

Complex Testing of a PDA Client and Standalone Application for Construction

"The ability of your staff to perfectly handle complex, uncommon issues is really impressive. And this on a very tight schedule!"

Michael Flagler
R&D Manager

Customer

The customer is a large US-based construction company.

Company	<i>Construction Company</i>
Country	<i>USA</i>
Business Domain	<i>Construction</i>
Services Used	<i>Functional Testing, Usability Testing, Stress Testing, Database Testing, GUI Testing, Installation and Licensing Testing, Pocket PC Testing</i>
Cooperation Model	<i>Independent Software Testing and Quality Control</i>
Duration	
Efforts	

Project

The system is a fully functioned standalone application that contains various modules used in the construction company activities such as accounting, estimation, scheduling, time keeping, ordering, etc. The PDA client is used for remote use of some of the application features.

Challenge

- The system was intended to work on PDA devices with both wirelesses and on-site HotSynch capabilities.
- The system was required to be compliant with Microsoft standards.
- The system was integrated with the QuickBook payment system.
- The test team was required to have deep knowledge of business processes in the domains of construction and payment systems.

Solution

To ensure seamless functioning of the customer's product, A1QA performed the following test types:

- Functional testing
- Usability testing
- Technical QA (performance and stress tests)
- Database testing (database structure, scalability, operational speed on different data volumes, and data integrity)
- GUI testing
- PDA testing
- Installation and licensing testing

Within a short period of time A1QA testing experts managed to do the following:

- Tested the new functionality for Windows 98, Windows 2000, Windows XP, Windows 2000 Server / Windows 2003 Server, and Microsoft Pocket PC
- Tested the project documentation (the functional specification and use case documents)
- Created test documentation (test scenarios)

For better results, both real and emulator devices were used.

To ensure compliance of the application with Microsoft standards, special test cases were developed according to which the product was carefully tested.

Cooperation with a remote development team

A well-organized process of cooperation with the development team resulted in delivering a high-quality product in a short time span. To foster the communication, we used various communication channels: e-mail, phone calls, and Internet voice and paging software.

Developers provided one or two builds every week. After each build had been tested, we uploaded detailed reports on the test types performed and their results. The customer was also provided with weekly progress reports.

Technologies used

Automation tools: Silk Performer, Test Complete 4.22

Defect tracking system: Rational ClearQuest (including Rational ClearQuest Web)

Version control system: Rational ClearCase

Development tools: Visual Studio .NET 2003 DB

Administration tools: MS SQL Server, MySQL database connector

Success

- The most important part of testing followed all logical operations and interactions between various modules of the product. A detailed study of all business processes involved allowed us to avoid logical mistakes.
- To resolve the problems of the system integration with the QuickBook payment system, the latter was deeply analyzed within a short time, which prevented mistakes in testing.
- The project development and testing were performed on a very tight schedule, and the product was ready for a US software exhibition on time, which was only possible thanks to well-coordinated work of QA specialists.
- Timely communication via e-mail and MSN messenger ensured that the customer was receiving all necessary information concerning the testing process and was able to resolve all related technical problems.