**TEST PLAN**

Project Name: Swag Labs Testing

Test Engineer: Basil

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Prepared by: Basil

Reviewed by: Srirangam Bhavani

**1. INTRODUCTION**

This test plan outlines the testing strategy for the Swag Labs application using the TestNG testing framework with the page object model.

**2. Aim/Objective**

- Validate the functionality of Swag Labs.

- Identify and report defects or issues in the tested functionalities.

- Ensure that Swag Labs meets the specified requirements.

**3.Scope of testing:**

|  |  |  |
| --- | --- | --- |
| * Module Name | Applicable Roles | Description |
| Account Log in | USER | Users can login using the username and password |
| Filtering | USER | Customer Can filter items using the dropdown menu |
| Add-to-Cart& Checkout | USER | Customers can add merchandise to cart which they like and proceed to checkout |

* + Within the scope:
  + Functional Testing,
  + External interface,
  + Browser compatibility.
  + Automation Testing
  + Out of scope:
    - Non-functional testing, (stress, performance)

**Test Strategy:**

a) **Levels of Testing:**

• **Unit Level:** Test individual code components in isolation to ensure their correctness, helping catching defects

b) Types of Testing:

• **Functional testing:** It is the technique that helps to verify the functionality of the software by the given modules like **Login, Filtering, Add-to-Cart& Checkout etc.**

**5.Entry and Exit Criteria:**

1. Entry Criteria:

* Requirements should be well-defined and approved.
* Sufficient test data should be available.
* Test environments must be set up.
* Test cases should be prepared and reviewed.

1. Exit Criteria:

* All critical functionalities are tested and meet acceptance criteria.
* Bugs that are remaining must be fixed.
* Test scripts must be executed 99%.
* Every critical bug must be removed.
* All high-priority defects are addressed.

**6.Test Deliverables:**

* Test plan document
* Test case document
* Test tools
* Test data
* Test results and reports
* Defect reports
* RTM

**7.Risk and Mitigation:**

**Incomplete Test Coverage:**

•Risk: Not covering all aspects of the application in the test suite.

•Mitigation: Regularly review and update the test suite to include new features. Use code coverage tools to identify areas not covered by tests.

**Data Dependency:**

•Risk: Tests relying on specific data, such as login credentials, may fail if the data changes.

•Mitigation: Maintain a stable and controlled test environment. Use test data generation tools to ensure the availability of required data.

**Environmental Issues:**

•Risk: Test failures due to inconsistencies or differences between test and production environments.

•Mitigation: Ensure that the test environment closely mirrors the production environment. Regularly synchronize test data and configurations.

**Browser Compatibility:**

•Risk: Tests may pass in one browser but fail in another.

•Mitigation: Include cross-browser testing in the test plan. Test on popular browsers to ensure compatibility.

**Test Data Quality:**

•Risk: Poor quality of test data may lead to inaccurate test results.

•Mitigation: Validate and sanitize test data. Use realistic and diverse data to simulate various user scenarios.

**Test Execution Dependencies:**

•Risk: Some tests may depend on the successful execution of others, leading to a cascading effect if one fails.

•Mitigation: Clearly define test dependencies. Execute tests independently where possible. Use test automation frameworks that support parallel execution.

**Code Changes During Testing:**

•Risk: Changes to the application code during the testing phase may affect test results.

•Mitigation: Freeze the codebase during critical testing phases. Communicate code freezes to development teams.

**Test Script Maintenance:**

•Risk: Difficulty in maintaining and updating test scripts as the application evolves.

•Mitigation: Implement a robust test automation framework. Regularly review and refactor test scripts. Provide training for test script maintainers.

**False Positives/Negatives:**

•Risk: Tests producing inaccurate results due to false positives (incorrectly passing) or false negatives (incorrectly failing).

•Mitigation: Regularly review and update test assertions. Investigate and address any inconsistent test results.

**8.Test environment:**

|  |  |  |
| --- | --- | --- |
| **S.NO** | **Test tool/Environment** | **Purpose Details** |
| 1 | Browser | * Chrome (Latest version) * Firefox (Latest version) * Safari (Latest version) |
| 2 | Operating system | * Windows 10 * MacOs * Linux (Latest version) |
| 3 | Network connection | * Stable and uninterrupted network connectivity to access the application, share files, and collaborate effectively. |
| 4 | Test tools | * Various testing tools and frameworks required for automation (e.g., Selenium WebDriver for web automation, JUnit/ TestNG for test execution, etc.). |

**9. Assumptions:**

O The System is assumed to be easily manageable and navigable by end-users.

O The Software is assumed to be free of critical errors or major defects.

O Test case design activities will be undertaken by the QA group.

O The necessary tools and hardware have been allocated and are ready for use in the testing process.

**10.Approval Information:**

This project needs to be approved by project manager

**Signature:**

* Name: Srirangam Bhavani
* Role: Project manager
* Date: 26-01-2024

**11.Test metrics:**

* Test case pass percentage-(No. of test cases passed/Total No. of test cases) \* 100.
* Test case failed percentage-(No. of test cases failed/Total No. of test cases) \* 100.
* Defects deferred percentage-(No. of defects deferred/Total No. of defects) \* 100.
* Test Cycle Time: Measures the time it takes to complete a test cycle or testing phase.