



CresTech Software Systems

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**Automation Framework for
Travel Transportation and Logistics (TTL) Domain**

Keyword Driven Framework using IBM RFT

A Perspective

With web application becoming the lifeline of business across the globe, business houses are seeking to expand their reach by providing robust and scalable web based solutions to their clients spread across geographies. As a result, the complexity of the application has increased many folds over past couple of years. With increasing complexity and wide reach of web application, exhaustive testing has assumed a very important role for organizations. However shorter development cycles and ever changing business dynamics do not permit time for conducting exhaustive testing. Hence clients are constantly looking to increase their test coverage at the same time decreasing their overall testing cost.

This case study discusses about how Crestech Automation team helped a travel and Hospitality domain giant to cut down on its regression testing cost by 60% through its innovative approach to Test Automation. The challenges thrown by the application were unique in terms of custom controls on the application and deployment model. However automation specialist from Crestech helped design an innovative solution for the client thus helping the manual testing team concentrate on testing the new features by taking the complete onus of regression on test automation suite.

Customer's Detail

Our client is parent company to some of the world's leading travel companies, providing travel products and services to leisure and corporate travelers in the US and around the world. It own and operate a diversified portfolio of well-recognized brands including a range of other US-based and international businesses. Together, these popular brands and innovative businesses make it the largest online travel agency in the world, the third largest travel company in the US, and the fourth largest travel company in the world.

Application/Product details:

The application is the portal providing hotel accommodation worldwide, offering reservation services through its own network of localized websites and its telephone call centers. It gives travelers one of the widest selections of accommodation on the net, including both independent and major chain hotels as well as self-catering in over 80,000 properties worldwide. The company offers a one-stop shopping source for hotel pricing, amenities and availability and also specializes in providing travelers with accommodation during sold-out periods.

Key Problems | Challenges:

- ▶ The application is deployed across 27 different locales Point of Sales (PoS). Every build has to be deployed across 27 different PoS at the same time. This increases regression testing effort quite considerably. Handling this situation was becoming increasingly becoming difficult for the client
- ▶ Being in hospitality industry, the changes to the application were quite frequent (new promotions coming out every 15 days). This put extra pressures on testing timelines.
- ▶ With a registered user base of over million users, application downtime was a complete no-no.
- ▶ Client's Team primarily consisted of Business Analyst and manual tester having no background of automation. However client wanted a automation solution that can be used by the testers to automate their test cases.
- ▶ Client wanted to use the automation ASAP and thus the initial timeframe required for building scalable frameworks was out of question.

Automation Tool

Based on the business requirements and application suitability, the mandate from the client was to use IBM Rational Functional Tester for automating the application.

Our Solution

Keeping in mind the dynamic nature of the application and typical end users profile, our Automation analyst decided to build a scalable Keyword driven Framework for the client.

- a) The Business components of the application were mapped to keywords in the framework
- b) The keyword driven Framework would present a simplified interface to the end user to put together the keywords to generate a test script. This facilitates the preparation of automation scripts for new functionalities by business analysts thus reducing the effort and time required to write scripts for new functionalities incorporated in the application.
- c) To report the automation test run results to the geographically distributed team, Crestech team build a web based reporting interface and integrated it with Automation framework. Through this approach, as soon as the Test run were over, the results were automatically available on the online result portal. The managers could also view different reports concerning the feature health and overall health summary

- d) To save the initial time required to build the libraries for this approach, Our automation analyst suggested a unique Three phased approach to test automation. This enabled the testing team to start using the already developed scripts by automation team to regress-test the functionalities while automation team, parallel developed the library components required to build framework

Approach:

CresTech followed a Phased approach.

- ▶ Phase-1- Conventional automation approach (Record and playback)
- ▶ Phase-2 – Development of library classes
- ▶ Phase-3 – Keyword driven framework approach

Phase-1- Conventional automation approach (Record and playback)

- ▶ Recording of scripts where each script corresponds to one test case.
- ▶ All the object were in object repository
- ▶ Scripts were PoS specific

Phase-2- Development of library classes

- ▶ Development of library classes and functions
- ▶ Discontinued the use of object repository
- ▶ All the objects were dynamically recognized at run time
- ▶ Scripts were data and PoS independent
- ▶ Only 2 PoS were automated
- ▶ All the test data was created in excel sheet.

Phase-3- Keyword driven framework approach

- ▶ Further development of library classes and functions
- ▶ Keyword driven approach incorporated
- ▶ Results were stored in form of excel sheets and jpeg images
- ▶ Scripts were the combination of keywords
- ▶ Scripts were no longer made in RFT environment. All the scripts were in form of excel sheet, and can be developed without any knowledge of automation tool.

Engagement Model

CresTech team: 4 +1 (onsite) Member Team. Automation Experts in RFT

Client team : Black-Box Testing Team

CresTech team was responsible for designing Automation Strategy and Planning, training the Core Black-Box testing team to ramp them up on RFT and handling Client interactions.

Key Benefits:

- ▶ Reduction of regression testing cost by 60%
- ▶ Reduction of Regression cycle by 75%
- ▶ New scripts could even be created by manual testers or business analysts.