Mobile Testing

– a Comprehensive Approach

Sogeti and Capgemini are global leaders in testing and mobile application development. We offer mobile testing methodologies and solutions to ensure that the intended business value is delivered by the mobile solution. We offer five fine-tuned mobile testing services supported by our proven and industry recognized testing approach, TMap NEXT®, and can deliver mobile testing capabilities to your organization through our Mobile Testing Center of Excellence.

Mobile Testing is at the very heart of business-driven initiatives across companies and organizations. Make sure you are well prepared and teamed up with the strongest and most experienced team.

5 full-range services

We offer organizations the following set of mobile testing solutions:

• Mobile Functional Testing

• Mobile Compatibility Testing

• Mobile Usability Testing

• Mobile Performance Testing

• Mobile Security Testing

Mobile Functional Testing

Mobile Functional Testing aims to validate the actual functionality of the mobile solution. The test approach is realized through a use case model in which each use case is documented, step by step, and run through to validate its actual results against the expected results. Use case-driven tests can be complemented by exploratory testing, in which the tester is given a more loosely defined set of goals to accomplish using the app.

Our experience shows that since most apps have a narrow functional scope, exploratory testing across relevant devices is an efficient method to quickly yield highly relevant test results.

We have defined a minimum set of areas to be covered during functional testing:

• Functions

• Application interoperability

• Application lifecycle

• Network management

• Display management

The decision whether to perform these tests manually or unattended is defined within the test strategy, which is decided with the client and based on their business objectives (please see the chapter below about our TMap methodology).

Mobile Compatibility Testing

Addressing the challenge of testing hundreds of different devices is at the core of mobile testing. In our Mobile Testing Center of Excellence, we have access to hundreds of physical devices (200+) as well as licenses to use several cloud-based device testing frameworks. At the onset of a Mobile Compatibility Testing effort, the range of platforms and specific devices is clearly defined. Once the scope is set, our mobile test experts use both manual testing and highly efficient test automation tools to validating quality across all pre-defined devices.

Mobile Compatibility Testing covers aspects of platform fragmentation, physical characteristics, and app store review guidelines.

Mobile Usability Testing

Usability is a cornerstone of all successful apps. There is a fine line between subjectivity and objectivity in any usability testing, but with experienced usability experts and mobile testers we are able to lessen the likelihood of releasing an app with a potential for poor user experience.

We recommend two levels of evaluation. During the first evaluation, we distribute the application to a sample group of users and senior mobile testers. Their feedback is organized and categorized according to a pre-defined checklist.

They rate the application as they would in a store, using stars and freeform comments. The second level is to compare the user interface with applications of the same nature already on the market.

The tangible deliverables from a Mobile Usability Testing effort include specific suggestions and advice on what to improve and change to enhance the overall usability of the mobile solution.

Mobile Performance Testing

It's important to maximize end-to-end performance by working through each layer of the mobile solution's technology stack. Testing mobile solutions means measuring app performance, network availability and performance, along with system integration and back end performance.

- We define a performance test strategy with you, considering each of these areas and based on the following business drivers:

- Is the back end delivering service only to mobile solutions or to both legacy and mobile solutions?

- Is the performance studied from a mobile point of view or from an end-to-end point of view?

- How many and which user stories will be used? (profiling of virtual users)

- What do you want to monitor? (our default is monitoring five critical aspects of service performances)

- What are the protocols involved?

Performance testing is not only used for validating system architecture, it is a second-to-none solution for scaling appropriate back end systems.

Mobile Performance Testing focuses exclusively on the mobile solution's performance, disregarding functional and usability aspects which are addressed in other types of testing. We execute both manual and automated testing using market-leading performance testing tools.

Mobile Security Testing

Mobile Security Testing is becoming increasingly important. Validating specified and implemented security measures often reveal critical security holes and threats. In a typical Mobile Security Testing effort we use tools to validate six common security aspects:

Confidentiality: Does the app keep your private data private?
Integrity: Can the data passed to and from the app be trusted and verified?
Authentication: Does the app verify the user's identity to an appropriate degree of certainty?
Authorization: Does the app properly limit user privileges?
Availability: Can an attacker hurt the solution in any way?
Non-Repudiation: Does your app keep records of events?

The focus here is exclusively on the mobile solution's security, disregarding functional and usability aspects which are addressed in other types of testing. We engage through both manual and automated tests using high profile and market leading security testing tools.

TMap NEXT® for Mobile: A structured Mobile Testing approach

The five mobile testing services mentioned above are all supported by our industry-recognized structured testing approach, TMap NEXT®. TMap NEXT® provides a solid foundation for structured

mobile testing based on four essentials:

- TMap is based on a business-driven test management (BDTM) approach

- TMap describes a structured test process and lifecycle model

- TMap contains a complete toolbox

- TMap is an adaptive test method

We have adapted TMap NEXT® to optimally support mobile testing. We call this methodology TMap NEXT® for Mobile.

An adaptive test method

The TMap NEXT® for Mobile test method can be used in several contexts. It is adaptable to very different clients, circumstances, and development methods. This is relevant for mobile, because mobile development processes are often agile, with a short time to market. TMap NEXT® for Mobile can also be used in different settings. For example, it can be used in projects on client sites but also in our own Mobile Testing Centers of Excellence. It can be used in an agile development process as well as in waterfall projects.

The TMap NEXT® for Mobile test approach ensures the right balance between risks, results and costs. Essentially, we drive business driven mobile tests that focus on core aspects of delivering business value.

Need more information?

Learn more about our five Mobile testing services, Mobile Testing Center of Excellence and our overall mobile and testing solutions:

www.sogeti.com/mobiletesting
www.sogeti.com/mobility
www.sogeti.com/testing