



## THREESIXTY LOGICA TESTING SERVICES

# FUNCTIONAL & AUTOMATION TESTING

### CLIENT

Our client is a product development company that builds IDE for development of Mobile and MAC based application. Over 600,000 developer's and 30,000 customers across 185 countries use our client's products to simplify the creation and maintenance of high-performance, cross-platform mobile apps targeting phones, tablets & embedded devices running iOS, Android & Windows.

### APPLICATIONS & REQUIREMENTS

- Client required QA professionals who are testing experts and also have a development mindset to test their product in the way their end-users would finally use it.
- Bridging the information gaps between end-users and developer's. Helping developer's to get customer issues resolved at early stage.
- Since our client has a different time zone, maximum overlapping time for interaction with our team was required by the client.

### TOOLS & TECHNOLOGIES

C# Programming Language, Xcode, Android SDK, TestRail, BugZilla, Calabash, Trello, Gist, GitHub etc.

Supportive tools to automate iOS and android samples: Calabash tool, NUnit Framework, iOS and Android environment

### BENEFIT OF TOOLS USED

- Github: to share our samples with our Developer/client.
- Trello: a task management tool to manage our daily tasks.
- Test Rail: to create/manage our test cases and to create/execute test plan.
- Bugzilla: to log and track the issues on daily basis.
- Gist: for providing lengthy logs.
- Screenshot: for sharing the videos of the issues that are being reported.

## PROCEEDINGS & SOLUTIONS

We provided the client with a team of manual testers and C# developer's team to focus on their respective domains.

### MANUAL TESTING TEAM

- Manual testers are responsible to test the basic UI elements and functional controls i.e. to check the installation/un-installation of the s/w and ensure that after installation the required files are properly located or not. Also to check that after un-installation all the files are removed or not.
- Testers check the licensing portion and test the behavior of the application on Trial version and Purchased version to make sure the things are working smoothly.
- Create the template application, build the application and deploy on Emulators/Simulators to see if they are working good. Team also test sample applications on Devices (iOS/Android/Windows) on different OS versions.
- Test for the various updates of the application like Stable, Alpha and Beta versions of the builds.
- Testers here compare the IDE components with the existing other variants in market like Xcode etc., to make sure they are working in similar manner to the existing variants.
- We set up an exhaustive lab equipped with MACs (different OSes and models), Windows system (with variety of OSes) and number of iOS & Android devices to make sure the product is being tested across a variety of platforms.
- The team used VMs and Images to test the IDE and its product to make sure all works fine on cleanest environments.
- Snapshots and images are managed at various levels to make sure that application works fine with different versions of the supporting softwares.
- Pre-defined sample applications from client to test the IDE functionality at each updated version were used by the team.
- On regular basis the testers kept upgrading their test environment to make sure that the product is compatible with all updated OSes and other supportive tools. This helps in catching early compatible issues. For e.g. some latest software versions like the ones mentioned below are used:
  - Pre-released MAC OS
  - Pre-released iOS and Xcode
  - Android SDK latest API's and Platform Tools
  - Latest update for Visual studio
  - Pre-released VS versions
  - Win latest versions

## C# DEVELOPER'S TEAM

- C# developer's teams are responsible to check the debugging part of the IDE (integrated development environment). They set breakpoints at various levels in the code and confirmed that application should debug properly via step-in, step-over, step-out.
- Team was responsible to check the designer files and make sure all the changes are reflecting properly.
- C# developer's team took the responsibility for automating the testing sample applications (from client) using NUnit & Calabash to minimize the manual efforts required in testing.
- C# developer's team helped in verification of complex coding issues. Developed understanding of the issue and then verified the issue by writing suitable code snippets, functions and classes etc.
- The team also added test cases having code snippets that can be used by manual testing team during test case execution.
- C# developer's team assisted manual team by creating some sample applications for them to test the IDE's functionality.
- Though the team has expertise on C# language, yet they delved deep into the product to test the application using other languages like F#.
- Interaction with developer's at customer end to understand the new features. Involved with testing them to find any early issues.
- The team explored other similar variants available in market and performed comparative study of the features that are being developed.

## CUSTOMER SUPPORT

team worked on Triaging of the issues reported by end users and followed below process

- If Bug is filed by customer/end users, test team tried to reproduce it using latest stable builds as per the info provided in bug:
- If bug is reproduced, team confirmed the reproducibility and added up any required information if it is missing.
- If Bug is not reproduced, team asked for more information like logs/environment details from the reporter.
- If issue is not valid, then the end-user is informed about it and we helped them to understand the right things.

## TIME ZONE DIFFERENCE

Due to the time zone difference, the client required support for maximum possible hours; hence we divided team into 2 shifts – morning shift (10:30 AM to 8:30 PM, IST) & afternoon shift (2:30 PM to 12:30 AM, IST).

# CONNECT / COMMUNICATION



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## BENEFITS TO THE CLIENT

- Having labs enriched with wide variety of hardware and software (MACs, Windows and Devices) and keeping them up to date with all upcoming latest stable and beta versions of the softwares, helped to catch compatibility issues at very early stages and hence helped the client to make their product compatible with new changes in market.
- Teams working in shifts provided the client approx. 6hrs on daily basis to discuss and plan anything with the test team with ease. This resulted in better productivity, resolution of issues without losing much time due to time zone differences.
- Test team working on triaging of issues, helped to minimize the developer's effort on reproducing the bug and optimizing effort that can rather be used in fixing the issue. This helped the internal developer's in dealing with issues coming from end-users at very early stages.
- The test team, looking at other similar products available in market, helped the client to get their product build according to benchmarks already set in market.

## THREESIXTY LOGICA TESTING SERVICES

For Sales /General Enquiry



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