

Performance Testing of Sensor Solutions Created By A World's Leading Manufacturer**Client**

Client is one of the world's leading manufacturers of sensors and sensor solutions, regarded as a technology leader in non-contact sensors segment. From factory floor automation to port logistics applications and process control solutions, vast array of sensors developed by this organization addresses the comprehensive requirements of sensing applications.

Industrial automation is a rapidly evolving sector. As an innovation leader, the Company offers solutions not just for current requirements but also futuristic needs, with intelligent sensors that can be optimally integrated into the systems, communicate in the network, collect data and evaluate in real time.

Industry

Sensor Intelligence

Technology / Software / Methodology

Simulators, Database, Logistics and Analytics

Engagement Model

Offshore

Challenge

We were provided an application to test that feeds in on data from hardware/sensors. These sensors record real operational statuses, turn them into digital data, and share them automatically with the Process Controller. The Process Controller sends the information to the application which is further used for Analytics.

The Challenge to handle was testing an application which communicates and takes data as input from hardware-that has belts, sensors and devices. These together-detect the objects and read their barcodes, dimensions and gaps etc. Seen below are some practical applications of the sensors.

Solution

Since, we didn't have the hardware set up in place for testing, we modelled the real process via Software Simulation. We used Simulators to push the objects with different barcodes, size, index box factor etc. in bulk via batch files and verified that the data sent

by sensors (simulators) are calculated and stored properly in the database and the application is scalable enough to work with very large data sets. These software simulators can easily be modified to prepare different sets of data for testing, which enabled not just a solution to test, but also a solution to test comprehensively with the required coverage across varied permutations and combinations.

Test Strategy:

- The data was added manually to XML and pushed to the application through a batch file
- The data is then stored in the database that would later reflect in the application
- The data of images captured by the camera was also sent to the application using a batch file
- The data was pushed in bulk through for around 40,000 objects to test the performance of the application
- Small sets of data were used for data calculation and functional testing

Value Proposition

QA InfoTech was able to help with this assignment in the following specific areas in addition to the core end to end testing

- Ensuring proper storage of every data packet helped in reducing object/package loss
 - Application issues including calculation on the captured data with large sets of data were identified and performance of the application was improved
 - Searching of packages based on barcodes was fixed to achieve more accurate results
 - The application can now help in finding the faulty hardware to ensure correct reading of data
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About QA InfoTech

At QA InfoTech we specialize in providing independent software testing and unbiased software quality assurance services to product companies, ranging from the Fortune 500 to start-ups. Established in 2003, with less than five testing experts, QA InfoTech has grown leaps and bounds with its Five QA Centers of Excellence globally; located in the hub of IT activity in India in Noida and Bangalore and our affiliate QA InfoTech Inc. in Michigan and Bentonville, USA.

- 1400+ QA engineers and domain experts
- An ISO 9001:2015, CMMi Level 3, ISO 20000-1:2011 and ISO 27001:2013 compliant company
- Thought Leaders in E2E testing, specifically in Test Automation, Performance Testing, Localization and Accessibility Testing

In 2017, QA InfoTech has been ranked in the top 100 places to work for in India. We are amongst the top 50 Best IT & ITeS Companies To Work For in 2012, 2014, 2015 & 16 in India. For more details, please refer [to our blog on this event](#).

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