

Reduced Cost and Time Saved through Implementation of a Test Automation Framework

At-a-Glance

The Company:
Leading global provider of lifelong education and training services.

The Challenge:
Develop a sustainable Test Automation framework and strategy that would allow the Company to reduce its deployment times and ensure quality while reducing dependency on individuals.

The Solution:
A dedicated Test Automation team

The Benefits:
Creation of a Test Automation framework that allowed for a 30% reduction in times and costs in the creation and maintenance of test scripts as well as a solid knowledge base and knowledge transfer process, resulting in a 50% increase in execution productivity.

The Client

One of the world's leading providers of lifelong education with operations around the globe, this client provides high-quality educational services, assisting students throughout their academia and careers. The company serves more than one million students each year, with 12,000 employees in approximately 600 locations in more than 30 countries. The international operations include higher education, professional training, test preparation and language instruction in Europe, the Middle East, Asia, Australia and Africa.

The Challenge

While the company has dramatically expanded the breadth of their business, it has remained student-focused, results-driven and committed to helping individuals reach their goals. The software development life cycle (SDLC) needed to improve its quality and speed up the releases for automating the software testing life cycle (STLC) for a large number of business applications.

The Client was looking for an automation testing team to maintain the current test scripts suite and develop new test scripts with the following requirements:

- Avoid dependency on subject matter experts
- Facilitate requirement management and change control
- Facilitate maintenance and update of the current test suite
- Speed up the creation and maintenance of the automation suite.

The challenges the automation team would face were:

- The Software Applications under test sometimes did not have automation driven test cases, functional test cases or documentation to help the process and the knowledge acquisition.
- The test scripts needed to be created within a tight timeline with no framework available.
- There was a large suite of test scripts created with no scripting standards or quality process.
- The test script building had to be scalable and fast in order to meet end-customer schedule and quality requirements.
- The entire test suite should be able to be executed during a weekly release cycle in several environments, including testing, staging (pre-production) and production.
- The entire automation solution had to start from scratch and be integrated completely with HP-Mercury Quality Center.

The Solution by Softtek

Based on the information provided by the Client, Softtek provided five qualified automated testing engineers in HP-Mercury's Quick Test Pro (QTP) and Quality Center (QC) to increase Client's testing capacity.

The Softtek automated testing team started a relationship of 1.5 years with this client having the following responsibilities:

- Acquire the proper knowledge of the applications in an effective process.
- Develop a training plan to speed up the integration of new elements for the team.
- Design and update automation-riven test cases.
- Design automation framework (reusable functions libraries) based in a hybrid approach. This test automation framework needed to have the flexibility to grow and adapt to Client's pipeline in the future, as well as minimize the creation/maintenance scripting effort.
- Automate the 13 applications in different technologies (web app and Client/server app with Oracle and SQL server).
- Execute and Maintain the automated test script suite.

The proposed framework had the following features:

- 1.The automated test environment must be supportable, debug-able, and have the ability to be monitored for progress and errors.
- 2.There needs to be a detailed log, and a mechanism to debug issues and defects.
- 3.Failures must be detected and appropriate notification and defect evidence generated.
- 4.The test execution needs to run unattended and continuously (iterative).
- 5.When the test is started, all relevant information about the configuration should be gathered. This information should be stored with the test results for archive.
- 6.All information (log results, evidence, debug data) should be logged to a common global repository. This will be used to monitor individual test bed health as well as to gather total test execution times for each test suite.
- 7.Each individual test case should also be designated with a pass requirement.
- 8.Dependent software components must be available from a common distribution point for everyone to access and be managed in a central repository as part of the solution.

The Benefits

In general terms, with the development of a knowledge transfer process, the script creation process and the framework, the Client was not only able to optimize the budget and team efforts but also to reduce the costs of their testing life cycle and see an overall improvement of the development life cycle.

Specifically, the creation of the framework reduced the time and cost involved with the scripts creation process up to 30 %, as well as reduced the ramp-up of by providing a steady andcomprehensible process and knowledge transfer.

In addition, those elements permitted to reduced level of skills/experience for the project, allowing the replacement of senior resources by proficient (intermediate) resources, which added savings to the project.

The automated test execution process was also benefited since the created frameworks generated a test suite that was easy to update. This led to increases of up to 50% in the amount of coverage and scripts executed over several environments with minimal human interaction.

About Softtek

Founded in 1982, Softtek is a global provider of process-driven IT solutions with 30 offices in North America, Latin America, Europe and Asia. With 10 Global Delivery Centers in the U.S., Mexico, China, Brazil, Argentina, Spain and India, Softtek helps improve time-to-business-solution, lower costs of existing applications, deliver better engineered and tested applications, and produce predictable outcomes for top-tier corporations in over 20 countries. Through on-site, on-shore and its trademarked Global Nearshore™ service delivery models, Softtek teams with CIOs to constantly increase the business value of IT. Softtek is the creator and a leader of the nearshore industry.

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