# **Test Strategy**

### **Project:** [**https://ecommerce-playground.lambdatest.io/**](https://ecommerce-playground.lambdatest.io/)

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## **Goal**

The goal of the Test Automation is to reduce the amount of time spent on testing and re-testing the functionalities of the product that are critical to the user experience. Bearing that in mind automating the **highest priority tests** and the ones that must be **frequently repeated** (after each change in code, requirements, environment, etc.) will free resource that could be directed and used in other fields of testing which could lead to saving money and to providing better and faster results to the client.

## **Scope**

The scope of automation will be the functionalities that are business critical and widely adopted by the users such as, but not limited to: Registration, Login, Search for item, Add item to cart, Checkout. The features will be tested both separately and in groups. Amendments on scope can be made by the Product Owner with agreement of the QA manager once the current flow is stable and running.

## **Entry Criteria**

* Web application is deployed

## **Exit Criteria**

* Highest Priority level test cases have been 100% automated
* EOB 07/11/2023

## **Levels of Testing**

The levels of testing performed on the web application will be:

* System testing – the system will be tested as a whole against business requirements.
* Acceptance testing (E2E) – the focus will be mostly on functionality and workflow, replicating user behaviour using simulation.

## **Types of testing**

**Smoke Testing**

*Purpose:* the goal of this test is to make sure the main functionalities are working properly upon beginning if actual testing.

*Timing*: initial builds when the application is relatively unstable.

*Performed by:* QA team

**Regression Testing**

*Purpose:* the goal of this testing is to confirm that recent program, code or environmental changes has not adversely affected the existing features. This is required when:

* There is change in requirement and the code has been modified accordingly;
* New feature is added to the product;
* Defect has been fixed;
* There has been a change in the environment.

*Performed by:* QA team

**Functional Testing**

*Purpose:* the goal of this test is to verify weather implemented functions or features are working as expected and as specified in the requirements.

*Performed by:* QA team

**Load Testing**

*Purpose:* the goal of this test is to check the behaviour of the system under significant load. Test should simulate multiple User scenarios on the website mixed in the test run.

*Performed by:* QA team

**User acceptance testing**

*Purpose:* the goal of this test is letting UAT representative of the end user to perform exploratory testing sessions.. This final pass through the system allows for the final ‘catch’ of any unexpected items in the system.

*Timing*: prior to production release.

*Performed by:* UAT representative

## **Test Design Techniques**

Dynamic test design techniques to be used to identify test conditions and to prepare high-level test cases.

* Decision tables – for filling forms
* Boundary-value analysis and Equivalent partitioning – used separately or together for field validations
* State transition testing– when changing state
* Use case testing

## **Test Cases**

QA team to prepare high level test cases, prioritize them and select which ones to be automated immediately based on the Priority.

Test cases template:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ID | Title | Narrative/Description | Preconditions | Tests Steps | Expected Result | Priority |
|  |  |  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| Priority levels: | | |
| 1 | Highest | Related to core functionalities that are business critical and widely adopted by the users and the product is unusable without them. |
| 2 | High | Related to major functionalities that are of utmost importance for the user experience. |
| 3 | Medium | Related to core functionalities that aim to improve user experience but will not prevent the use of the application. |
| 4 | Low | Related to minor features; improvements made on them will not affect user experience. |

## **Tools**

For the automated browser testing of the web application Junit and Selenium Driver will be used.

Cucumber framework will be introduced to the QA team.

Reporting tools – Allure

## **Test Environment**

Tests to be automated will include the following operational environments:

* Initial Automation will be on:
  + *Chrome, Version 116.0.5845.188*
  + *Microsoft Windows 10 Home, Version 10.0.19045*
* Before the product go live automation to be made on:
  + *Firefox, Edge, Internet Explorer, Safari (latest versions)*

## **Risks**

* Insufficient or unclear customer expectation
* Underestimating time, cost and efforts for building the test framework
* Application maintainability – if core functionality is broken and the automation cannot proceed further
* Test Automation maintainability

## **Schedule & Roles**

|  |  |  |  |
| --- | --- | --- | --- |
| No | Task: | Executor: | Work hours: |
| 1 | Test Automation Strategy | Aneliya Boneva | 8 |
| 2 | Test Cases - Design | Aneliya Boneva | 16 |
| 3 | Learning Cucumber framework | Aneliya Boneva | 8 |
| 4 | Test Case Automation – Highest Priority | Aneliya Boneva | 16 |
| 5 | Test Case Automation – High Priority | Aneliya Boneva |  |
| 6 | Test Case Automation – Medium and Low priority | Aneliya Boneva |  |