White
PAPER

Cross-platform Test Automation Framework: Achieving DevOps Success

Software testing confirms seamless functioning of applications across all the user platforms. However, testing on multiple devices requires lots of efforts and is time-consuming. Today, automation test framework should allow the tests to be executed at large number of devices with minimal changes in the core structure of the test infrastructure. In this whitepaper, Test Triangle has proposed a cross-platform test automation framework that maximizes ROI (return of Investment) and accelerates time to market.

Introduction

The software industry never stops growing. Besides the developments in application features, there is constant growth in the number of computing devices, browsers, and user platforms. Designing applications, which work efficiently on all types of devices is challenging, especially when the user attention span is very low and consumer expectations is very high.

Thus, it is evident that today, software providers must provide consistent user experience irrespective of hardware, display, network or operating system type. It is a critical success factor as the application goes live. But, the traditional testing approaches suffer from various drawbacks due to the device fragmentation. It is not only highly time-consuming and expensive; but also prone to missed coverage.

The Challenge

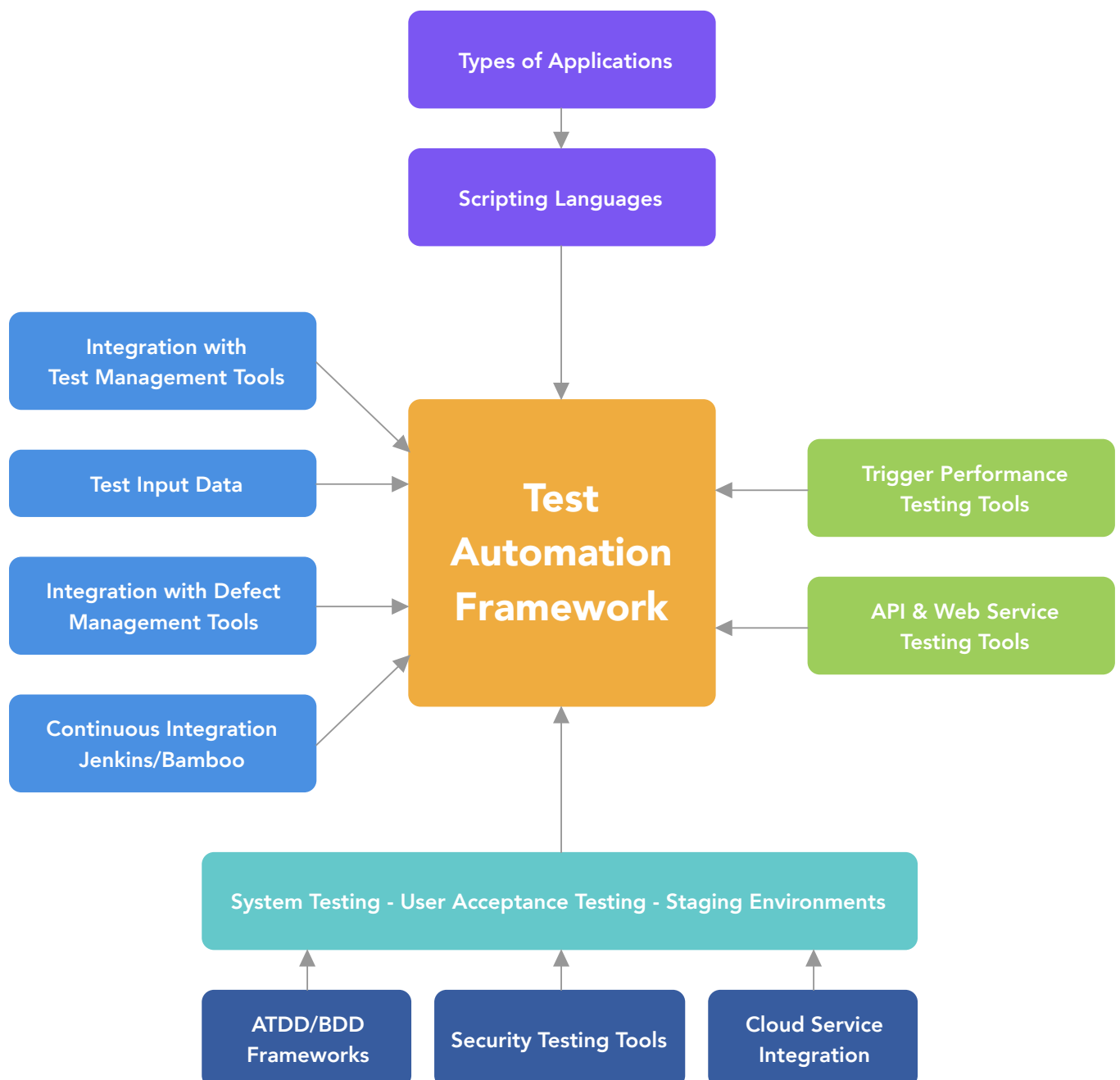With test automation, the testing efforts can be significantly reduced and the testing quality can be simultaneously improvised.

