



Automation Testing Solutions @ Interral T

Automation Testing means execution of test cases in an automated way without manual intervention. Automation testing can be achieved either by using a third party tool or by developing an in-house tool suited to the testing need. InterralT is the leader in automated functional test tools and solutions for software systems with sophisticated human interfaces. We specialize in automated test solutions for virtually any software product and device serving business domains such as HR, Financials, Logistics, Telecom and Mobile Computing including wireless enterprise systems and smart appliances.

When is automation testing recommended

Automation testing is primarily used for performing regression testing of a product. Regression testing requires execution of test cases with every build. Product releases are usually incremental and have a short development time span and hence require rigorous QA activities. Since the builds to QA are released at short and regular intervals, it is not possible to execute all test cases of a product manually. This is where automated test cases help as it provides quick and accurate results on the build status.

Advantage of Automation Testing Solutions

InterralT's unique combination of test automation technology, services and methodology adds value to the test by giving product companies a maintainable automated solution that allows them to reduce test cycle time, increase coverage, improve test accuracy and accelerate time to market. Some of the advantages realized by product companies are:

- Product build status can be determined quickly with the help of automated test cases as it generates a report on the execution status of each test case
- Automation testing can be scheduled to run independently during night and the results of the execution become available in the morning thus saving time
- Execution of automated test cases can be done by developers as well thus providing them with an additional tool to determine the quality of code they develop
- Product releases can be achieved at shorter intervals as QA cycles are shortened
- Automation testing guarantees quality result of test execution as it is not prone to human error
- A small QA team is sufficient to certify a product with the aid of automation testing solutions

Test Automation Approach

Test automation is not an obvious solution for every situation, which means that it is not a good idea to automate all test cases. A clear and calculated decision is important on areas that can be automated and the ones that should not be. Any ad-hoc approach will actually add on to the testing cycle time and cause poor quality deliverables. InterralT provides the broadest range of interfaces to permit testing of virtually any device or application. Our automation testing solutions includes an architecture and methodology for easy writing, maintenance and re-use of test scripts.

Test automation services methodology:

1. Establishing the automation framework:

The effort required to setup the automation can be greatly reduced through a framework driven approach to automation. In addition, this approach enables InterralT experts to leverage its internal automation tools and club them with tools from the industry to maximize the benefits to the customer.

Test Automation Framework



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Testing Labs

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USA Offices

Cerritos, CA Fullerton, CA Dallas, TX	Roseville, CA Princeton, NJ Oakbrook, IL
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2. Scripting Services

- a. Analysis - Testing team assesses customer's requirements of the scripts, identifies possible solutions, creates time estimates and defines the deliverables.
- b. Development - Testing Team develops the test scripts based on initial analysis and the test cases prepared. At this stage the repository of reusable scripts is also explored.
- c. Delivery - The actual script is delivered along with user documentation. At the end of the process a match is done with the customer to ensure that all requirements are met.

3. Script Maintenance Services

Testing Team analyzes the long-term impact of automated test script. By incorporating the required changes, it prepares a script maintenance strategy. Factors such as frequency of patch applications, introduction of customized modules and fixes are kept in mind while identifying the maintenance requirements. The team also undertakes an impact analysis to identify how these changes would impact the test scripts.

Testing Tools and Technologies Expertise

- Functional & Regression Testing - Mercury Interactive WinRunner, Silk Test, Rational SQA Robot, QuickTest pro
- Scripting Languages - Perl, Ghost Script
- Load Testing - LoadRunner
- Open Source Tools - HttpUnit, Jemmy, Jameleon
- Unit Testing - Junit
- Defect & Change Tracking - JIRA, Rational ClearQuest, InterralT Proprietary Tools- HUNT & HelpDesk
- Project Management - MS Project Server
- Test Suite Management Tools - TestLink, Mercury Quality Center

Customer Success Stories

Situation	Engagement Details	Benefits to Customer
Automation using Test Harness for a leading EAI Software Vendor	The customer is a leading provider of EAI software specializing in Business Process Management products. InterralT Testing Team was asked to test the base platform of the product along with a suite of connectors for integration with third party applications and pre-built vertical solutions. These needed to be tested on 5 different operating systems (Windows, Solaris, HP-UX, AIX, Linux) with various combinations of OS versions, databases (Oracle, SQL Server, DB2) and third party applications. The Testing Team concluded that executing all permutations and combinations of the environment would have required significant effort. InterralT worked with the customer in prioritizing the test cases as well as augmented and enhanced the Test Harness provided by the customer. Through a	InterralT executed the tests successfully and thereby helped the customer to release the product on time.



Situation	Engagement Details	Benefits to Customer
	combination of manual tests, some custom code and automation using test harness.	
Test Automation for the GUI of a HR Product	InterraIT was required to automate the GUI testing for a HR web-based product. The testing team worked with the customer to develop a Script Recorder. Script Recorder automated the process of executing the test cases. The tool played back the XML input scripts (test case) to emulate the user actions with the application GUI. The tool validated the test cases by comparing it against a baseline of what was expected. The XML input script (test case) could also be generated automatically by using the Script Generator tool.	This tool was designed and developed to reduce the manual effort involved in generating XML scripts. It also facilitated quick testing for Client's end customers when custom fixes were delivered to them. Both the tools have been custom designed and developed for the customer using JavaScript and XML.
Automation of a complex workflow based HR System:	This was a workflow based HR Management product covering employee information, resource management, recruitment, appraisals and exit management. Testing the workflows and the different paths of the workflow required huge manual effort. InterraIT automated the different workflows using QuickTest Pro.	This helped in testing the different paths of the workflow quickly and reduced the overall time for completing the test cycle.
Automation of Netbeans based IDE for Modeling Environment:	This application is a Netbeans based IDE for modeling Business Process Applications. Conventional automation tools were not helpful in automating the GUI testing. Our QA Engineers worked closely with the developers and by using a combination of open source tools such as Junit, Jemmy, Jameleon, Log4j, Netbeans and application API, they automated over 95% of the test cases.	This greatly helped in reducing the testing cycle and helped in releasing the product on time.

About InterraIT

InterraIT's I-SQAT Practice provides testing and quality assurance services to various software product companies and enterprise segments, including financial services, retail, utilities, manufacturing, telecom and embedded systems and applications. InterraIT has seen a robust growth in demand for automated testing and now employs more than 200 employees at its 2-world class Testing Labs that provide application quality and performance testing services. In the software product space, InterraIT supports customers with installation testing, functional and system testing, performance testing and operations acceptance testing.

InterraIT is a global technology solutions company operating in USA, Canada, Europe, Japan and India and has 17 offices worldwide. We continue to support and service Fortune 500 companies since 1996 including Countrywide Home Loans, ConAgra Foods, Boeing, Vitria, Amdocs and Honda. InterraIT is an ISO 9001: 2000 and SEI-CMM Level 5 certified company.



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