

Quality Assurance Case Study Automation Regression Test Suit for Document Process System

Client

Largest publicly held personal lines insurer in the country.

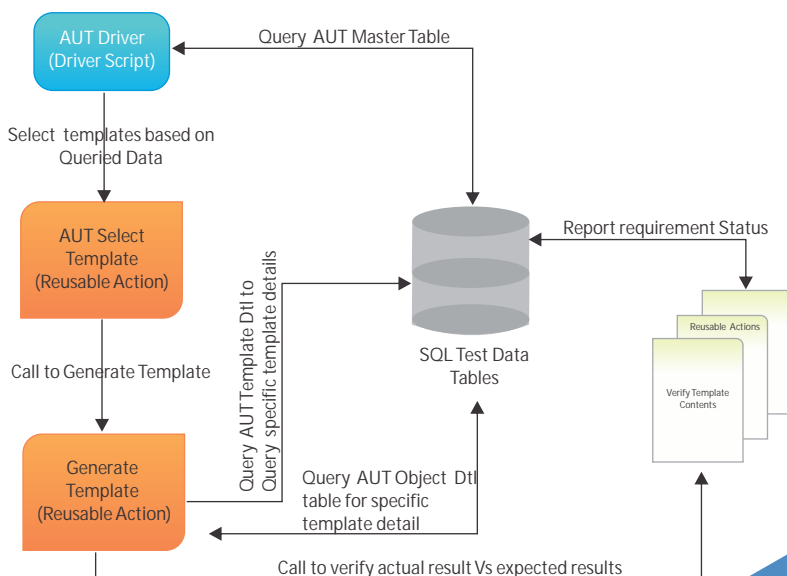
Creation of an efficient automated regression test suite to verify the functionality of Document Processing System used across the organization. The system is an intuitive tool that automates the printing and mailing of claims-related documents to involved parties.

A comprehensive database of legally approved documents is very critical for the business of the client that allows the employees to access any document needed to print and mail.

Analysis

- Large number of documents in various types and texture. There were more than 1300 unique document templates, which are to be tested. Creation of automated scripts for each document template is time consuming and unrealistic.
- Change of user interface is expected in the near future adhering to a major software development effort organization wide.
- More than 1300 requirements of in-depth control / field-level reporting. Since the application is complex and vast, a test execution report should be exemplarily detailed while pinpointing a defect.
- Testing the contents of documents in third party applications Microsoft Office Suite are not supported by the testing tools directly.
- Verification of Meta documents, which are the core templates, creates the MS Office documents as required.

Environment: ASP, .NET, Oracle, EDINET, QuickTest Professional, TestDirector, MS SQL Server, MSAccess, etc.



Quality Assurance Case Study Automation Regression Test Suit for Document Process System

Solution

Developed a robust Regression Test Suite using Mercury QuickTest Professional in two phases in respect to match the delivery timelines.

Phase I

The major challenge was to automate the large volumes of typical document templates, which are not, related each other in any respect. The strategy followed was to test the availability of template in printable MS Office document format in this phase.

Phase II

The scope was generation of documents by customizing the templates. Creation of more than 1300 documents based on the input fields present in the predefined templates. Critical aspect to test were verification of values input through varies input fields.

Test Framework

We planned, designed and implemented a test framework based on a database stored in MS Access. Interrelated tables in the database contain the object properties of each object present in the application. Also, we incorporated tables with values, which define the test execution to augment long-term use of the framework. Using this framework we achieved nearly 100% independency from Object Repository without compromising the test scope. This helps to maintain and reuse the test suite even if the presentation layer of application changes in future.

Test Data

Test data plays an important role in ensuring verification of flawless functioning of the application under test. Along with all object properties, the values were also handled through extensive use of SQL Server database. Values were stored along with other GUI properties of the test objects.

Requirement Management

Verification was leveraged to the level of test objects where customizations of each template were carried out. Therefore, it is relevant that test requirement should be presented for each verified control in the application. This amounts to nearly 7000 requirements. Advanced scripting methods and programming techniques were utilized along with MS SQL Server database to complete the requirement requisition within the time limits for this project.

Quality Assurance Case Study Automation Regression Test Suit for Document Process System

Results & Reporting

Accounting to the extent of scope and necessity of accurate reporting which should drill down to the level of GUI controls in the application under test, we designed a multi-layered reporting. Requirement specifications and specific user-friendly messages with accurate object properties and description of flaws occurred in the test step where included in the reports at lower level. Each execution of test scripts will update these to the SQL Server database, which can be used as a test execution log. Test scripts will record the outcome to an MS Excel spreadsheet along with the default XML format report of the tool.

Document Object Model (DOM)

Verification of document generated were done in line with the Meta document and values entered using the Application Interface. Generated documents were in MS Office format that is not directly supported by any of the testing tools available. We accomplished this task by making best use of VBA programming. Adopting the methods and properties of Document Object Model the contents of documents and document properties were verified adequately.

Advanced Keyword Driven Testing

Made maximum use of advanced keyword- driven testing within the limitations of the environment. Its self-documenting, Subject Matter Expert-oriented user interface helps you design and modify your tests and components quickly and easily using context-sensitive keywords in a tabular format.

User-Defined Library Functions In order to leverage reusability, most of the generic actions typical to an environment were stored using user-defined functions. Maintenance and modification made convenient and effective by adopting this way in comparison with functions hard coded.

Custom Checkpoints

Created custom checkpoints in addition to generic checkpoints what the tool offers. This added more value to the tests by incorporating business scenario related runtime verifications. Also, custom checkpoints helped in automating complex and exceptional business actions.

Quality Assurance Case Study Automation Regression Test Suit for Document Process System

About Microexcel Inc

Established in the year 2001, Microexcel, Inc. is a global management consulting, technology services and outsourcing company. With a proven track record in providing quality, cost effective and timely Information Technology professional services and solutions, Microexcel merges people and technology to deliver value.

Headquartered in Secaucus, NJ, Microexcel has branch offices near Chicago, IL, London, UK and two offshore locations at Hyderabad and Bangalore in India. With over 450 + employees based in USA and India, Microexcel provides 24*7 support to Clients in the areas of IT Staff Augmentation, IT Audits, Systems Analysis, Maintenance & Support, Microsoft Technologies (gold certified partner), including .Net and SharePoint, SAP, Oracle Applications (11i certified partner), Quality Assurance Testing (certified partner of HP and Borland), J2EE, Linux technologies. Microexcel is also a New Jersey Certified Minority Owned Business Enterprise. For more information please visit us at www.microexcel.com or e-mail us to sales@microexcel.com