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21K-4203

Test Plan
Final Report

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1.   Overview

1.1.   Purpose

- *The purpose of this test plan document is to outline the testing approach and strategy of this project. It serves to define:*

- *Test Scope, Focus Areas, and Objectives: This document will delineate the scope of testing, including the features and functionalities to be tested, along with the specific objectives and focus areas of the testing effort.*

- *Test Responsibilities: It will specify the roles and responsibilities of the project team members involved in the testing process, including testers, developers, and stakeholders.*

- *Test Strategy: The document will describe the overall testing strategy, encompassing the levels (e.g., unit testing, integration testing, system testing) and types (e.g., functional testing, performance testing, security testing) of tests to be conducted for this release.*

- *Entry and Exit Criteria: It will outline the criteria for entry into testing (e.g., completion of development, availability of test environments) and exit from testing (e.g., successful completion of test cases, acceptable defect resolution).*

- *Basis of Test Estimates: This document will elucidate the basis for estimating the resources, effort, and time required for testing activities, including factors such as complexity, risk, and dependencies.*

- *Risks, Issues, Assumptions, and Test Dependencies: It will identify and assess any risks, issues, assumptions, and dependencies that may impact the testing process and outcomes.*

- *Test Schedule and Major Milestones: The test plan will provide a timeline and schedule for testing activities, including major milestones and checkpoints.*

- *Test Deliverables: It will specify the deliverables expected from the testing process, such as test cases, test reports, and defect logs.*

1.2.   Scope

This document details the testing that will be performed by the project team of this project. It defines the overall testing requirements and provides an integrated view of the project test activities. Its purpose is to document:

- What will be tested: The scope includes the features and functionalities of the <project name> project that will undergo testing, covering areas such as login, signup, checkout, adding products to the cart, and handling invalid login scenarios.

- How testing will be performed: The document outlines the testing approach, methodologies, and techniques that will be employed to ensure thorough test coverage and quality assurance.

- What resources are needed, and when: It specifies the resources, including personnel, tools, and environments required for testing, as well as the timelines and schedules for conducting testing activities.

2. Testing Summary

2.1. Scope of Testing

2.1.1. In scope

From a testing perspective, the following activities are in scope for the project team:

1. *Functional Testing: Testing the functionality of the website features such as login, signup, checkout, and adding products to the cart to ensure they meet the specified requirements.*

2. *Integration Testing: Verifying the integration of different modules and components within the website, ensuring seamless interaction and data flow between them.*

3. *User Acceptance Testing (UAT): Allowing end users or stakeholders to validate and confirm that the website meets their expectations and requirements.*

4. *Cross-browser Testing: Ensuring the compatibility and functionality of the website across different web browsers such as Chrome, Firefox, and Edge.*

5. *Allure Reporting: Utilizing Allure reporting to generate comprehensive test reports with detailed information about test execution, results, and trends.*

2.1.2. Out of scope

From a testing perspective, the following activities are out of scope for the project team:

1. *Usability Testing: Evaluating the usability and user experience aspects of the website, including navigation, layout, and design. Usability testing may be performed by end users or stakeholders separately.*

2. *Performance Testing: Assessing the performance characteristics of the website, such as response time, load handling capacity, and scalability. Performance testing may be conducted by dedicated performance testing teams or tools.*

3. *Security Testing: Testing the security features and vulnerabilities of the website, including authentication, authorization, and data protection mechanisms. Security testing may be performed by specialized security testing teams or tools.*

4. *Integration Testing by Vendor: If integration testing of certain components or modules is being handled by external vendors or third-party providers, it is considered out of scope for the project team.*

5. *Usability Testing by Users: If usability testing is delegated to end users or stakeholders to gather feedback and insights, it is considered out of scope for the project team's testing efforts.*

3. Analysis of Scope and Test Focus Areas

3.1. Release Content

The release content includes the following features and functionalities:

1. *Login: Users can log in to the website using their credentials.*

2. *Signup: New users can register for an account on the website.*

3. *Checkout: Users can purchase products by adding them to the cart and proceeding to checkout.*

4. *Add to Cart: Users can add products to their shopping cart for later purchase.*

5. *Error Handling: The website handles invalid login attempts and displays appropriate error messages.*

6. *Allure Reporting: Test execution results are reported using Allure reporting, providing detailed insights into test outcomes.*

3.2. Regression Testing

Regression testing will be performed to verify the functionality of system features that were previously working and to ensure that no unintended changes have occurred. This includes:

- *Verifying that login, signup, checkout, and add to cart functionalities still operate correctly after any updates or modifications.*
- *Ensuring that error handling mechanisms for invalid login attempts remain effective.*

3.3. Platform Testing

For software testing, the following platforms will be used:

- *Operating System: Windows 10*
- *Browsers: Chrome, Firefox, Edge (latest versions)*
- *Test Automation Framework: Selenium WebDriver with C#*
- *Test Reporting: Allure Framework*

All testing activities will be conducted on machines running Windows 10 operating system, using the specified browsers for compatibility testing. The test automation framework and reporting tools mentioned will be utilized to automate and document the testing process effectively.

