

THE PROBLEM

This case study covers the Kualitatem experience while performing data validation testing for a web based tracking portal. Client wanted to check their application behavior on different browsers and for that they wanted Kualitatem QA team to execute performance testing of specific business processes.

Kualitatem followed custom test approach to deliver the project according to the client needs. This case study also disuses that how Kualitatem QA team combined their testing expertise with the development expertise of client, which resulted in achievement of testing milestone effectively and on-time.

Client approached Kualitatem to carry out performance, data validation and cross browser testing. Their product was a web based tracking portal built on latest web technologies. Primary objective was to perform rigorous data validation testing to make sure that the application was ready for launch within a tight scheduled timeline.

THE APPROACH

Kualitatem team followed a step by step process, in order to successfully accomplish Data Validation, Performance and Cross Browser Testing task. First of all, the QA team prepared layout of reports according to client requirement. The major task as like any other was to get the domain knowledge to meet the goal and produce the quality result within limited time frame.

The team was divided into two groups, 1st group were set on data validation testing to check the consistency while other part of team was appointed on Performance testing. While keeping in mind the client's requirement and features of their product, Web Load tool was selected for Performance Testing as it completely covered the functionalities required to comply with client's requirements.

Later on, environment was setup to check application on different browsers and primarily for performance testing. After the successful environment configurations performance testing was carried out and all the results were efficiently stated in performance report.

Test scenario matrix was prepared to cover all the functionalities of the application. Then test cases were made from scenarios. These test cases were manually executed and Bug report was prepared in such a way that bugs were classified under categories according to their severity. A defect summary chart was prepared for defects over different levels.



Figure 1

THE APPROACH

All scenarios' scripts were recorded and updated as per requirements. Each scenario was run individually across the tool for up to 10,000 users in the incremental manner. The load size started at 2,000 and concluded at 10,000. The results for all scenarios' were statistically compared with Kualitatem's profiling strategy, resulted in figures for the overall performance for the website.

Initially, the application Response Time, Throughput, Round Time and Hits per Second had been noted and analyzed by generating the load of 8,000 to 10,000 users. Rigorous business scenario changes were catered comprehensively in test plans and test cases and strict reporting and execution guidelines were followed to minimize any process gaps. The process also ended up in thorough documentation produced by Kualitatem team as the client was busy evolving their application features.

Response time for the scenario of 'Search' on the average was constant but at every instant whenever the

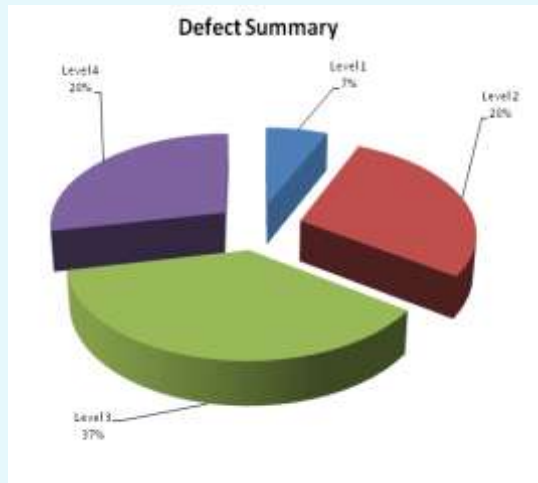


Figure 2

number of users were randomly increased the response time had been increased by 0.889 sec to 29.979 sec. The average response time was 15.434 sec on the average minimum taken. The poor response time achieved has been 29.979 sec whenever the load on the server has been increased.

The throughput on the whole scenario has been low ranging from 15166.500 to 179161.100 bytes per sec. The numerical part showed the average throughput of 179765. The hits per second for the website across all scenarios' increase as the number of virtual users are increased and though it has affected the throughput in terms of the overall results.

SUMMARY

QA team at Kualitatem added significant value to the product, by suggesting exactness in process flow, business flow and feature usability. Apart from performance, data validation and cross browser bugs other issues and suggestions were also reported in order to improve the overall quality.