

Testing Strategy for Faster Scalability of Spree Ecommerce Web Platform/Framework.

Functional Spec:

Spree Ecommerce is an open source ecommerce framework. Spree has been used by numerous companies from different domains (Fashion, beauty , Health etc..) to build products like marketplace , ecommerce sites quickly by leveraging the underlying solution , thus enabling them to release their products to market faster.

Customers are happy that they are able to leverage the extensive capabilities provided by Spree Ecommerce , however of late lot of customers are not happy with the quality of the solution in general. Lot of bugs have been introduced lately and any new functionality that needs to be built in the underlying solution takes a lot of time given the lack of safety net. Introducing a new feature impacts existing features as well.

The Core Spree Ecommerce team recognises the issues faced by customers. Spree team is also planning to enhance their solution to enable them to enter new markets/regions. Entering new markets would also mean integration with local payment , shipping systems etc.

In addition to this , they are looking at building an omni-channel capability so as to give a seamless shopping experience to their customers.

Keeping in mind the above issues faced by Spree team and also their roadmap for the future, they approached ThoughtWorks to devise a “Test Strategy” which will help them to scale faster without compromising on quality.

Reviewers and Signoff History

Team	Reviewer	Approval Date	Notes
team	name	mm/dd/yy	<Comments>
Development lead	gama	05/06/19	
Functional test lead	XYZ	05/06/19	
Upgrade lead	abc	05/06/19	
Security lead	pqr	05/06/19	
FST lead	jkl	05/06/19	
System Test lead	mno	05/06/19	
Performance lead	pqr	05/06/19	
Product Management lead	alpha	05/06/19	

Overall Summary of test approach:

From the Functional spec we understand that the main intention is to scale/support different regions and languages .Additionally there will be OmniChannel support.

So the main deliverables from Thoughtworks to Spree are as follows.

- a) Assert/Qualify that Spree is fully functional with different Regions and Languages.

- b) Assert/Qualify that for Spree's customers it is easy to upgrade from their current version to this new version.
- c) Assert/Qualify the Spree's new Feature "Omni-Channel" is fully functional based on Different regions and Languages.
- d) Tracker for all the issues raised during Testing and what all has been fixed and known issues.

Each component Owner need to create a "Test plan" based on the given guidelines below.

Approaches and Tools:

We follow Agile test methodology and Test Driven Development.

Agile: Jira

Continuous Integration/Continuous Development : Jenkins

For unit Testing: TestNG and Junit

UI testing : Selenium , Cucumber , Page Object Model.

Api Testing: RestAssured , Postman

Version Control: Git

Development

Owner: gama

Gama's team to provide breakdown list of features and For major features We will have a **QA resource working with Dev** at early stages of Design and Development.

Provide at-least **two sandbox builds per week.**

What is tested (Scope)

- a) Unit testing of all the major features.
- b) Complete Component test.

What is not tested (Out of scope)

- a) System/Integration testing .

Automation Strategies:

- a) Automated way to execute unit Tests : Ex: mvn test
- b) Employ code Coverage tool like fortify , coverity for catching obvious bugs.

Functional Test

Owner: XYZ

What is tested (In-Scope)

- a) All basic acceptance test cases for “Region and Language” support.
- b) Testing switching from one region to other region.
- c) Test cases related to pricing items according to region.
- d) Test cases related to Location changes for shipping based on Country/Region.
- e) Test cases covering impact on App Admin functionality.
- f) Test cases covering Omni Channel features.
- g) Testing on supported browsers (Chrome , IE , Safari)
- h) Testing on supported Devices (Phone , Laptop , Desktop , Notepads)
- i) Testing on supported OSes (Android , iOS , windows)

What is not tested (Out of scope)

- a) Backward compatibility tests.
- b) Security / Performance and Other non-functional tests.

Automation Strategies:

Daily BAT job in Jenkins will be created. The BAT has following tests.

- 1) Selenium UI tests.
- 2) API tests

Upgrade

Owner: abc

What is tested (In scope):

- a) The last two released versions are only supported to be upgraded. So upgrade will be done last two versions only.
- b) Backward compatibility tests will be carried out.
- c) Will perform a smoke tests post upgrade.

What is not tested(Out of scope):

- a) Upgrade testing not on all devices , Only Major devices and Latest greatest OS versions.

Automation Strategies :

- a) A jenkins job performing an upgrade by taking sandbox and upgrading an older version appliance/webapp.
- b) For Adhoc upgrade request manual upgrade , Like upgrade on Windows notepad.

Security Team:

Owner: pqr

What is tested :

- a) Security team to scan for vulnerabilities in the code repo.
- b) All softwares/Libraries versions in used in developing and testing are free from vulnerabilities and latest patches are upgraded.

What is not tested :**Automation Strategies**

Use fortify or any other security scan tools.

System Test (includes Interoperability testing)

Owner: mno

What is tested :

- a) All the components interoperability is tested :
Like change in Country should result in change in Currency , Shipping location , Chat language change options .
- b) Test on all supported devices, Browsers and Channels (chat ,Facebook and twitter).
- c) Installation and deployment tests.

What is not tested: (Out of scope)

- a) Trivial tests like login / change password / add to cart etc will not be tested.

Automation Strategies:

- a) A jenkins Job which deploys the new sandbox web-app and executes Rest apis for language change , Country change and other switchings.

- b) Auto build of environment for system testing on mobile devices like laptop , Mobile phones for internal faster development and system Tests.

Performance Team

Owner:pqr

What is tested (In-scope):

- 1) Ability to scale to large number of users per e-commerce app.Off course record the upper limit on number of users per site.
- 2) Ability to scale to on-board more customers in all regions for Spree Ecommerce platform/Framework.
- 3) Region based app-deployment and app usage testing .

Ex: A login for an app based in India should go to APJ web-app server.

A login from Germany should go to EMEA web-app server.

- 4) All the metrics of performance Testing need to be Documented .

Ex: The system resources (Memory , CPUs , Storage) used and Number of users . For 2 CPU , 2 GB RAM , 20 GB Disk space : Up to 1000 users can login

What is not tested :

Automation Strategies

- 1) Jenkins jobs to deploy the sandbox concurrent user Logins .
- 2) Performance test tools like jmeter can be used.

Regression Testing

Exploratory Testing

Test Dependencies

CAT Requirements

Test Execution Matrix