In real-time, different platforms and browsers work in a complete different manner. In these scenarios, the testing team has to make code changes so that the solution works across different platforms. Several testing measures such as code validation, user interface, performance, and consistent operation of the applications are essential in current quality assurance procedure. Also, it is not practical to sequentially test the application with all the browsers and operating system. Highly frequent application update also makes the whole process quite challenging.

Test Triangle's Solution

Test Triangle offers a test automation framework that caters to the current testing needs. It is a customizable and scalable solution, which can be quickly adapted to the needs of our client. Due to its high flexibility, it can be easily integrated with different test management and defect management tools. We offer cloud service integration and BDD and TDD support as part of our integration framework.

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                        │    Scripting Languages    │
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│ Integration with Defect│
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Test Triangle's functional / Platform Test Framework Accelerators

Reusability of code

The test framework contains a library that contains all the reusable components and external connections such as database, generic and application functions. The software testers are only exposed to the implemented code and all the tests are performed by invoking the code library.

Maximum coverage

Test coverage is useful determinant of test quality that tells how much application has been tested. Our test framework improves test coverage over multiple test cycles.

Recovery scenario

The recovery scenario is integrated in the framework to increase the reusability and extendibility of the framework.

Easy Reporting

Our test automation framework allows easy, fast and more apt reporting. It has pre-defined reporting mechanism, so that the testers do not have to manually input the report data every time a testing process is commenced. The results are generated without the need of constant monitoring. The test accuracy also increases drastically.

Time to market

The test automation framework serves several advantages such as faster bug identification, fast test results and fast regression results, which translates into fast time to market.

Easy plug in

The easy integration feature allows easy integration with Software development lifecycle (SDLC) tools, such as test management, requirement management, and application lifecycle management tools. It can be easily plugged-in with different applications and support a wide variety of languages such as C#, Java, Python, PHP, and Ruby.

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The Benefits of Cross-Platform Test Automation

There is a unified consensus that Cross-platform test automation addresses the current challenges in cross-platform testing. There are several benefits of cross-platform automation, some of which are listed as under:

Improved Test Quality

The cross-platform automation framework addresses the testing challenges in devOps enabled technically intricate applications with responsive design and cross-platform capabilities. Cross-platform Automation architecture helps in creating test labs and tools wherein the test data can be easily altered or modified.

High Coverage

Cross-platform automation offers high coverage of different test scenarios including happy paths, boundaries and edge cases. It leads to proper identification of various issues such as interface consistency, input combination, and data storage challenges.

Better Maintenance

When a product is developed for multiple platforms, the choice of platforms is endless. As such, test script maintenance efforts are very high. Cross-platform Test Automation reduces it as the test suite is constantly optimized so that it contains reusable test cases.

About Test Triangle

Originally founded in 2012, Test Triangle has become a leader in IT consultancy services providing services in application testing, DevOps, RPA, Custom software development, mobile app development, Atlassian consultancy, niche IT staff augmentation and training in advanced technologies. Test Triangle is headquartered in Ireland; but it also has branch offices in London, United Kingdom, and Hyderabad, India. We have exponentially grown to become a team of 200+ members providing services in different verticals such as Banking & Finance, Utilities, Pharma, Retail, IT & Education etc.

Test Triangle's R&D department has created a propriety platform, Test Outsourcing Dashboard [TOD] which can be used to manage software testing lifecycle using collaboration tools like email, live chat, video conferencing. We have also launched a self- service testing platform (the premium version will be released as SaaS solution), which can provide a project overview and real-time updates of the software development lifecycle.

Over the years, we have established the reputation of being a 'trusted partner in IT consulting'. Test triangle is an agile software company, which constantly strives to exceed the expectations of its clients. We adopt the software testing and software application lifecycle to meet the customer's demand in an efficient and reliable manner. With a global workforce, we have proved ourselves in delivering tight-deadline projects.

We are proud to declare ourselves a client of Enterprise Ireland and European commission.

ENTERPRISE IRELAND
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European Commission

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