BayTechServices

When *Good Enough*
is *Not an Option*

Challenges of Test Automation

for

Startups & Small Companies

www.BayTechServices.com

Background

With development cycles becoming shorter by day, the testing window is constantly getting squeezed. Release time for web-based software, Software-as-a-Service and mobile applications has shrunk from months to weeks, even days. In this "fast release" environment, test automation is not just nice to have, but has become essential to delivering quality software.

But despite its promise, studies show that over half of the automation projects fail to achieve expected results. Test automation is difficult even in the best of circumstances. Limited budgets and resources in small companies make test automation even more challenging. Let us review some of these challenges.

Challenges of Test Automation for Small Companies

Complexity
- Finding the right set of tools for automation is one of the biggest hurdles to getting started with automation. The choices are many and the decision overwhelming. It takes research to ensure that the selected tool will work with your current applications. And more than one tool may be required to automate different parts of testing.
- Lack of scripting and coding skills. Even though most tools provide some user interface, testers will need to have some ability to write code and scripts.
- Besides knowledge of tools and coding, test automation requires another key skill – what to automate, deciding on the optimal set of scenarios and how best to architect automation. This is more of a soft skill that comes with experience.

Cost
- Although there are some open source tools available, good automation can be expensive. Most tools also come with hefty annual maintenance fees. And you may need more than one tool for different types of automation.
- It costs time and training dollars to learn to use them.
- Once you have the tools and training, it takes time and money to automate.

Given these costs, small operations often end up giving on automation altogether.

Tool Centric

- Each automation tool typically specializes in one or few areas of testing. So a meaningful automation may require implementing more than one tool – shifting focus to tool implementation rather than effective testing.
- As in any industry, new automation tools are becoming available all the time. But after investing time and money on a set of tools, it is difficult for an operation to move over to new tools, even though they may be better suited going forward.

Maintainability/Reusability

- In small companies, a lot of automation is done using home grown scripts. Typically, these are written to automate a specific test and are rarely documented, making them difficult to maintain them and reuse them for other tests.
- Also, these scripts rarely follow the rigorous treatment and quality control used in software development, so they tend to be buggy and may sometimes introduce more bugs in the testing process.

Unrealistic Expectations

As with any other project, unrealistic expectations can sink automation projects. For example:

- **Automation will payoff right away.** Tool acquisition, setup and developing automated test takes time. Before automation benefits are realized, test automation may actually slow down testing activities.
- **Automation can replace all manual testing.** Expecting to eliminate all manual testing is likely to result in disappointment. Automated and manual testing will happen in tandem.
- **Automation will reduce the requirement for testing resources.** Expecting to reduce testers significantly is also likely to result in disappointment. Automating and maintaining tests takes time. Automation may save time during release or provide expanded test coverage, but the overall resources may or may not go down.

Why Automate

Given these challenges of test automation, one might wonder if test automation is worth the investment of time, effort and money. The answer is an emphatic "*yes*". With today's fast cycles, test automation is not just nice to have, but is critical to maintain competitiveness. Done right, test automation can be a powerful tool to achieve a wide variety of testing and business goals. Let us recap some of these:

- **Reduced execution time and cost**. Once adequately designed, automated tests execute much faster and can run unattended thereby saving time and money.
- **Increased test coverage and improved quality**. With automation, you can increase the breadth and depth of testing possible for each release. Increased coverage will allow you to uncover bugs earlier.
- **Keeping up fast changing environment**. Given the frequent operating system patches and security upgrades, the only way to stay ahead of the curve is through automated testing.
- **Repeatability**. Majority of the tests done for each release are regression tests. In other words, the same tests are executed with every release – an area that automation is really good at.
- **Flexibility**. In real-life environments, development delays can and do happen. Quiet often, this leads to a squeeze on testing resources and time. With automation, repeat tests can be automated, so testers can focus on testing new features in the short window available.
- **Increase effectiveness of manual testing**. By freeing testers from having to execute repetitive and mundane tests, test automation frees them to use their creativity, knowledge, and instincts to discover more important bugs.

Summary

Test automation is challenging, especially for small companies with limited budgets and resources. But test automation is an excellent way to achieve more testing and catch more bugs in less time. Given the quick fire product releases of today, some level of test automation may be absolutely necessary in most environments.

Test automation is also necessary to enhance your competitiveness. Documenting and reporting on the thoroughness of your testing provides an added edge over competition regarding the quality of your product. Challenging it may be, but testers have no option but to learn more about test automation and get started.

When *Good Enough*
is *Not an Option*

BayTech Services

45 Coventry Lane

North Andover, MA 01845

Phone: 978-852-7019

Send comments to comments@BayTechServices.com

www.BayTechServices.com