

## **Test Automation for Effective Verification of Quality For software development for Airlines**

### **1.0 Overview**

The customer is a multi-locational CMMI Level 5 and PCMM level 5 company, with development centres in India. The company specializes in software for Airline Operations, Airport Management, Cargo & Logistics, Oil and Gas Logistics, Transportation and Travel and Cruise, and employs more than 1200 people.

### **2.0 Business Need**

Catering to ever changing customer needs, software has evolved over more than 5 years to become feature rich with very friendly and rich graphical user interface.

As an organization with inherent quality focus, as indicated by its CMMI Level 5 and PCMM level 5 status, requires intensive testing to be performed ensuring uncompromised test coverage. Accomplishing this was extremely difficult manually considering hectic pace of changes.

On the other hand, application had a lot of custom controls on graphical user interface which are not recognized by most of commercial testing tools. Also, the controls are created dynamically which posed additional challenges in their recognition. For instance, control representing a flight or a ticket is named with a suffix of flight or ticket number. The commercial tools typically use name, caption or location to recognize the control. Obviously, that approach would fail here.

### **3.0 Solution**

Astra has been working very closely with the customer over last 4 years. Services rendered include helping identification of tool, proof of concept solution, training, mentoring, scripting, and supply of trained manpower.

IBM Rational Functional Tester was identified as it provided a very good recognition of controls in Graphical User Interface. Also, it provided a powerful solution with ScriptAssure, regular expressions, Java programming language. Proprietary ScriptAssure technology of IBM and use of regular expressions helped in identification of control despite variation in recognition properties like name, location, caption etc.

As a software development house with rich expertise in Java, the customer has plenty of code base in Java. Use of Java as scripting language helped in quick learning as well as reuse of existing code base from software development in testing.

### **4.0 Benefits**

Nearly 80 percent of test cases are automated through IBM Rational Functional Tester. The test suite is being regularly used for regression testing for over 20 versions by now.

Remaining 20 percent of test cases are run manually, performing additional testing.

This has resulted in higher productivity leading to more test cases and coverage.

## **5.0 Voice of Customer**

The visit by our customer went very well. They were very pleased with what saw and tested. Most of the test cases passed.

The project was executed under heavy time pressure, but in spite of that you did a wonderful job with your hard work and commitment. Thank you and congratulations!!

Vice President