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CASE STUDIES

Client

Client is a leading provider of on-line instructional tools. In the academic year 2012-2013, it served more than one million students and 12,000 instructors.

Challenge

Perform regression testing on critical, revenue-driving features utilizing a minimal amount of dedicated resources.

Solution

Engage Zenergy Technologies to develop an advanced Selenium test automation framework. It needed to provide significant return on investment by minimizing maintenance and facilitating ease-of-use.

Highlights

- Client needed to increase critical regression test coverage while reducing execution time.

- Engaged experts at Zenergy Technologies to design a scalable Selenium framework that would be easy to maintain.

- Client and Zenergy Technologies collaborated with offshore team for four months to develop software for the advanced automation framework.

- After implementing automation, critical regression testing coverage increased 500% in a six (6) minute automation run. Manual regression efforts had previously taken at least 60 hours per release.

Technologies

- Platform: FreeBSD, Apache, MySQL, and Perl

- Application: Client's flagship SaaS product

Summary

Client is a leading provider of powerful online instructional tools for faculty and students. The double-digit growth the client has seen each year since its inception has led to complex feature sets that can be challenging to test. Faced with either adding more QA resources or developing a solid test automation framework to facilitate regression testing, the client chose the latter and settled on Selenium, an open source test automation tool. Lacking specific expertise in advanced automation concepts that are scalable and easy to maintain, the client engaged Zenergy Technologies to design the Selenium framework.

Zenergy Technologies performed a strategic review to determine automation feasibility and selected the optimal Selenium framework that would best work with the client's objective and environment. From there, Zenergy Technologies demoed a hybrid modular/keyword approach, allowing the offshore team to work alongside Zenergy Technologies to build the custom framework and test automation scripts. Once these pieces were in place, the offshore automation engineers worked with Zenergy Technologies' lead automation engineer to create a viable test automation suite in four months.

Regression testing coverage of critical functions increased 500% within four months, and moved from a manual testing effort of 60 hours, to an automated runtime of six (6) minutes. With the demonstrated success, the client, Zenergy Technologies, and the offshore team began subsequent phases to upgrade the test automation user interface with a web interface. The teams have added, and will continue to add sophisticated testing features to the suite, integrate the framework with build automation and reporting tools, and identify other areas ripe for automation.

Results

Reduced Execution Time --- *Within four months, the advanced Selenium framework reduced regression testing from 60 hours to six (6) minutes. Savings continue to accumulate given the hundreds of automation smoke tests run to date.*

Increased Test Coverage --- *Test coverage of critical functionality increased by 500%. Percentage is increasing with each subsequent automation build-out.*

High Degree of Confidence --- *The advanced Selenium framework was critical in delivering a high-profile enhancement with the superior quality expected by the executive team.*

"Before implementation of the advanced Selenium framework, we could only test one percent of the critical regression functionality with a 60-hour manual effort. Four months into the automation project, we increased that critical coverage by 500% in an automated run that only takes six (6) minutes."
– Quality Assurance Manager for Leading Provider of Online Instructional Tools

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