UTILIZING PROCESS AUTOMATION

AUTOMATED TESTING SOLUTIONS

Bots helping humans to detect errors and improve testing times..

CHALLENGES

While there are compelling benefits, there are also numerous challenges associated with adopting testing automation:

- Where to start? Software testing has many facets.Unit testing, integration testing, functional testing, end-to-end testing, volume or stress testing, smoke tests, and performance testing are some of the most used testing types.Knowing which types of tests to automate and how to prioritize automation is key to a successful automation program deployment.
- Choosing the right testing framework and tools. Choosing the right testing automation tools that fit the needs of the organization is essential for success. To ensure quick adoption and ongoing use, decision-makers should focus on key aspects of the automation tools including ease of use, scalability, ability to maintain test scripts, integration with targeted applications and other tools.
- Skilled resources. Often overlooked is the need to have resources that can design and maintain automation tools and platforms, develop testing scripts, and assemble scripts to form broad testing solutions. These resources must also be nimble, responding quickly to changing conditions or unexpected problems.
- Architecting for reuse. Building scripts that are difficult to maintain or can't be reused in multiple test scenarios mitigates many of the benefits of automated testing. Ensuring test scripts are properly planned and developed to maximize maintainability and reusability are essential for any automation program.
- Test data management (TDM). Having the right data to test is often a huge challenge. Test automation tools that can create their own data and can consume data from various repositories enables much needed flexibility in the design of an effective test automation process.

OVERVIEW

Automating application software testing offers benefits with testing time, improved detection rates, broader test coverage, reduced cost, and faster time to value.

These are just a few of the benefits companies have realized through test automation however, despite these benefits, more than half of companies have yet to utilize testing automation in an impactful manner.

RPA OPPORTUNITIES

Manual application testing requires testing specialists to manually key information into systems following a defined testing plan. Testing experts note that the manual testing process is the longest part of any testing cycle. Also, manual testing is often fraught with entry errors that can distort test results.

As mentioned previously, automated testing significantly increases the speed and accuracy of the initial testing process. However, what is often not discussed is the power of automation to increase the number of test executions performed, broadening the coverage/scope of testing to detect more defects before they can escape into production. Another benefit often forgotten is the ability to execute the automation tests as part of any release cycle to ensure changes work properly in the context of the production system. Finally, properly constructed testing bots are modular and can be quickly assembled to form new testing scenarios. Modular assembly of bots saves tremendous time in test development and execution.

4 nuTAN bots built to perform an intricate set of regression tests **eliminated *over* 200 hours** of monthly manual testing -- dramatically increasing the quality of the testing & reducing defects flowing into production implementations.

Total savings to the client-- nearly $200K per year!

OUTDATED PROCESS

Software application tests range from unit testing to end-to-end functional testing. Most test processes begin with the creation of a testing plan which outlines application functions to be tested, data needed *(or entered)* and any expected outcomes. Individual test aspects are structured into test cases, often building on one another to test functional aspects of the targeted system.

Manual testing requires a resource to manually enter data and verify the results. Often the test plans and associated results are tracked in some form of repository (project management system or even as simple as an Excel spreadsheet).

When a system change is made, all associated test cases must be re-entered and verified. Also, the testing resources must compile testing results reports for development team review to ensure defects are properly addressed. This time-consuming and repetitive step often leads to mistakes.

While manual testing is still applicable for the initial testing of a software application, automated testing provides substantial increases in speed / accuracy for subsequent test cycles and delivers analytics that are directly consumable by developers to drive remediation efforts.

VALUE SOLUTION

nuTAN was built originally as a test automation platform. Our testing experts have leveraged nuTAN on numerous Fortune 500 accounts to provide speed, agility, and accuracy in support of system deployments.nuTAN was developed to be quick to learn, easy to use, nimble in application, and affordable for everyone.

nuTAN automated testing bots are system agnostic and can be easily integrated with most systems. Our testing bots have been deployed across multiple supply chain and ERP instances and are effective at supporting even the most complex testing plans.

nuTAN bots can grouped or clustered to support various testing scenarios. This flexibility enables nuTAN to be used to support a variety of testing types such as functional, integration, regression, performance, and stress testing.

nuTAN helps customers reduce the cost of application testing, reduce time to market, broaden testing coverage, and prevent defects from leaking into the production cycle.
The diagram below illustrates how automation can be applied to a structured testing program.

Test Planning

Define Test Plan & Priorities
Develop an overall approach to how an Application will be tested, which can include manual and automated testing processes.

Design Test Automation Plan
Define which elements of the testing plan will be automated. Often this could include regression testing, repeatable function testing, performance testing, and stress testing.

Define Test Structure & Dependencies
Document the flow of tests and associated data needs across the testing lifecycle., grouping into scenarios .

Define Test Cases & Expected Outcomes
Define all test cases needed to support testing scenarios and clearly define expected outcomes.

Automation Test Development

Build Test Automation Bots
Use the test case documentation to guide the creation of automation bots, taking into consideration how the bots fit within defined scenarios.

Assemble Bots into Scenarios
Arrange and assemble bots to support documented testing scenarios.

Automation Test Execution

Test Execution
Following the overall test plan, execute the testing scenarios and monitor results.

Test Analytics
Automation bots will create detailed analytics that can be displayed as dashboards and visualizations to pinpoint testing issues and opportunities for improvement.

"For over 11 years, NCS Partners has been improving supply chains and troubleshooting challenges for Global compaines and Fortune 500 businesses. We have developed other productions... and our most recent, nuTAN RPA, offers solutions that support our dedicated innovation to each company's success.

www.nutanRPA.com

information@nutanRPA.com