B42_008_SDET_Surge: Test Plan_v1.0

Test Plan Designer: Nazish Jehangir
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• Software to be Tested: Automation Test Store

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Introduction **%**:

The purpose of this test plan is to validate the core functionality, reliability and usability of the Automation Test Store website. This ensures a seamless and efficient user experience across all key features. By conducting End-to-End Automation Testing, we aim to identify potential issues, ensuring the platform operates smoothly and meets quality standards.

Test Plan ID: TP-2025-001

Objectives 2:

The objective of this test plan is to develop and implement a robust end-to-end automation testing framework for the Automation Test Store e-commerce website.

This framework aims to:

- Ensure the website's core functionalities operate correctly and efficiently.
- Improve test maintainabilit and reusability by structuring test scripts using POM.
- Automate critical workflows to validate website's performance and reliability, including:
 - User Authentication
 - Product Search & Filtering
 - Cart Operations
 - Checkout
 - Navigation
- Identify and report bugs to enhance the website's stability and user experience.

By executing this automated test suite, we aim to enhance test coverage, improve efficiency, and ensure a seamless shopping experience for users.

Testing Scope **Q**:

This test plan focuses on automating the core functionalities of the Automation Test Store e-commerce website using Cypress and Page Object Model (POM). The objective is to validate key user interactions and ensure a seamless shopping experience.

In-Scope

The following functionalities will be covered in the automation testing framework:

User Authentication

- Verify login and signup functionality with valid and invalid credentials.
- Validate password reset and account recovery processes.

• Product Search & Filtering

- Ensure users can search for products using keywords.
- Validate filters and sorting options for accurate results.

Cart Operations

- o Verify adding, updating, and removing products from the cart.
- Validate price calculations.

Checkout Process

• Ensure seamless order placement, including payment and shipping validation.

Navigation & User Experience

- Test navigation between different pages.
- o Validate responsiveness across different screen sizes.

• Additional Functionalities

- Wishlist feature and contact us form submission and response validation.
- o Footer section links verification.

Out of Scope

The testing scope excludes security testing and advanced performance testing as the focus is on functional automation so performance under heavy load is not covered. By defining this scope, we ensure that the automation testing effectively covers critical user journeys while maintaining clear boundaries for testing efforts.

Approach (8):

The testing phase will follow a structured and maintainable framework using Cypress and the Page Object Model (POM). This ensures scalability, reusability, and ease of maintenance while validating critical user interactions.

Testing Methodology

- **Functional Testing:** Verify key user actions like authentication, product search, cart management, checkout, and navigation.
- Data-Driven Testing: Implement tests with multiple inputs such as negative and positive.
- Regression Testing: Ensure new updates or fixes do not break existing functionalities.
- Cross-Browser Testing: Execute tests on different browsers to verify compatibility.

Test Implementation Steps:

- 1. **Prepare Test Scenarios and Test Cases:** Well documented test scenarios and test cases.
- 2. Set Up Cypress Environment: Install Cypress with required dependencies.
- 3. Implement Page Object Model: Structure test scripts using POM.
- 4. Write and Execute Test Cases: Develop reusable test cases for:
 - o Login, signup, and authentication workflows.
 - Product search, filtering, and sorting functionality.
 - Cart operations, including add, update, and remove actions.
 - o Complete checkout process validation.
 - Navigation across key website sections.
- 5. Assertions & Validations: Implement Cypress assertions to verify expected behavior.
- 6. **Test Execution & Reporting**: Run test cases, log results, generate reports for analysis.

Tools & Technologies Used:

- Cypress: Test automation framework.
- JavaScript: Test scripting language.
- Xmind: Mindmap creation tool.
- Microsoft Excel: Tool to document testing reports.
- Jira: Tool for bug tracking and project management.
- **Slack:** Communication platform to collaborate, updates and real-time discussions.

This approach ensures comprehensive automation coverage while maintaining efficiency and reliability in the testing process.

Entry Criteria ?:

The following conditions must be met before starting test automation:

- Test Environment Readiness: The website is accessible, stable, & configured for testing.
- Test Cases/Scenarios Defined: All key functionalities have well-documented test cases.
- Test Data Availability: Required test data is prepared and accessible.

Exit Criteria END:

- All test cases executed with documented results.
- Critical defects are resolved or logged for further action.
- Test summary report is submitted.

Test Environment ::

- Devices: Desktop, laptops, tablets, mobiles etc.
- **OS:** Windows 10, Windows 11, Linux etc.
- **Browsers:** Chrome, Edge, Firefox etc.
- Network: 50-75 Mbps Fiber, VPN Enabled.

Scheduling 177:

Activities	Starting Dates	Ending Dates	Durations	Responsible Persons
Test Planning	05th Feb 2025	05th Feb 2025	1 Day	Nazish Jehangir
Test Scenarios & Test Cases Preparation	05th Feb 2025	05th Feb 2025	1 Day	Nazish Jehangir
Test Scripts Praparation & Execution.	05th Feb 2025	07th Feb 2025	1 Day	Prince Saraswat
Test Scripts Execution & Bug Report.	06th Feb 2025	07th Feb 2025	1 Day	Prince Saraswat
Summary Reporting & Mind Map Creation.	07th Feb 2025	07th Feb 2025	1 Day	Nazish Jehangir

Deliverables

Test Documentation 📝:

Content	Details
Test Scenarios	A detailed documentation that includes detailed test scenarios for the test cases.
Test Cases	A detailed documentation that includes all the detailed test cases for functional land non-functional aspects of the website.
Test Execution Report	A detailed reports for the executed test cases.
Bug Reporting	A well documented report of all the bugs found during the testing phase.
Test Summary Report	A final report summarizing test execution results, including total test cases executed, passed, failed, and defect trends.

Automation Artifacts

Deliverable	Description
Cypress Automation Framework	A structured test framework following the Page Object Model (POM) for maintainability and scalability.
Automated Test Scripts	Reusable Cypress test scripts covering key workflows like authentication, product search, cart operations, checkout, and navigation.
Test Data & Configuration Files	Predefined test data sets and configuration files for running tests in different environments.
Execution Reports & Logs	Test execution results, logs, and reports or similar tools for analysis.

Roles & Responsibilities 🥷:

Role	Assigned To	Responsibility/Assignment
Test Lead	Vaishnavi Lakhore	Coordinating the testing efforts.
Automation Tester	Prince Saraswat	Writing & executing automation scripts.
Manual Tester Nazish Jehangir		Exploratory Testing and Testinc Documents etc.

Risks & Assumptions 1:

- Limited time for testing across all browsers and devices.
- Test execution failures due to network issues.

Assumptions !:

- Due to limited time, testing will focus on the most commonly used browsers & devices.
- Execution is assumed to run in reliable network environment to reduce network failures.

Sign Off/Conclusion ::

The test plan for the <u>Automation Test Store</u> website provides an end-to-end framework to ensure all critical functionalities functions well without malfunctioning across different devices or platforms, operating systems and browsers. By covering the main functional aspects the test plan helps ensuring a successful release of the software.