

Test Automation Strategy

Company XYZ Test Automation Framework

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1. Introduction

The purpose of this test automation strategy is to define and communicate the overall direction, objectives and approach for the creation of a new test automation framework at XYZ Company.

Logistical details such as exact dates, team members, estimated costs and tools will be defined in the Test Automation Plan.

2. Objectives

Primary objectives of this initiative are to:

- Reduce test cycle time
- Increase test coverage
- Reduce regression defects in production
- Assure performance levels are met
- Low testware maintenance

3. Scope of Test Automation

The tests to be automated will include those for:

- Customer-facing web site (www.xyz.com)
- Mobile apps for customer access to products and services
- POS system to conduct end-to-end testing of orders from start to fulfillment

4. Type of Environments

The tests to be automated will include the following operational environments:

- Web,
- Mobile (iOS & Android)
- Point of Sale

5. Type of Software

The tests to be automated will cover the following:

- Web-based
- Hybrid Mobile Apps
- Proprietary POS Software
- APIs

6. Timelines

The project is expected to proceed generally to the following time goals:

- 1 – 3 month – Plan test automation framework
- 4 – 5 months – Conduct proof of concepts
- 6 – 9 months – Finalize licensing
- 10 – 12 months – Roll out to initial teams
- 13 – 15 months – Roll out to remaining teams

7. Assumptions

The following assumptions have been expressed by management and the test team. These assumptions appear to be reasonable and are critical to the success of the project. If unmet, contingencies will be needed to fill the gaps.

- A team of 4 people will drive the project
- Management is supportive with time and budget
- Vendors are responsive to questions and will conduct training
- Teams are supportive in learning and using the framework

8. Development Tools and Test Tools in Place or Currently Owned (Not Necessarily Used)

The following tools are currently owned by the company. However, usage is inconsistent, and in some cases, non-existent.

- XYZ Test Management Tool
- ABC Capture/Playback tool
- Krypton Open Source Test Automation Tool

9. Phases/Levels of Testing

The test automation framework will be used in the following levels or phases of testing:

- Unit/Component
- Component Integration
- System
- System Integration

10. Types of Testing to be Automated

The following types of testing will be automated:

- Confirmatory and regression tests of builds (CI)

- Ongoing regression testing post-release
- Performance testing of web site
- API testing of website and POS functions

11. Tester Profiles

The following people will be users of the test automation framework and possess the following skills:

- Developers – Unit/Integration testing, primary skills are in Java and Python
- Testers – Low coding skills, worked with some tools in the past with limited success
- Test Automation Engineers – High coding skills, understanding of test automation approaches such as keyword-based, Experience with a wide variety of test tools

12. Business/operational concerns

The following business concerns are motivations for this project:

- The business depends on accurate processing of orders to remain competitive and stay in business.
- There have been recent incidents where regression defects have occurred due to the lack of robust regression testing.
- Release time frames are typically very short – 4 days or less for testing.

13. Risks

The risks of this effort can be seen in the three following areas:

13.1 Mission/Organizational

Defects on the company website and mobile apps are visible immediately to customers and can negatively impact the company's image and reduce company revenue.

13.2 Technical/Product

The diversity of technology is a challenge to automate, even using a multi-tool approach.

13.3 Project

There may not be enough time to create the automated tests and keep up with testing the ongoing flow of releases. (It will take 9 to 12 months to create a reasonable set of automated tests.)

People may find test automation more difficult than manual testing, which may reduce their motivation to accept the tools and framework.

Management may be unwilling to commit funds when they see the final cost.

14. Other

The CIO is very supportive of this effort and is willing to be the champion of the project to senior management.