4. Progression Test Objectives

Each row represents a specific function or feature to be tested, along with its corresponding test objective, evaluation criteria, cross-references, and priority.

Ref	Function	Test Objective	Evaluation Criteria	P
P1	Login	Verify valid login functionality	User can successfully log in with valid credentials	High
P2	Login	Verify invalid login handling	User receives appropriate error message for invalid login attempts	High
P3	Signup	Verify successful user registration	User account is created successfully with valid registration details	Medium
P4	Checkout	Verify product checkout process	User can complete checkout process without errors	High
P5	Add to Cart	Verify product can be added to cart	Product is successfully added to user's shopping cart	Medium

5.   Progression Test Objectives

Each row represents a specific function or feature being regression tested, along with its corresponding test objective, evaluation criteria, cross-references, and priority.

Ref	Function	Test Objective	Evaluation Criteria	X-Ref	P
			Regression testing		
R1	Login	Verify valid login functionality is not impacted by changes	Users can still log in successfully with valid credentials after system updates	Previous regression test results	High
R2	Signup	Verify user registration process remains unaffected	Users can still register successfully with valid registration details after system updates	Previous regression test results	Medium
R3	Checkout	Verify product checkout process remains functional	Users can still complete the checkout process without errors after system updates	Previous regression test results	High
R4	Add To Cart	Verify product adding to cart functionality is not affected	Users can still add products to their shopping cart without issues after system updates	Previous regression test results	Medium

6. Other Testing

6.1. Security

Security testing will be performed by the dedicated security testing team. It will include vulnerability assessments, penetration testing, and code reviews to identify and mitigate potential security risks and threats.

6.2. Stress & Volume Testing (S&V)

Stress and volume testing will be conducted using load testing tools such as JMeter. The performance testing team will execute simulated user scenarios to assess system behavior under high load conditions and ensure scalability and reliability.

6.3. Connectivity Testing (CT)

Connectivity testing will be performed to validate network connectivity and communication between system components. It will be executed by the network testing team using tools like Wireshark to verify seamless data transmission and identify any connectivity issues.

6.4. Disaster Recovery/Back Up

DR and backup testing will be conducted to validate the effectiveness of disaster recovery plans and backup procedures. The infrastructure team will perform scheduled drills and simulations to ensure data integrity and business continuity in the event of a disaster.

6.5. Unit Testing

Unit testing will be performed by developers to verify the functionality of individual modules or units of code. Automated unit tests will be executed using testing frameworks such as NUnit to ensure code quality and identify defects early in the development cycle.

6.6. Integration Testing

Integration testing will be conducted to verify the interaction and integration of different modules and components within the system. The QA team will execute test cases to validate data flow, interfaces, and communication between integrated units, ensuring system interoperability and functionality.

7.   Test Environment Plan

7.1. Test Environment Details

7.1.1. Testers

- *Number of Testers: 1*
- *System Access Requirements: None*
- *Hardware Requirements: None*

7.1.2. Hardware and Firmware

None

7.1.3. Software

Using
- *.Net 6*
- *Specflow*
- *nUnit*
- *Allure*

7.1.4. Interfaces

Chrome Test Environment

7.1.5. Other Materials

None

8. Assumptions and Dependencies

8.1. Assumptions

- Business Analyst and Development Support: It is assumed that business analyst and development team members will be available to provide support, training, and defect resolution to the test team members as required throughout the testing process.

- Test Environment Availability: It is assumed that the test environment will be set up and configured according to the defined specifications and will be available for testing as scheduled.

- Timely Test Data Provision: It is assumed that the necessary test data will be provided to the testing team in a timely manner to facilitate testing activities.

8.2. Dependencies

- System Access Configuration: Dependency exists on the system administrator to configure access to the system in the test environment for all test team members identified prior to the commencement of testing.

- Test Environment Setup: Testing is dependent on the successful setup and configuration of the test environment, including hardware, software, and interfaces, as per the defined requirements.

- Completion of Development: Testing is dependent on the completion of development activities and the availability of stable builds for testing purposes.

9. Administrative Plan

None

10.   Definitions

The following acronyms and terms have been used throughout this document

Term/Acronym	Definition
QA	Quality Assurance
UAT	User Acceptance Testing
DR	Disaster Recovery
CT	Connectivity Testing
POM	Page Object Model
OS	Operating System

11.   References

Following website is used for testing :
https://www.demoblaze.com/

12.   Points of Contact

The following people can be contacted in reference to this document

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