Functional Testing of a Payment System

"This project was of great importance to us because we work with a very demanding group of customers that value their time and put the main emphasis on convenience and simplicity of online payments. We trusted A1QA with that job because they were very fast to provide us with a convenient working schedule and test scenarios for our ongoing project. Their testing procedures were very thorough time-efficient; so we managed to complete and launch the Payment Service Provider online project on time. We appreciate their efforts and would recommend A1QA to any respectable company."

Dieter Disl

Technical Director

Customer

The customer is a German provider of financial and technical solutions in the field of e-business. As a highly respected Internet service provider, it aims to provide card transaction settlement services in a fast, secure, and reliable manner.

Company	*E-business Service Provider*
Country	*Germany*
Business Domain	*E-commerce*
Services Used	*Functional Testing*
Cooperation Model	*Independent Software Testing and Quality Control*
Duration	*4 years*
Efforts	*1440 man-hours*

Project

The Payment Service Provider online project was part of a large business project for Internet credit card payments.

This business project involved German investors, an acquiring bank project coordinating and consulting group, software development company as a development solutions provider, and the A1QA company for independent QA solutions.

The Payment Service Provider online system is an Internet-based Java application designed specially as a service-providing instrument and therefore a key to success of the Internet payment provider. The application had a client part with GUI and a separate payment part without GUI, which was to be incorporated into the end-user GUI interface.

Challenge

The customer carefully selected the team to implement the project. From the very start they realized the necessity to assign QA and testing tasks to a remote QA team not to be behind schedule and to obtain a thorough independent third-party effort.

Solution

After the project estimation A1QA discussed the time frames, cooperation strategy, tools report system, and communication strategy that suited the customer's business schedule and needs. After receiving approval to the suggested procedure, A1QA guided the customer through all testing processes, strictly adhering to schedules and following all customer requirements.

In a short period of time A1QA testing experts were able to do the following:

1. Developed test scenarios.
2. Tested new functionality for Win 2000/IE 5.5 and Win XP/IE 6.0.
3. Performed a wide range of tests (alongside with the development process):
   - Functional testing (automated and manual solutions)
   - Web services testing (automated approach)
   - GUI testing
   - Performance and stress testing
4. Found, reported, and fixed 3 500 defects and variances.
5. Tested the project documentation (functional specification, use cases, and requirements documents).
6. Created test documentation (test scenarios and test cases).

7. Implemented a tool for running automatic transactions.

Cooperation with a remote development team

Our goal was to build effective cooperation between our QA team and the independent development team so that they both had better understanding of the project and its specific problems. To foster collaboration, we used various communication channels (e-mail, phone calls, and web paging software). Active involvement of QA engineers in the development phase greatly improved the effectiveness of development processes and, as a result, guaranteed the end product quality.

Technologies used

Automation tools: SilkPerformer (performance and stress-testing), Rational XDE Tester (web service testing)

Defect tracking system: IBM Rational ClearQuest

Development tool: IntelliJ IDEA 6.0

Application server: WebSphere

Success

- The customer received a high quality product that enhanced its business performance.
- The flawless running of the application immediately resulted in increased customer satisfaction.
- The user-friendly GUI ensured improved usability and accessibility of the customer's services.
- Cooperation between QA specialists and developers in the development phase allowed foreseeing and preventing the possible negative outcome of time frame shifts.
- The customer gained additional control and further enhanced monitoring of the development team progress.