

# Demystifying mobile testing solutions

Th  
Power

ation



## Executive Summary

It is no-brainer that the number of enterprise and consumer mobile applications has grown exponentially in recent years. Companies must ensure that each of their application meets the optimum quality yardstick so as to curb loss in revenue, productivity and dent to brand image. Mobile applications testing are more complex and different from testing web applications and conventional desktop.

Mobile applications require testing under diverse network connectivity conditions, and on a host of software versions and platforms. What companies need now is a robust testing strategy for mobile applications needed to get your applications to market within budget and on time.

## Introduction

The last few years has witnessed a meteoric rise in the adoption of smartphones which has had an impact on how companies look at leveraging mobiles and applications to reach their customers. Mobile-centric applications topped Gartner's list of "Top Ten Strategic Technologies for 2012."

By the year 2014, experts expect over 70 billion mobile app downloads from application stores each year. Clearly, mobile is today an enterprise focus, and not a consumer only phenomenon. The stupendous rate of growth of this domain arrives with a probability of equally adept bug fixes and rollouts of application improvements. This phenomenon has resulted in companies looking to take advantage of this business opportunity, and pushing fresh apps to the marketplace at breakneck speed.

What's the result? The biggest challenge has been for the QA testing space, which used to take 3-6 weeks based on the extent and application complexity, but has now been reduced to 1-2 days. However, companies must understand that these rollouts could prove to be costly in terms of their image and the actual cost to manage the issues if their mobile apps fail to meet the quality expected by their users. A recent survey found out that one in every four mobile applications downloaded are utilized once, and then uninstalled from the device or not used again. For entities whose application falls into this class, their business objectives behind instituting this application won't be met.

## Hindrances in Mobile QA Testing

Mobile QA testing is a bigger challenge than testing conventional PC and web-based applications. Listed below are the roadblocks:

- ✓ **Lack of Industry standards:** No specific industry standards have been instituted for mobile application testing as mobile applications are at the nascent phase of the adoption cycle.
- ✓ **Paucity of mobile testing equipment:** Tools for identifying screen objects for PC and web applications are not compatible with applications on mobile devices. This has given rise to complex scripting techniques, in the absence of this object recognition.
- ✓ **Device variety:** If an application is built for one single handset or device, there is no assurance that this particular app will perform with 100% integrity on another device — even if it belongs to the same handset group. This roadblock is primarily due to the differences in memory level, operating system, the handset, screen resolution among others.
- ✓ **Shortage of QA automation specialists:** With fewer tools in hand to accomplish mobile applications automated testing, there is a paucity of trained specialists to create the automation scripts.

If these challenges are met, it could bring down execution time considerably.

---

## The Advent of Best Practice in Mobile Testing

Most of the automated testing these days is performed on applications which are specifically designed for Windows and Web deployment by using tools such as Visual Studio Team System, Quick Test Professional (QTP) and Quality. Extensive customization is needed for these tools to be incorporated with success on mobile applications. The role of the automation engineer is to extend the capabilities of the tool by scripting a sophisticated set of functions which duplicate the present testing functionality which are present for Windows and Web applications to mobile applications.

Till now, companies lacked the depth of experience and specialized skillset required to tailor the tools for mobile applications. Breakthroughs in recent times have brought in a paradigm shift by offering a best practice approach to test automation for mobile applications.

## Seven Critical Components of Best Practices

Seven core components are needed to build a robust best practices approach for automated mobile testing:

- ✓ **Best Practices test structure:** Offers a methodology relevant to mobile applications which serve as the base for the testing modules going forward
- ✓ **Tailor-made testing modules:** Condenses and automates the mobile applications' testing cycle by leveraging thoughtful knowledge of superior scripting techniques
- ✓ **Testing under real-world scenarios:** Validates how an application performs on the actual mobile phone in its environment by employing the memory/processor of that particular device, and not using an emulator on a desktop
- ✓ **Swift resolution of defects:** Faster execution via automatic and smart creation of faulty submissions which may include supplementary credentials whenever accessible
- ✓ **Test scripts reuse:** Enables savings in cost by erasing the need to start over whenever augmentations are created
- ✓ **Analysis of feasibility:** Determines the tests which will attain the highest ROI (Return on Investment) via automation
- ✓ **Proof of concept:** Authenticates test automation value

---

## Advantages of Employing Best Practice Approach

Mobile technology brings with it a unique set of challenges and development nitty-gritty. It can be difficult to juxtapose the conventional techniques employed in the automated testing of Windows and Web applications and directly apply them in the mobile device arena test automation. Adjustments are the need of the hour, and the migration involves a significant focus on the learning curve. Companies will have to rely on skilled specialists in automation who can comprehend the complications of mobility, and who have achieved expertise in mobile automation solutions implementations, and who relentlessly stick to best practices.

## Benefits of the Best Practice Approach

- ✓ Brings significant savings in cost, effort and time by reducing testing cycles.
- ✓ Puts forth a robust practice framework for future projects, thereby bringing down offshore or onshore development costs. This raises the testing team efficiency, and allows releases to enter the production phase well before schedule.
- ✓ Launches a repeatable process module which can be duplicated throughout the company in order to convey cost savings.
- ✓ Fastens the ability to precisely identify and report defects so that implementations and corrections can proceed swiftly

---

## Conclusion

Despite the numerous roadblocks in the mobile application testing space, three key factors can ensure a cost-effective mobile testing module. They are: Offering ample connectivity options, vigilant selection of target devices, and employing tools which maximize automation. Employing a mix of physical devices and simulators can take full advantage of the test coverage even without the need to test each and every feature on each of the devices. Deploying Wi-Fi networks for majority of testing processes coupled with network simulation tools can go a long way in bringing down the complexity and cost of testing on diverse mobile networks.

Automation maximization is an efficient mode for accelerating the testing process and lowering long-term costs of testing. Factors such as script reusability, total cost of ownership and support for applicable mobile platforms must be taken into consideration while selecting tools for automation. In short, combining solutions to mobile specific aspects of application testing with conventional testing modules and best practices can efficiently tackle the hindrances in mobile application testing.

## About TGS Mobility team

ThincGlobalSoft (TGS) has consistently delivered best-in-class mobility solutions and services with absolute mobility lifecycle maturity and consultation service along with customization that provide cutting edge benefits to our clientele. TGS' business objective is to offer the best in the mobile testing domain and this is supported by its deep-rooted expertise in this space, a client-focused workforce that has a rich experience in mobile technologies, and a design team which is fully committed to utilizing the exclusive capabilities of each and every device framework.

## About ThincGlobalSoft

TGS' has employed an outcome centered philosophy to augment its clients ROI. It has years of expertise under its belt in Global Systems integration to offer a reliable, cutting edge and trusted services and solutions for its partners. Our solutions, offered in a secure and scalable scenario, integrate information whilst ensuring the Total Cost of Ownership to the clients. In short, TGS' 'Business Outcome oriented Testing Methodology' has been instrumental in delivering superior business impact for its customers. TGS' on-demand lifecycle testing solutions offer enhanced user experience, quicker time to market, cost reduction and demonstrated ROI.

To know more about how TGS can implement its proven Testing and QA solutions in your business, contact [signup@thincglobalsoft.com](mailto:signup@thincglobalsoft.com).

Follow us :



[www.thincglobalsoft.com](http://www.thincglobalsoft.com)