

Complex Testing of an Insolvency System

Customer

The customer is a large Canadian insolvency process systems software provider. It offers solutions for trustee offices in Canada.

Company	<i>Software Development Company</i>
Country	<i>Canada</i>
Business Domain	<i>Insolvency Management</i>
Services Used	<i>Complex Testing</i>
Cooperation Model	<i>QA and Development Outsourcing</i>
Duration	<i>2.5 years</i>
Efforts	<i>45 man-months (QA efforts)</i>

Project

The functionality provided by the project included:

- Estates management
- Leads management
- Trust account banking capabilities
- Financial transactions management
- Cheques printing
- Different reports and forms generation
- MS Outlook synchronization
- Built-in browser
- Complex user rights and security system
- The application supported various features listed below:
- Modularity providing flexibility in administration and control.
- Look-ups, templates and questionnaires for simplification of an estate life cycle management and optimization of routine work.
- Support for 2 interface locales (English and French).
- Work under widely used operating systems, both x86 and x64.
- Licensing support.
- Central control over updates.
- Detailed financial transactions tracking with the possibility to control every stage of a financial operation and printing all the related documents.
- Support of E-filing.

The project was integrated with third-party products such as Microsoft Word, Excel, Outlook and Adobe PDF solutions. This integration allowed the support of exporting and printing features.

Another distinctive feature of the project was providing integration with databases created by another similar solution of this business domain.

Challenge

The customer's main objective was to develop a qualitative, stable and flexible project according to the world-class software quality requirements. The main attention was concentrated on the financial calculations accuracy. Another goal was to provide a solution that can operate with several database types created by main competitive software solutions and to give clients a possibility to transfer data to the customer's product without any data loss.

To this end, the project required the following activities:

- Testing of the solution's complex functionality.
- Testing of the project under different operating systems (Windows XP and Server 2003 x86 and x64).
- Testing of multi-language support.
- Multi-user access testing.
- All possible ways of database migration testing.

The main difficulty for the QA team was lack of specifications describing the layout and structure of the application.

Solution

To ensure maximum coverage of all the tests and high quality of the end-product, our QA team performed the following activities:

- Functional testing with emphasis on the financial calculations accuracy.
- Multi-platform testing with VMWare technologies to ensure the quality and stability of the product run under most popular operating systems (Windows XP and Windows Server 2003 x86 and x64).
- GUI and functional testing of multi-language support.
- Multi-user access testing that involved all QA team members of this project.
- Fluent licensing testing.
- Integration testing to guarantee seamless work of the project with third-party products and to avoid problems with external programs support.
- Printing support testing that ensured correct work with external devices connected to the system.
- There were several ways of database migration among which were migration using a separately developed custom utility and built-in functionality that allowed retrieving the customer's data from other databases through web-services. The utility was used by the customers not only for testing purposes, but also to predict and fix all the possible issues that could happen during database migration. Thus, the QA team tested not only the correctness of the data migration process, but also the mechanisms of migration.

Web-services integration was represented by implementing an additional functionality in the application, allowing data creation in the native database and synchronization with competitive software databases through converting it into the supported format. Validation of data migration was made not only on the end-user's level, but also on the level of data transfers via web-services.

As a result, more than 13,500 defects and enhancements were uncovered, reported and fixed during the testing and development process.

Cooperation with a remote development team

The cooperation strategy of the QA team, developers and the customer was built on an internal defect tracking system used.

The difficult and complex functionality of the project required close and consistent cooperation of all QA team members experienced in testing of financial calculations accuracy and the insolvency business process.

Technologies used

Platform: Win 32/64

Operating systems: Windows XP Professional and Windows Server 2003 x86 and x64

Defect tracking system: internal defect tracking system

Version control system: Microsoft SharePoint Portal

Development environment: Microsoft Visual Studio 2005

Database: MS SQL Server 2000, 2005

Other tools: VMWare 5.5, 6.0, Crystal Reports, custom database migration utility

Success

The customer's product took the leading place on Canadian market of insolvency process systems. Seamless database migration was ensured; the product allowed clients to migrate from their old solutions to the customer's product easily without any data loss.