

How Astegic Helped The Metropolitan Washington Airports Authority Improve Their Information Synchronization & Sharing Process



Case Overview

The Metropolitan Washington Airports Authority (MWAA) was looking for a technology-enabled solution to help its airport managers to gather information, and provide it to officials quickly and accurately.

MWAA assigned Astegic to provide an effective and efficient QA testing solution for their mobile inspection solution, m-Inspector.

m-Inspector is a mobile inspection engine that helps airport authority inspectors quickly complete multiple inspections, daily logs, collect photos, track locations using maps, and quickly upload results right from the field.

Astegic provided a robust, and time and cost effective Testing solution to MWAA.

The Requirement

MWAA was implementing an easy to use and efficient mobile solution for airport officials at the Washington Dulles International Airport. The solution, m-Inspector, helps officials to more quickly and efficiently respond to FAA airport compliance issues discovered through FAR-139 (Federal Aviation Regulations, Part 139) inspections. It would also help airport managers to replace pen and paper inspections by taking data from the field and quickly getting it into the hands of decision makers.

This need, along with airport managers' desire to keep supplementary information -- such as photos of faulty equipment found during inspection -- led them to seek a technology-driven solution that would help them to best collect all pertinent data for FAR-139 inspections; and deliver it to managers in the most cost-effective and efficient manner.

Owing to the complex functionality, and the need for information security and compliance, MWAA had to test the solution to ensure the application they provided to their officers is reliable, easy to use and highly stable.

Our Approach

The application is web-based and accessible only on MWAA's intranet. The application also had a small mobile component for iOS and Android. The application, being specifically developed for a government authority, required robust and thorough testing for functionality, performance, usability and security. So Astegic tested the entire functionality of the application -- testing each and every feature following a continuous integration (CI) approach.

Since MWAA was previously recording all of their data manually using pen and paper, they were very particular about getting all of their new digitally printed reports in the same layouts as the original ones. To accomplish this, Database testing was performed. We ensured that the fields in the UI/front end forms are mapped consistently with the corresponding DB tables, as well as the fields within. Compatibility testing was done manually to ensure all print reports correspond with MWAA's web form designs. Other tests included Database schema, database mapping and data integrity, consistency between front end and back end data, and validation of the business rules.



Quality improvements



Faster release



Cost savings

Our Solution

Astegic's QA team was engaged in testing of the web application with continuous release cycles. Testing was performed using a combination of manual and test automation methods.

Since the web and mobile application for Android and iOS apps is accessible over MWAA's private network, Astegic performed security testing so that packets of information were not accessible over the internet.

We created a framework in Selenium for Functional Testing and then extended the same framework for Mobile App Automation using Appium.

We used Jenkins for Continuous Integration and created Smoke suite which was fired automatically for every nightly build. Regression suite was created which was fired to test the build stability on every QA & production releases.

There were five main types of reports, along with different types of combinations of these reports – totaling to eight. Image and attachment upload functionality on the database, which allows admin to upload files on the database system, were manually tested. Email testing (including email attachment uploads) to individual users and badges was also performed manually.

Performance testing for validating load on the website was done using jMeter.

Apart from QA, Astegic also helped MWAA in setting up overall engineering processes using Agile tools like JIRA, Jenkins and Selenium. We helped MWAA in selecting their project management tool (JIRA), setup JIRA, automated their workflows, and helped them in creating dashboards for executives at different levels in the hierarchy.

About MWAA

The Metropolitan Washington Airports Authority (MWAA) is an independent airport authority created by the Commonwealth of Virginia, the State of Maryland, and the District of Columbia with the consent of the United States Congress to oversee management, operations, and capital development of the two major airports serving the capital: Ronald Reagan Washington National Airport and Washington Dulles International Airport.

astegic

Astegic, Inc.

7600 Leesburg Pike, Suite 320, West Building,
Falls Church, VA 22043,
United States
Phone: +1 703-288-9300
Fax: +1 703-288-9309
Email: sales@astegic.com

About Astegic

Astegic is a US-based Quality Assurance (QA) company with an offshore global delivery center. At Astegic we have 15+ years of independent software QA experience, we have written more than 50,000 automation scripts and conducted over 800,000 test cases for clients in a vast number of industries, including: fortune 500 companies, federal government and non-profits. We have domain-specific knowledge in the consumer, enterprise, eLearning, healthcare, and telecom sectors. Astegic has a dedicated Testing Center of Excellence (TCoE), specializing in providing solutions across Mobile, Cloud and API testing.