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CUSTOMER STORY – RETAIL & LOGISTICS

Massdiscounters

SQS speeds up releases through open source automated regression testing tool

Background

Massdiscounters (MDD) operates both retail and wholesale outlets for South Africa's Massmart group. The company manages two retail formats: Game and DionWired. Game operates throughout South Africa and in twelve major cities in sub-Saharan Africa; it is a discount retailer of general merchandise, FMCG and groceries for home, leisure and business use. DionWired is a South African electronics and appliances speciality store.

Massdiscounters was expanding rapidly; opening 50 new stores in two years. However, its back-office IT systems were finding it challenging to keep pace with the growing business. Originally developed in 1984, the retailer's IT required modernisation to support its aggressive growth strategy.

SQS already provides software testing services for Massdiscounters' data warehousing, BI and mainframe systems. Working with the company's internal IT team, SQS sought to manage the rapid pace of change in the back-office systems by creating a Point of Sale (POS) regression testing strategy, underpinned by an easy-to-configure, scalable and cost-effective automation tool, to radically reduce regression testing time and effort.

Challenge

The modernisation of Massdiscounters' POS system was a major undertaking, requiring updates to applications, operating systems and infrastructure. Massdiscounters also had to ensure system compliance with PCI DSS regulations, and that critical functions were not put at risk when new software versions were released. Maintaining system integrity and service at the POS was vital.

POS testing could not be compromised and needed to be performed before every major release. When systems were updated, a single POS manager carried out a full manual regression test of till functionality over a period of two weeks. This time-consuming, but necessary testing was limiting the pace at which projects could deliver.

System updates were further complicated by schedule constraints. IT changes were limited to certain times of the year to avoid disrupting busy trading periods.

The Massdiscounters IT team wanted to increase the number, frequency and speed of releases into production – while reducing risk associated with the new releases.

Solution

During its work with Massdiscounters, SQS had identified the POS testing problem and recommended a regression pack to ensure that any development on the corporate systems did not impact on the delivery of new services.

SQS recommended an automated tool to enable multiple POS managers to work on projects, increase speed and accuracy of the testing and reduce risk. However, the POS automation tool needed to be developed cost effectively and without impacting on existing testing commitments.

SQS worked closely with Massdiscounters' outsourced development team to create an automation test framework and POS testing tool that could be integrated into the retailer's existing test environments. SQS made use of Open Source automation toolkits to keep costs down and tailored the tool to integrate with proprietary POS and back-office systems.

Till functionality is hardware-dependent, so replicating the behaviour of each till-type was important to ensure that all transactions could be successfully automated. SQS ensured that the new tool captured all possible inputs including data from the keyboard and also communicated with Electronic Funds Transfer (EFT) devices.

The POS automation tool mimicked the actions a till operator might take, breaking each process into a series of keyword-driven steps. The keyword approach enabled SQS to create scripts for different scenarios rapidly with only a few lines of script for each test.

Benefits for the Customer

A Senior Business Analyst at MDD commented on the engagement: "POS testing is often a daunting task as it can have dire financial consequences if error-ridden software is put into production. With multiple configurations and business rules, there is very little margin for error as a software defect could easily have a direct impact on company revenue. However, with SQS' automation framework and POS automation tool, Massdiscounters was able to greatly improve quality, free up our POS manager's time and increase confidence of POS delivery."

- Before, only South African and African Game stores were included as part of the manual regression run, now with the automation pack, test productivity has increased as tests can be run simultaneously on Game, DionWired and various international store settings during each cycle.
- The keyword driven automation framework means that maintenance and addition of new scripts is not time consuming and can be done easily.
- Over 1,000 different transactions can be performed on the till, including a variety of different items, discount and VAT settings.
- The automated POS regression pack runs five times faster than if manually executed. Now, when a major release has been made, it no longer takes two weeks to perform a full test on the controller and till software, but one day per store type and with the automation pack being configurable.
- The cost of delivering the tool and framework was paid back after the 6th execution of the pack.
- Tests can be run assimilating three different environments, as opposed to one, improving the range of testing covered in regression.
- Time saved on regression testing, has enabled resources to be focused on more value-add service delivery and to enable the business to focus more on new projects, as opposed to regression testing for existing projects.

Contact

If you are interested in SQS' service offering regarding testing and quality management for the Retail & Logistics industry, please do not hesitate to send us an e-mail: info@sqs.com