

# Optimized Test Solution Ensuring Data Accuracy of Multiple Products and Vehicles

## ORGANIZATION

Our client is the world's largest technology, service, and auto parts supplier. It operates in five business sectors - Mobility Solutions, Industrial Technology, Consumer Goods, & Energy/Building Technology. Our client developed the first fuel injection system with a high-pressure electric fuel pump in 1967. Our client received the first brake system design patent and has continued to lead the way in braking technology.

## CHALLENGE

Our client wanted to provide various auto parts products under different categories - ADAS, brakes, filters, starters and alternators, batteries, diesel parts, gasoline fuel systems, steering systems, body electronics, engine management, spark plugs, and wiper blades. Each auto part would be listed with features, specifications, service centers, thumbnail images, and full-size images. Customers could add their vehicle information for tailored results. Additionally, users could compare the specifications of different parts.

One of the main challenges was maintaining 30,000+ auto parts and integrating multiple third-party applications/APIs within one application. Maintaining multiple thumbnails/360 images/YouTube videos was another critical challenge. Page setup for each auto part and configuration was a time-consuming task for each update the team received from the client. The application needed thorough testing of various vehicles with different auto parts. Key challenges included:

- Testing the application with various types of vehicles from 1986 to the current year
- Lack of requirement documents to design test cases
- The application was multilingual. Therefore, the QA team had to validate the application in English, Spanish, and French.
- Localization: The application is developed for sites in the US, Mexico, and Canada. Images were different from country to country and needed to be validated accordingly.
- As an application written in Liferay, testing demanded the QA team know the Liferay ecosystem, including the setup of pages and configurations for each widget. While testing the application, QA needed to change settings to validate the application.

## SOLUTION

The Project followed the Agile methodology. Collaborating with the customer and development vendor, XTIVIA successfully addressed the above challenges. The QA team adapted quickly to Liferay commerce technology. The QA team was constantly in touch with the

Development/Product team and understood the requirements. As part of this engagement, XTIVIA focused on the following areas:

- **Seamless Collaboration:** While preparing test cases, QA worked closely with the developers/business to fully understand requirements.
- **Infrastructure Setup:** The team got access to the site to go through courses on Liferay Commerce to expand knowledge on page setup and configurations
- **Localization:** The QA Team was working in liaison with the Development team to set up Liferay Commerce pages and configurations of each widget. The QA Team performed Localization Testing. Specific localizations included:
  - Testing the US site in English and Spanish languages.
  - Testing the MX site in the Spanish language.
  - Testing the CA site in English and French languages.
- **Browser and Device Compatibility:** The team tested the application for compatibility with various browsers and devices.
- The team performed extensive testing with an optimal test suite to ensure data correctness.
- Developed comprehensive testing artifacts to ensure no functionality is left untested.
- Identified the regression test suite to be executed as new features are introduced.
- Provided functional guidance to other teams
- Production validation

## BUSINESS RESULT

Our team implemented test suites for functional and non-functional testing for our client's project. XTIVIA QA was also involved in ADA Compliance Testing (Accessibility Testing) by using axe DevTools to identify critical and high severity bugs. The efforts of the XTIVIA testing team ensured the application's reliable data, functionality, performance, and compatibility with popular browsers. This helped bring about the application's broad acceptance by various end customers of our client.

## SOFTWARE

*Liferay Commerce, Selenium, Rest API*

## ABOUT XTIVIA

XTIVIA is a proven technology integration and innovation company known for delivering leading-edge technology solutions to our clients' specific requirements, regardless of project complexity. We bring next-level business operations to reality through Application Development, Business Intelligence, Data Warehousing, Database Support & Management, Enterprise Information Management, Digital Experience Solutions, and Enterprise Resource Planning. Our success stems from a demonstrated ability to deliver deep expertise via professional services, empowering clients to leverage their chosen technology successfully, competitively, and profitably. XTIVIA has offices in Colorado, New York, New Jersey, Missouri, Texas, Virginia, and India. [www.xtivia.com](http://www.xtivia.com)