

Complex Testing (Functional/Automated/Configuration) of a Content Management System

“The reaction of our personnel to the new product was one of absolute delight. After the presentation I couldn’t get them to go home last night!”

Donald Hancock Jr.
Development Manager

Customer

The customer provides innovative enterprise content management solutions to allow its customers to comply with the most stringent regulatory requirements.

Company	<i>E-Commerce Company</i>
Country	<i>United Kingdom, USA</i>
Business Domain	<i>E-Commerce</i>
Implementations	<i>Oil & gas, healthcare, manufacturing, telecom, transportation, public administration</i>
Services Used	<i>Complex Testing (Functional / Automated / Configuration)</i>
Cooperation Model	<i>Independent Software Testing</i>
Duration	<i>4 years</i>
Efforts	<i>200-1600 man-hours per month</i>

Project

The project is a comprehensive enterprise content management (ECM) solution that enables organizations to automate document-centric business processes using a standard web browser. It integrates document management, content management, workflow, collaboration, knowledge management, and records management into a single integrated product suite. It was designed to meet the needs of different industries including oil & gas, power generation and transmission, pharmaceutical manufacture, medical device manufacture, telecommunications, manufacturing, transportation, and federal and state administration.

Challenge

The purpose was to replace the previously used Windows application with a new and more user-friendly customizable web application in less than 24 months.

The project involved a complex cooperation model including a 15-person development team and two distributed QA teams (1-6 engineers in the customer QA team and up to 5 engineers in the A1QA team, depending on the development phase).

To ensure high quality of the product, A1QA offered a wide range of testing services: documentation, prototype, functional, user interface, configuration (customization), and automated testing.

Solution

The testing process started from the very beginning of the project life cycle and included the following testing procedures:

- Documentation testing before functionality implementation helped to avoid penetration of logical defects into future functionality.
- Prototype testing helped to find logical defects and inconsistencies in structure and navigation, to create a well-organized and well-structured application with a perfect user interface, to assist end users in quick adoption of the new system without any training required, and to save future expenses in the support phase.
- Functional testing and development started simultaneously, which allowed the customer to monitor progress in the product quality during the entire development cycle.

- Automated testing was offered as a time-saving solution for the invariable and time-consuming parts of the application. It noticeably reduced manual testing efforts in the stabilization period.
- Configuration testing performed in every stage of the project lifecycle helped to create a customer-oriented web application and allowed the users of the previous application to easily adopt the new version.

The customer's in-house QA team was more oriented towards the product end users; therefore the QA engineers on the customer side were only partially involved in all test activities and performed testing from the end user's perspective.

Technologies used

Browsers: Internet Explorer 5.x+

Automation tools: Silk Performer, Test Complete 4.22, Quick Test Professional (Visual Basic Script)

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 Manager PE Web server: IIS (Microsoft Internet Information Services)

Other tools: Windows SharePoint Services

Success

- Thorough planning and smooth cooperation between the two remote QA teams (QA engineers on-site and four off-site) helped to create a well-designed and customer-oriented application by covering all the necessary aspects and creating a user-friendly interface.
- The most harmful defects were revealed during documentation and prototype testing, even before functionality implementation began. This certainly saved project time, developers' efforts, and future costly rework.
- Well-organized planning, coordination and cooperation during the testing process helped to deliver the product on time and on budget.
- The customer appreciated our ability to adjust to their needs on short notice and to cooperate with the remote team.
- The customer is still working with us on an ongoing basis, which includes 5 more products tested by A1QA since.