



# Future-proof test automation solution using **AI-led DCqaf framework** for **American plus-size fashion retailer**





## Challenges

- Linear automation testing was not scalable
- Application had issues running on multiple devices and 13 browsers.
- Data loss was causing constant issues
- Integration with tools like Jenkins and Jira was difficult

## Solutions

- DCqaf implemented to integrate Jira, TestRail and BM automation framework.
- Auto POM was used for reducing automation authoring time and effort by 80%.
- AI-led self-healing scripts were implemented to save 35% on maintenance costs.
- Sauce Labs Cloud Environment was used in intense testing.

## About the Customer

Our client is a leading American plus-size apparel and home goods company based in New York City. For more than 100 years, they have been serving plus-size men and women seeking clothing tailored to their individual needs. They feature online and catalog orders, and they work towards altering consumer's perception of beauty related to size and shape.

## The Need

As a leading brand with a huge customer base in the country, they needed support to run their site in 13 different browsers, in multiple devices. They needed scalable and future-proof testing strategies which was not possible in their current linear automation testing method. The client was also looking to expand their infrastructure on a tight budget. They were facing data loss and wanted a solution that arrests data loss with efficiency. The client was looking for a flawless automation framework that could handle their complex application systems and seamless continuous integration with tools like Jenkins and Jira.

## The Challenges

Our client used linear automation testing which was not scalable. Data loss became a common occurrence due to daily data repetition. They were handling a complex application which required an efficient automation framework. Continuous integration with certain tools like Jenkins and Jira became a major challenge.



## Results

- A single test script worked on all 3 platforms - desktop, mobile & tablet
- Test duration was brought down from 50 person days to 18 person days
- Time and effort reduction by 80% with accelerated authoring using Auto POM.
- 25% of the bugs were identified at an early stage as scripting
- Projected cost savings of \$150,000 for 1 year with 24 sprint cycles for 1 site

## Aspire's Solution

After a thorough analysis of their system, DCqaf testing framework was suggested and implemented to support parallel execution in multiple environments without additional cost.

- DCqaf framework was tailored to the client's needs and integrated to their Jira, TestRail instances and BM automation framework
- Test scripting was in parallel with code development and completed by code freeze
- SauceLabs cloud environment (including mobile browsers for Android & iOS) was used during intense testing in addition to local browsers
- Data-driven approach was followed so that data/catalog reload can be handled without refactoring the scripts by manual testers
- The Automated smoke suite was used for verifying the build deployment in QA environment
- New test data was identified and configured in the BM site using BM automation script
- **Auto POM (Page Object Model)** is a standout feature that accelerates the authoring phase of test automation. By automatically generating and identifying elements within web pages or applications, it boosts efficiency by an impressive 80% compared to manual methods.
- This feature significantly reduces the time and effort required to create and maintain page objects, allowing testers to focus more on crafting effective test cases rather than mundane element identification tasks



- **Self-healing scripts** are another vital component of DcQAF, addressing the challenges of script maintenance. These scripts utilize machine learning algorithms to autonomously identify and rectify script false failures caused by changes in the application, thereby reducing maintenance costs by up to 35%.
- **The ML-led dashboard** is a sophisticated feature that provides valuable insights into test execution results. It utilizes machine learning algorithms to categorize and prioritize bugs, facilitating better decision-making during the quality assurance process.
- By bucketing bugs into multiple relevant categories, the dashboard helps testers focus their efforts on critical issues, thereby improving overall software quality and customer satisfaction.
- Furthermore, the ML-led dashboard enables comparison between previous test runs and the current one, allowing teams to gauge progress over time and identify trends. This functionality is crucial for steering development efforts in the right direction and ensuring continuous improvement

## The Result

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With an advanced framework like DCqaf, which supports components that can be reused in Salesforce Commerce Cloud, the automation process was kick-started without any framework modification requirements.

- A single test script worked on all 3 platforms - desktop, mobile & tablet
- Using DCqaf automation framework, 30% of the automation efforts were saved



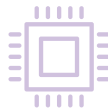
- Test duration was brought down from 50 person days to 18 person days
- Time and effort reduction by 80% with accelerated authoring using Auto POM.
- The number of resources required for the process halved, from 8 to 4
- Deployment of smoke suite helped in early bug identification in the system
- 25% of the bugs were identified at an early stage as scripting
- Maintenance costs were cut by 35% with the implementation of AI-powered self-healing scripts and machine-learning algorithms.
- Our client is now facilitated with an enhanced automation framework in which they can script additional test cases seamlessly and re-use the existing scripts for the other brands in future. In addition, automation can be deployed at any time for build deployments and regressions with reduced manual effort.
- Entire automation regression suite was executed for all brands and 13 browser combinations before code freeze stage without any bugs
- Projected cost savings of \$150,000 for 1 year with 24 sprint cycles for 1 site
- Easy build deployment without much risk was made possible since tests can run independently or in parallel for various features.



## Future Impact

Our client is now facilitated with an enhanced automation framework in which they can script additional test cases seamlessly and re-use the existing scripts for the other brands in future. In addition, automation can be deployed at any time for build deployments and regressions with reduced manual effort.

## Technology Snapshot



- » **Technology:** DCqaf for Test Automation
- » **Tools:** Selenium, Jenkins, SauceLabs
- » **Platform:** Windows, MAC, iOS, and Android (Simulators & Real devices)
- » **Languages:** Java



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