INTRODUCTION

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The purpose of this document is to outline the Test Strategy for the Spree application considering its current issues and the future roadmap.

SCOPE

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Spree current Issues stabilisation and future roadmap.

TEST APPROACH:

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Spree has lots of issues in it and also does not have a strong Safety Net. Also, there is a future Roadmap planned for Spree. Hence we shall divide the testing activities into 2 phases.

A. STABILISATION TEST ACTIVITIES

B. NEW FEATURES TESTING

We shall discuss each of the above phases in detail.

STABILISATION TEST ACTIVITIES

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This phase will involve the below mentioned Testing Activities.

1. HEALTH CHECK TESTING

This will involve analysis of existing regression test cases and automated test cases, if any.

Executing the above to cover the features/business logic.

Updating the regression suite to cover all the features/business logic and executing the regression suite to cover the existing features/business logic testing.

Get the updated defect list which needs attention.

Getting the security testing and performance testing of the Spree application to uncover issues. Getting them added to the Defect Sheet.

Entry Criteria:-

a. Spree Requirements Doc/User Guides/KT

b. Existing Regression Suite

c. Existing Automation Cases (Unit/APPI/UI/Performance/Security if available)

d.Defects List, if available

e.Information about current Tools(Manual/Automated)

Exit Criteria:-

a. Updated Regression Suite

b. Updated Defect List

c. Feasibility Study on the current tools used by Client(manual/Automated) - Is it ok to continue using them or new tools to be suggested and used.

Types Of Testing:

This phase will have Unit Testing, API Testing, Security Testing, Performance Testing and Usability Testing as part of it.

2. STABILISATION TESTING

1. Team along with Product Owner will prioritise the Defects List and will work on the priority items. (Items which cannot be pushed to later in order to stabilise the application and to support new feature development)

2. Bug Fixes will be tested and bug status updated accordingly.

3. Regression cases will be executed to check impacted areas.

4. Automation of unit/functional/UI tests using current tools used by Customer/New tools - based on the feasibility study outcome in previous phase.

5. Integrating the automated cases with CI tool.

Entry Criteria:-

a. Bug Fix Release

b. Unit/Functional/UI TestCases show case

Exit Criteria:-

a. Priority issues Closed

b. Safety Net Available - Smoke Test Suite, Regression Suite (Automated Test cases at Unit/Service/Functional/businessLogic/security/performance level)

c. Safety Net integrated with CI

Types of Testing

This phase will have Unit Testing, API Testing, Security Testing, Performance Testing and Usability Testing as part of it.

NEW FEATURES TESTING

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This phase will follow the typical AGILE product lifecycle. Each Sprint will have set of features to be developed and Stories to develop accordingly. Each story will undergo unit testing, functional testing, integration testing, usability testing , security Testing, performance testing , cross browser testing, multiple OS testing, multiple devices(Tablet,Mobile,DeskTop) testing etc. Test cases will be automated, defects will be logged. Once all acceptance criteria are met, showcase will be done and story will be closed.

Considering the new Roadmap, the below mentioned types of testing needs to be done in addition to the various types we cover at each story level.

MOBILE APP TESTING

1. Considering the roadmap plan for enabling Omni channel capacity, we should plan Mobile App Testing.

2. Target Devices have to to be identified and finalised.

3. Cloud systems like pCloudy to be used for achieving test coverage on all targeted devices.

4. Crowd testing to be planned for getting real user feedback.

5. Test scenarios involving actions from various apps (web app, MobileApp etc) to be covered. For eg: An example from Spree could be, a user starts shopping in mobile app and adds few items to cart and later stops. Next Day, user may continue his purchase from WebAPP and complete his purchase transaction. All these user actions across apps should be synced up and the same to be validated.

