Application:
Salesforce

Services Offered:
QA Process Streamlining, Test Automation

Tools:
iSAFE (Automation Framework), Selenium based Test Automation

Key Highlights

Key Success:
» Use of iSAFE framework to achieve maximum test automation scope and accelerate test cycle

Domain: Financial Services / Salesforce CRM

Technology Stack:
» Application Development stack:
 HTML5, Android Native, iOS Native, SQL & SQLite (for mobile offline data store), JAVA APIs

» Automation QA Stack:
Selenium, Java, Appium, Java Client Library for mobile interactions

Client Status Quo

Our client is a Financial Services provider with assets and operations competitively expanding across regions. The company uses Salesforce to benefit from processing applications aggressively and scale up acquisition business. Sales dealers are connected on Salesforce using self service features on their mobiles, typically, to manage leads, territories, track opportunities and orders, maintain customer information.

The current application under test uses Salesforce and its custom components for Lead Generation and Purchase Order creation workflows. The client dev team required to outsource QA Automation to test the Web and Mobile applications.
1 **Business Requirements**

- Automate Testing for the given workflows to reduce time, cost and inconsistencies
- Streamline QA Process: Utilize inputs from the in-house functional test results and optimize Automation Testing scope
- Transform the Test Cycle by using a framework that knows Salesforce, supports integration and has extensive test reporting abilities

2 **Technical Challenges**

- Complex instrumentation of the application with demands in Web & Mobile synchronization and accommodate App feature security interruptions
- Data intensive functionality: Simulate real-time records of sales data. For instance: lead generation records with over 80 fields of details for each lead
- Test Coverage for Image based functions – Scenarios that include capturing and uploading a lead’s picture / capture digital signature to be accounted in the automation scope.

3 **Solution and Test Execution**

Our QA experts analyzed the application workflows to derive the Process and Technology needs to automate functional QA and accelerate Test Cycle.

**The case of Process Streamlining**

The QA set up was required to be standardized in terms of producing **Test Artifacts and Reports** from the Functional Testing unit that would clearly assist in proposing Test Strategy for Automation.

- Indium Test Automation Team participated in Knowledge Transition and Brainstorming Sessions with the client to feed the Test Artifacts and Reports in standard templates
- The Process Streamlining exercise led to future **Requirement Traceability**, **Visibility** and served as a back of the mind input to derive test scenarios for Automation Scope
- Created Test Case estimates based on the Test Artifacts and were continuously optimized

**Test Automation Solution with iSAFE**

iSAFE - iSAFE was employed for accelerating test cycles to cater to the Test Automation Solution for the Salesforce Application. iSAFE integrates well with standard Automation Tools, enables parallel execution of Test Cases and keeps maintenance costs of Test Scripts and Test Data in strict check!

**Setting up the Pre-requisites:** Owing to the data intensive nature of the Salesforce app functionality, Test Data generation was an exhaustive process. Data consumed for a particular test execution is one-time and cannot be reused for multiple instances posing a challenge for regression suite or periodic builds.

- Our Test Experts created a custom Test Data Generator, a utility function using Java and Regular Expressions to simulate exact test data formats and comply to business rules. This auto generated test data is set to be consumed by the iSAFE framework in run time.
Test Coverage: An end-to-end run through of application workflow was to be covered for automation and validation of all input fields across use cases / functionality.

The artifacts created for Functional test cases covered all available end-to-end flows and functional use cases. We achieved almost 90% of application's GUI elements and functionalities covered.

Web and Mobile Synchronization: The lead creation and management process, accessing the information is a continuous shift process between web and mobile interfaces. A typical case would be to create a lead on the web application with all required fields and a sales dealer would approve a lead on the mobile self-service portal or vice versa!

Our solution included iSAFE customization that synchronizes a record created in back office account and validate or update the same on the client-side application (Mobile/Web). iSAFE initializes multiple Browser/Mobile Application instances in parallel or on demand. This helps a (current) test scenario to interact with more than one application inside same test case.

Built-in Analytics with iSAFE

- Provided real time reports on Test Execution status and outcomes that allowed Dev Teams to schedule agile actions on the test results

Value Additions

- Test Data utility was the central solution to this project. The effort to generate Test Data for 100 rows would require a painstaking 4 man-hours which was automated to almost 30 seconds at one click action (nearly 100% reduction in manual effort)
- Robust framework to customize test components to suite the app needs and continuously optimize the Test Operations
- Supported rapid delivery cycle. Upto 40% improvement in overall Test Automation Process
- Extensive Reporting/ Dashboards to give a 360-degree status of Test Execution and Operations

Client Testimonial

“We like the detailed iSAFE Framework. The team executed complex scenarios to our salesforce application requirements and the extensive coverage in the reports is commendable”