TRIGENT

# World's Leading Genetics Information Company Benefits from Trigent's Test Automation Service

Microsoft Partner
Gold Application Development
Gold Collaboration and Content

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## About the Company

This California based, industry's fastest growing genetic information company has brought comprehensive genetic data into mainstream medical practice to improve the quality of healthcare for billions of people. By the end of 2016, the company aims to aggregate all of the world's medically-relevant genetic tests into a single service with better quality, faster turnaround time, and affordable prices than many single-gene and panel tests. The company has witnessed a 400% growth over previous year, more than doubled the size of its genetic testing platform in 2015, and has an aggressive growth plan for the future.

## Business Needs

To reduce 'cost of goods sold' per test, increase content (genes) & volume and improve reimbursement the company wanted the existing complex technology platform to be replaced with a user-friendly system.

The improvements to the technology platform would:

- Help the company to realize its business mission of empowering patients to own and control their genetic information
- Empower healthcare professionals to order and interpret genetic information
- Enhance its clinical and personal utility, whereby the community at large would benefit from the shared genetic information

These enhancements would have a direct and positive impact on revenue and customer satisfaction levels.

## The Challenge

Improvements to the technology platform entailed new features being introduced, almost on a weekly basis. However, the company could not afford to have these enhancements affect existing usability in any way. Therefore, to ensure seamless information flow and uninterrupted transactional activity for users, the applications had to be tested every night, issues identified and remediated before business hours, the next day.

Since customers and internal users could access the application on a variety of browsers, the testing had to ensure that the applications supported multiple versions of Operating systems and browsers.

### Technology Stack

- Java, Eclipse
- Selenium Web Driver
- Selenium Grid
- TestNG, Log4j, Maven
- Git, Bit bucket
- Jenkins
- Artifactory
- Amazon Cloud Instances

## Why Trigent

The company wanted a testing partner that understood the highly complex genetics domain. The domain experience would help the testing team to spot bugs, find root causes and suggest possible fixes, all within the span of a few hours, every night.

As the applications' controls were highly complex and dynamic in nature, the team needed to have excellent testing skills, be experts in testing dynamic elements and have strong skills to build the complex locator logic to access the application controls.

Trigent was selected because of its 20+ years of testing experience with an accumulated knowledge, proven track record and deep domain expertise. With its dedicated resources certified to International standards, expert onshore/onsite and offshore capability, Trigent's testing engineers are experienced working with open source tools like Selenium, Bugzilla, Testlink, OpenSTA.

Trigent also has rich domain knowledge in selected industry verticals within the healthcare spectrum.

## Trigent's Solution

- Trigent identified the critical flows that needed to be covered for all the applications and built a framework using Java and Selenium web driver to support automation of all the applications
- Selenium Grid with nodes of various OS and Browser versions was configured to meet the requirement of OS/ Browser compatibility

- A link and locator (page element in Selenium) checker module was implemented in the framework. This enabled invalid link and locators to be found easily.
- Sophisticated locators strategies were used to construct locators to handle the Ajax controls in the page
- Trigent engineers automated all the required flows of the application and asserts or validation checkpoints were installed to ensure the functional accuracy.
- Integration tests were built across different applications and assertions were made to ensure that data flows correctly across the systems
- Build Parameterization' concept was implemented to choose the environment for run time. This helps to choose the value from the dropdown menu and eliminates the need for updating the configuration file, every time.
- Tests were scheduled to run every night using Jenkins to detect any regression issues
- Tests results were automatically updated based on the test execution status
- The team performed visual Inspection tests for identified test cases to ensure that the complex and dynamic user interface is correct.

## Key Benefits

- Smooth and uninterrupted weekly releases led to stable and reliable functionality of all applications
- Scheduled nightly runs on daily build environment helped in identifying the regression issues early. This ensured that customers and users did not experience any glitches or bugs – this enhanced user experience
- The same tests were used to run for different Operating Systems and browsers helping to ensure compatibility with minimal effort
- The team has reduced the QA turnaround time because of faster execution of tests enabling quick release decisions