infopulse

Case for **an Integrated IT solutions provider**

Automated Software Testing Ensures Higher Quality and Performance of the Customer's Product_

Increased Application Testing Efficiency with Auto Tests

Industry: Computer Software   **Location:** Germany   **Employees:** 300+

Client Background

Our client is a leading provider of integrated software solutions for IT, data centers, and telecommunication infrastructure management worldwide. The company serves hundreds of customers globally in the automotive, banking, telecommunications, aviation, medical, and energy sectors.

Business Challenge

Our Infopulse QA experts were engaged in the modernization of our client's core product with a focus on quality improvement and reliability. Primarily, the scale of the application, which was based on soon to be retired Adobe Flash Player, was a key challenge. The application featured multiple modules and, correspondingly, a relevant number of possible test cases and scenarios had to be created from the ground up. This also added complexity to the identification of the precise test focus.

It was essential to develop the infrastructure and environment for the cross-browser testing connected to the Continuous Integration system. To do this, the Infopulse QA team had to get familiar with a new testing framework suggested by the client and develop a test automation strategy from scratch. Before the modernization, the application testing was conducted manually, consuming time and resources. The team had to deal with a large code base for the unit testing, while also being pressed for time (Adobe Flash Player end of support).

Solution

Infopulse experts mapped out a **detailed test strategy** (e.g., types of autotests suitable to each migration phase) including analysis of business-suitable test platforms (Protractor, Ranorex, Selenide) and test environments for both modern and outdated versions of browsers.

- Enabled **automated cross-browser testing** by using Ranorex API and performed on VMs provided by the client. As of now, there are over 2,000 autotests including:

  - **Core tests** covering disperse test cases (such as utilizing a single application component in different scenarios and basic functions of the application such as a mechanism of multiple entities relationship);

  - **Unit tests** to verify that business logic is unhampered after implemented software changes;

  - **Smoke tests** covering key functionality of the web application, checking whether basic elements of the web application work as intended (menu, buttons, etc.);

Solution

- **End-to-end tests** ensuring that the application flow and communication between objects are performed as expected in each module;

- **Regression tests** covering those cases that yield bugs and ensure that software modifications have not affected the existing app functionality;

- **Manual tests** include cases with complicated business logic requiring specific system configuration, complex preconditions, and a review of modules with sophisticated graphics.

- Configured and integrated test environments with a **Continuous Integration** (CI) system.

- Established a **test management system** TestRail and integrated it with a CI system. The system allowed gathering all test cases and their results for each browser version in one place, with subsequent visualization in both TestRail and Jenkins.

Business Value

Our client received a proprietary continuous testing system, which resulted in the increased stability of the application.

- Accelerated implementation of new versions: increased the frequency of new features releases.

- Reduced the test time of the whole application with automated testing.

- Vastly increased the overall efficiency of application testing.

- The customer successfully recouped investments in the in-house environment for cross-browser testing in less than 7 months compared to a costly cloud solution.

- The developed test strategy greatly improved the quality, performance, and reliability of the application, which resulted in a decreased rate of support tickets coming from end-users.

- The client received real-time access to all the test cases and their results across different environments and browser versions.

- With our help, our client reinforced their application's key purpose — enabled better transparency and robustness of a complex resource management system for the end-users.

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About Infopulse

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