4. The various types of testing to be included under this are:-

a. Interruption Testing

b. Installation Testing

c. Functional/API Testing

d. Security Testing

e. Performance Testing

f. Crowd testing

g. Automation Testing

h. Usability Testing

I.Cloud based testing

Entry Criteria:-

a. Mobile Devices/Cloud systems availability.

b. Story developed and release done after showcase

Exit Criteria

a. MobileApp story closed.

b. MobileApp Automation Completed and integrated with CI tool

C. Automation of Test Scenarios involving user actions across applications like webAPP and Mobile APP.

Tools:

Manual Testing - pCloudy (Cloud solution for testing Mobile Apps on various devices of our choice)

Automation - APPIUM

CONTRACT TESTING

1. Considering the roadmap plan of integrating with various third party tools, we should plan for CONTRACT Testing. For eg, In case of Spree application, integration with Payment Gateway or Shipping Services could be an example for contract testing.

2. Initially, we can test the contract using a mock or stub.

3. At later stages of integration, testing using real interface needs to be carried out.

4. CONTRACT testing can be of 2 types.

a. Integration Contract Testing:- Testing is carried out using a test double(mock or stub) that replicates a service that is to be consumed. This needs to be periodically verified with the real service to make sure there are no changes in the service

exposed by the provider.

b. Consumer driven contract testing:- In this case, consumers will define the way in which they will consume the service via consumer contracts. The provider can then test against these contracts.

Entry Criteria:-

a. Mock or stud is ready

b. Story is delivered after showcase

Exit Criteria:-

a. Testing outputs are as per the contract.

b. Integration testing with real interface done and closed.

Tools:

PACT, Stubs

L10N AND I18N TESTING

1. Considering Spree’s plan to enter new regions/market areas, we should plan for L10N and I18N testing.

2. Localisation aims to give a product the look and feel of having been created specifically for a target market, no matter what is their language culture, location etc.

3. Internationalisation consists of stripping away any hard coded text and date, time and number formatting that tie to a specific locale and replacing these with variables or functions that can dynamically return locale appropriate content or formatting. For eg, In our Spree application, number formatting, currency symbols and calculations etc. should appear as per the locale or should be region specific.

Entry Criteria:

a. Resource bundles and Translated Strings available.

b. Story is delivered after showcase

Exit Criteria:

a. All the priority issues fixed and closed.

b. Product works as per selected locale.

TYPES OF TESTING

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Below given are the various types of testing we will be covering as part of Spree Application Testing in general:

1. Unit Testing:- This will be done by developer. But QA will question and can demand for more coverage. We follow TDD approach.

2. Smoke Testing - Major Flows are working fine so that further testing can happen.This will be automated also.

3. Service/API Testing - Both Dev and QA are responsible for this. Functionalities are covered mainly through API testing.

4. Integration Testing - Various modules work together without any issues. System is integrated well.

5. Functional Testing:- Functionality of the application is working fine.

6. Usability Testing - System is user friendly and any layman can understand and work on the system easily.

7. Regression Testing

8. Cross Browser Testing - Application will be tested under the various target browsers.

9. Multi Device TEsting

10. Security Testing - System works as per OWASP standards.

11. Performance Testing :- System is performing well under expected load and bench marking docs will be published.

12. Compatibility Testing

13. L10N/I18N

14. Regression Testing

15. Contract Testing

16. Content Testing

17. User Acceptance Testing

TOOLS

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TestCAse Management - TestLink

Defect Management - Bugzilla

Unit test automation - JUnit

API Automation - Rest Assured/Postman

UI automation -Selenium WebDriver with Java, TestNG

MobileApp Automation - APPIUM

Security Testing - Burp Suite

Performance Testing - JMeter

Source Code Management - GIT

DEFECT MANAGEMENT

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All the defects will be tracked in Bugzilla. Below Defect Categorization table will be used for categorising and prioritising defects.

<TABLE>

TRACEABILITY

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Traceability must be established between story points and test cases.

TEST METRICS

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<METRICS to be collected>

DELIVERABLES

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1. Release Package

2. Release Notes & Installation Scripts

3. User Guides

4. Automated TesCase Execution Summary

5. System Test Execution Summary

6. Performance Test Report & Benchmarking Docs

7. TestCase Doc

RISKS & MITIGATION PLANS

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1. Resources(internal/customer) may not be knowledgeable in the identified tools. Mitigation plan is to make sure trainings are planned and happening.

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DEPENDENCIES

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1. There is dependency on the Cloud platform availability and Physical Mobile Devices availability to start testing.