing

- ☐ Mapping Application, Global Positioning system(GPS), Point of interest application, Location based services testing

Wireless/mobile application

- ☐ software test offerings
- ☐ Wireless and internet security, Video and picture sharing application, mobile social media, gaming, Mobile CRM and Mobile ERP etc.

Carriers:

- ☐ We cover all Indian carriers and for overseas we use Perfectomobile or Deviceanywhere.

I Phone & I Pad Apps testing:

360logica team can help you deliver your mobile product to market with great quality. We are professionals who are well versed with the iphone Application Testing, SDK, Mobile architectures, and challenges associated with building and testing mobile application. Using 360logica testing service will give you access to our users for beta testing. Our lab is equipped with physical devices and simulators.

Test Competencies:

Functional Testing

Data Integrity

Usability

Compatibility with different versions of OS

UI Response in case of different lighting conditions (Like sunlight, dim light etc)

Application Settings response (testing preferences)

Crash Points (Null Pointers/Segmentation Faults)

Low Connectivity Response

Low Memory Callback Handling

Sleep Mode Response

Accelerometer Response (moving phone)

Battery Usage

Retrials in Case of network disconnect

Localization

Data Filtering Response

Time Zone Change Response

Mobile Test Automation:

360logica automated tests for Mobile Handset Device testing enables ongoing regression with minimal effort for your team. Our specialization in automated testing of devices using technology from Perfecto Mobile and DeviceAnywhere enables us to perform ongoing regression testing remotely.

360logica will help you reduce your ongoing costs of regression testing across multiple devices. We create Automation which is reusable across multiple handsets with minimal changes to scripts to cater existing as well as future handsets

Automation Process

- Define objectives and strategy for functional test automation.
- Identify test cases and test data suitable for test automation.
- After the successful testing cycle, create automation on one sample device.
- Create framework around automation to replicate across multiple devices.
- Execute the Automation across multiple devices.
- Identify defects and follow-up for resolution.
- Quality Metrics Management and Process Improvement.
- Extend the solution to monitoring aspect if needed.

Availability of Devices in labs:

- ☐ Iphone and Ipad devices
- ☐ Blackberry
- ☐ Android phones
- ☐ Windows phones
- ☐ Treo, PDAs
- ☐ HTC, Palm

We too have taken a good use of Mobile Computing through:

- Perfecto Mobile.
- Monkey Mobile.