



## CASE STUDY

# Mid-Atlantic Payment Solutions Provider Reduced QA Testing Effort by 75%

*An award-winning, pioneering payment solutions provider needed to enhance its software quality assurance program by improving its regression testing scope and coverage for its rapidly expanding business. The client was looking to mitigate risk, provide quicker defect detection, reduce costs and improve the overall functionality of its existing commerce platform.*

### Challenge

The client wanted to improve its speed to market for a growing customer base while ensuring high-quality results from its application. As a payment processor, an error-free platform for its users was crucial to its business. Any failures would have implications beyond user frustration and could impact important payment dates and amounts. The client employs Agile Development practices but was looking to add continuous testing by leveraging test automation to complement its continuous integration and continuous delivery (CI/CD) goals. As an additional challenge, the client lacked the resources and in-house expertise to create and implement the required test automation framework. The client ultimately needed a way to incorporate testing into its business operations, without it getting in the way of doing business.

### Solution

The DecisivEdge QA team designed and developed a purpose built, test automation framework using Selenium, to address all of the client's requirements.

**Why test automation?** Test automation facilitates the kind of test repeatability and speed needed for a highly-interactive and responsive software. Ultimately, the decision to deploy automated testing in any organization must be strategic and based on a thorough understanding of goals and operations. DecisivEdge typically gains this insight during its initial discovery discussions.

### QUICK GLANCE

An award-winning, pioneering payment solutions provider needed to improve its regression testing scope and coverage as part of the Quality Assurance program for its rapidly expanding business.

#### Industry

Banking & Financial Services

#### Challenge

To assess Quality Assurance testing automation needs, to develop test cases and test steps, and to reduce time and cost for the testing through automation

#### Solution

DecisivEdge developed a Selenium Test Automation Framework based on C# that incorporated the flexibility and responsiveness required for Agile Development methodologies. This solution involved consulting with the client to determine test cases and the optimal methods for automating these based on their user's needs.

#### Results

The client saw its testing efficiencies increase by a factor of four. Instead of 24 hours of manual testing by three employees, test automation for regression testing now requires the use of one tester for six hours.



**Why Selenium?** Selenium is the leading Open Source test automation software and it goes hand in hand with the continuous testing required in Agile development practices.

#### **Additional Benefits of Selenium Testing:**

- **Open Source** - The value of open source software reaches beyond cost savings. Open source communities add value to pre-built applications by enabling collaboration and sharing. Selenium's open source accessibility permits a wealth of knowledge to be cultivated continuously through a wide array of developers. This means that there are active contributions to its knowledge base for developers to call upon.
- **Multiple Browser Compatibility** - Selenium's browser compatibility permits multiple instances to run across numerous browsers allowing parallel testing which results in increased speed and efficiency.
- **Multiple Programming Language Use** - Developers are not limited to using just one language. A variety of different programming languages are supported.
- **Integration with Continuous Integration Platforms** - Selenium can be integrated with a variety of Continuous Integration Platforms which supports Agile and DevOps goals.

#### **Specifics of DecisivEdge's Solution**

The custom Selenium test automation framework designed and developed by DecisivEdge was coded in C#, which was the native language of the payment processing platform. The framework, which provides the structure of the test environment, was used to steer automated test cases using the client's two Enterprise Portals and eight separate branded versions for its users. This permitted the client to view and evaluate the actual user experience across its platform.

In developing the specifics of the tests, DecisivEdge consulted with the client about how the business operated, including what problems its users reported, and how they hoped to improve the user experience. Based on this information, the QA Automation Team created 1,094 automated test cases running nearly 49,121 test steps. To begin, effective test automation requires coming up with good manual tests. These tests covered potential failure points more comprehensively, and automation permitted the quick and continuous testing the client desired.

#### **Results**

Automating these tests helped reduce the time it takes to manually perform regression testing on the Enterprise Public Portal from 24 hours to six hours, a 75% reduction in total hours. This allowed the client to reduce the employee need from three testers to one tester.

In addition to reducing the application testing time, the custom-built solution pinpointed potential errors more effectively. DecisivEdge's work with the client is ongoing, and as the team continues to enhance the framework and increase the number of test cases, we expect to see even more impressive efficiency improvements.

---

#### **About DecisivEdge**

DecisivEdge is a business consulting and technology services company. To learn more about DecisivEdge, please visit our website at [www.decisivedge.com](http://www.decisivedge.com), email us at [getresults@decisivedge.com](mailto:getresults@decisivedge.com) or contact us at 302.299.1570.

Contact Practice Director, Jim Chickadel ▪ [Jim.chickadel@decisivedge.com](mailto:Jim.chickadel@decisivedge.com)



**DECISIVEDGE™**

Collaborate • Break Through

131 Continental Drive, Suite 409  
Newark, Delaware 19713 USA