Polymer Shop Project

Software Requirements Specification

1.2

21/09/2024

Prepared for
shop.polymer-project.org

Polymer Shop Testing Plan Document

1. Introduction

1.1. Project Overview

The **Polymer Shop** is an e-commerce web application that demonstrates the capabilities of the Polymer framework. Users can browse a variety of products, add items to the cart, and place orders. The purpose of this testing plan is to ensure that the application is functioning correctly and meets business requirements and user expectations.

1.2. Objective

The primary objective of this testing plan is to outline the strategies, scope, schedule, and approach for testing the **Polymer Shop** application. The goal is to ensure that all functionalities are working as expected and to identify potential bugs or performance issues.

1.3. Scope

The testing will cover the following areas of the **Polymer Shop**:

- Functional testing
- UI/UX testing
- Integration testing
- Performance testing

1.4. Definitions, Acronyms, and Abbreviations

- **UI:** User Interface
- **UX:** User Experience
- **QA:** Quality Assurance
- **SUT:** System Under Test
- **CI/CD:** Continuous Integration/Continuous Deployment

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2. Test Items

The key features of the **Polymer Shop** that will be tested include:

- **Product Catalog:** Browsing categories, viewing product details.
- **Search Functionality:** Searching for products by name or keyword.
- **Cart Functionality:** Adding/removing products from the shopping cart.
- **Checkout Process:** Completing the purchase with valid payment and shipping information.

- **Responsiveness:** Verifying proper display across different device resolutions.
- **Performance:** Ensuring that the website loads and responds efficiently.

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3. Features to Be Tested

The features and functionalities that will be tested include:

3.1. Product Catalog

- Viewing products in various categories (e.g., **Men's Outwear**, **Ladies Outwear**).
- Filtering and sorting products by price, name, or popularity.

3.2. Product Details Page

- Viewing product descriptions, prices, and available sizes/colours.
- Selecting product quantity.

3.3. Cart Management

- Adding a product to the cart.
- Modifying product quantity in the cart.
- Removing products from the cart.
- Viewing cart summary (total price, product details).

3.4. Checkout

- Entering shipping and billing information.
- Payment gateway integration (if applicable).
- Confirming orders.

3.5. Navigation

- Navigating between different pages (e.g., home, product pages, cart).
- Testing for broken links or buttons that don't function correctly.

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4. Features Not to Be Tested

The following features will not be part of the testing scope:

- Backend database optimizations and server-side performance tuning.
- Third-party API performance (if any).
- Security Testing
- Performance Testing

5. Test Approach

5.1. Testing Types

- **Manual Testing:** Performed for UI/UX validation, user experience testing, and exploratory testing.

5.2. Testing Levels

- **Unit Testing:** Each component (e.g., product page, cart) will be tested in isolation.
- **Integration Testing:** The flow between components (e.g., adding an item to the cart, checking out) will be tested.
- **System Testing:** The entire system will be tested to ensure it meets the specified requirements.
- **User Acceptance Testing (UAT):** Final testing will be performed with end-users to ensure the application is usable and bug-free.

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6. Entry and Exit Criteria

6.1. Entry Criteria

- Development team has completed coding and unit testing.
- All test data is prepared and available.
- All necessary test environments are set up.

6.2. Exit Criteria

- All critical and major bugs are resolved.
- 98% of test cases are passed.
- No high-severity defects remain unresolved.

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7. Test Deliverables

The following deliverables will be produced:

- **Test Plan Document:** This document outlining the testing strategy.
- **Test Cases:** Documented test cases in **JIRA** and **Zephyr Squad**.
- **Bug Reports:** Reported issues in **JIRA** for each identified defect.
- **Traceability matrix**
- **Test Execution Reports:** Generated reports on test case results (pass/fail status, defect counts).
- **Final Test Report:** A summary of the overall testing process, including issues identified, resolved, and pending.

8. Test Schedule

The schedule for testing activities is outlined below:

Activity	Start Date	End Date
Test Plan Preparation	01-Sep-2024	05-Sep-2024
Test Case Development	06-Sep-2024	10-Sep-2024
Test Environment Setup	06-Sep-2024	07-Sep-2024
Functional Testing	11-Sep-2024	20-Sep-2024
Performance Testing	21-Sep-2024	25-Sep-2024
Security Testing	26-Sep-2024	29-Sep-2024
Regression Testing	30-Sep-2024	03-Oct-2024
User Acceptance Testing	04-Oct-2024	07-Oct-2024

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9. Risks and Contingencies

9.1. Risks

- **Scope Creep:** Changes in project requirements or new features added mid-testing.
- **Insufficient Test Data:** Lack of relevant data for certain scenarios (e.g., different user profiles, various payment methods).
- **Tight Deadlines:** Limited time for thorough testing, leading to potential undetected issues.

9.2. Contingency Plans

- **Scope Creep:** Freeze the scope after the initial agreement and handle any additional features in subsequent releases.
- **Test Data:** Collaborate with developers to ensure all test data is available before testing begins.
- **Deadlines:** Prioritize high-risk and critical functionalities for early testing to ensure they are covered.
- **Third-party Failures:** Develop mock services for testing purposes to minimize the impact of third-party failures.

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10. Roles and Responsibilities

Role	Responsibility
Test Manager	Plan and coordinate all testing activities, manage resources, and report to stakeholders.
Test Lead	Oversee test execution, review test cases, and report issues.
Test Engineers	Write and execute test cases, report bugs, and validate fixes.
Developers	Fix issues identified during testing and assist with test data setup.
Product Owner	Ensure that business requirements are met and sign off on UAT.

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11. Tools

The following tools will be used in the testing process:

- **JIRA** with **Zephyr Squad** for test case management and bug tracking.

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12. Approval

Name	Role	Signature
Test Manager	David Reed	[Signature]
Product Owner	Jane Smith	[Signature]
Development Lead	Sarah Johnson	[Signature]

This document serves as the official testing plan for the **Polymer Shop Project**. It provides the framework for the testing process, ensuring that the project is tested systematically and comprehensively.