QUALITEST™

Fast-Track to Victory: Ensuring Testing Success and a Gold Medal for a Leading Sports Ecommerce Platform

When our Client, a leading sports eCommerce platform, needed to develop their own Android based application, they utilized parallel testing for maximum success.

Challenges

Running tests on a single Android instance underutilized available resources.

Sequential test executions were time consuming, delaying the feedback loop. As a test suite grew, maintaining reasonable test execution times became challenging.

Solutions

Test suites were divided into subsets that ran concurrently, which signiÿcantly reduced overall test execution time.

An automated testing solution that would accommodate mobile testing on both Android and on iOS platforms.

Results

Multiple instances were utilized which helped to speed up the testing process.

Parallel testing was scaled by adding more instance or subsets to accommodate growing test suites.

Client overview

Our Client is a well-established and reputable British sports-fashion retail business with over 40 years of operation. Their headquarters is located in Bury, Greater Manchester, England, UK, and as of 2022, employs over 44,488 individuals.

They offer a discounted range of merchandise, clothing, and footwear, including top brand names. The Christmas period is crucial for the business, with a significant portion of customer demand concentrated in the second half of the year. During this time, there is a heightened need for a substantial range of Christmas-related products.

Making Android bugs run faster than Usain Bolt thanks to parallel testing

Our Client made a business decision decided to develop its own Android application for their eCommerce website which had a presence in multiple regions (fascia). They found their manual testing processes were hindering their commercial agility, so to fast-track their new reward propositions, through onboarding to release to customers, they wanted better testing capabilities. They also wanted to reduce their costs, increase test coverage and future proof their eCommerce platform. This meant their staff needed to be able to easily setup, configure and run regression tests in-house.

To achieve all this, they wanted to automate elements of their testing. Our Client therefore needed to achieve an optimal level of automation on both their mobile app and web app platforms. They did not have the expertise in-house to suggest how they could implement toolsets for automation testing or how automated monitoring solutions could identify testing bottlenecks.

The objective was to reduce dependency and to make sure our Client's app was user-friendly, easy to maintain, and more compatible for anybody who can easily set up, configure, and run regression testing undertaken by the functional team. They wanted to achieve the following elements:

- Efficiency improvement – manual efforts needed to be reduced to minimize errors, speed up the testing process and lower operational costs by optimizing the need for manual labor.
- Accuracy and consistency – this was required to improve accuracy and ensure consistent results in repetitive tasks, reducing the likelihood of human error.
- Time saving – solutions implemented should result in time savings by expediting processes in order to focus on more complex and strategic tasks.
- Scalability – solutions should be developed in a way that can scale with our Client's business growth, accommodating their increased workloads and evolving requirements.
- Flexibility and customization – solutions should be adaptable to specific needs and should also be customizable.

Doubles, triples, and first-class testing: the winning formula for testing success

An automated testing solution that would accommodate mobile testing on both Android and on iOS platforms was built, and an iterative process was planned with three clear phases:

Phase 1 – identifying the right framework.

Engineers, automation test specialists and system architects undertook enterprise-level fact-finding into the Client's existing systems. In the scope business processes, volumetric and system-usage information was identified.

After several proof of concepts, the right solutions were identified to run automated tests: Qualiframe, Selenium + Java, with Appium as the automation testing platform. This would be intelligent enough to understand user parameters and run concurrently for different Fascias using BDD tags.

Phase 2 – regression run simplification.

The simplification of regression testing involved removing manual operations and dependencies on the automation expert. A simple command and single click trigger could therefore complete the regression run. On completion of the run, logs are set apart in their respective folders with evidence and all the pass and failed test scripts were captured along with the execution flow. The tool is user friendly, compatible, easy to maintain and requires no manual intervention during execution.

Phase 3 – mobile testing lab on real devices.

A simple command triggered the complete regression run on multiple devices; however, the one-time test setup and configuration were performed manually. Upon completion of the run, the logs were saved to their respective folders, including evidence such as all passed and failed test scripts, captured along with the execution flow and screenshots.

The objective was to create an intelligent, platform-independent solution to handle the regression run. Parallel execution meant test coverage and testing quality were significantly increased, and testing time was reduced significantly, giving a significant ROI boost.

Key Benefits

Full platform independence as Windows Linux and MacOS are all supported by the new web app.

- Significantly improved performance by allowing multiple tasks to run simultaneously.
- Increased and faster processing time with tasks being divided into subtasks and processed more quickly in parallel.
- Faster concurrency by allowing multiple tests or processes to be executed independently of each other. Greater real time processing, especially in scenarios where this is critical an that parallel execution is needed in order to meet tight deadlines and providing timely responses.
- Real time processing: In scenarios where real-time processing is critical, parallel execution ensures that task is executed concurrently, meeting tight deadlines, and providing timely responses.
- Significant cost efficiency made the cost per test much lower.
- Increased improvement of testing practices as by testing at high speed, larger areas where automation had not been achieved could be penetrated.

> " Our Client was able to significantly improve their performance by allowing multiple tasks to run simultaneously through gaining full platform independence. "