**1. Test Plan ID: TP-SAUCEDEMO-001**

**2. Introduction/Overview**

**Purpose of this Test Plan:** This document outlines the testing strategy for the SauceDemo (Swag Labs) e-commerce web application. The plan covers testing of core end-to-end user flows, including login, product browsing, shopping cart operations, and the checkout process.

**Scope of Testing:** Testing will focus on the web application hosted at `https://www.saucedemo.com` using standard desktop web browsers. The scope includes all functionalities, user stories, and non-functional requirements detailed in the PRD.

**References:** SauceDemo (Swag Labs) - Product Requirements Document (PRD) v1.0

**3. Test Items**

User Authentication Module (Login/Logout)

Product Inventory and Browsing Page

Shopping Cart Functionality

Customer Checkout Process

Application State Reset Functionality

**4. Features to be Tested**

\*\*User Login:\*\* As per PRD Sections US-01, US-02, and FR-1/FR-2. Covers authentication for all user types (`standard\_user`, `locked\_out\_user`, `problem\_user`, `performance\_glitch\_user`).

\*\*Product Catalog (Inventory):\*\* As per PRD Section US-03 and FR-3. Covers the display of product items after a successful login.

\*\*Shopping Cart Management:\*\* As per PRD Section US-04 and FR-4. Covers adding items to the cart, removing items, and verifying the cart badge updates in real-time.

\*\*Checkout Process:\*\* As per PRD Section US-05 and FR-5. Covers the multi-step checkout, including filling user information and order confirmation.

\*\*Session Management:\*\* As per PRD Section US-06 and FR-6. Covers user logout and the "Reset App State" feature from the application's main menu.

**5. Features Not to be Tested (Out of Scope)**

Real payment gateway integration.

Native mobile apps beyond responsive web design.

User account creation, profile management, or password reset flows.

Localization/Internationalization.

**6. Test Strategy**

**6.1. Test Levels**

\*\*Unit Testing:\*\* Covered by the development team during implementation.

\*\*Integration Testing:\*\* Will be performed to verify interactions between the client-side application and the mock e-commerce API for authentication, inventory, and cart operations.

\*\*System Testing:\*\* This test plan is primarily focused on full system testing to ensure all functional and non-functional requirements from the PRD are met from an end-to-end perspective.

\*\*Acceptance Testing:\*\* User Acceptance Testing (UAT) can be performed by stakeholders to validate the application against business requirements.

**6.2. Test Types**

\*\*Functional Testing:\*\* Will verify all specified functional requirements and user stories from the PRD, ensuring the system behaves as expected for all user types.

\*\*Regression Testing:\*\* Will be performed to ensure that new changes or defect fixes do not negatively impact existing functionalities.

\*\*Performance Testing:\*\* As per PRD Section 5, testing will verify that page transitions complete in under 2 seconds and the checkout process completes within 3 seconds. The `performance\_glitch\_user` will be used to validate performance-related UI behavior.

\*\*Security Testing:\*\* As per PRD Section 5, testing will verify that the site uses HTTPS, user passwords are masked in the input field, and only the predefined demo credentials are valid.

\*\*Usability Testing:\*\* As per PRD Section 5, will assess the intuitiveness of the UI and ensure forms are accessible, aiming for WCAG AA compliance.

\*\*Compatibility Testing:\*\* As per PRD Section 5, testing will be performed across the latest versions of Chrome, Firefox, and Edge on desktop, and will also verify responsive rendering on mobile-width viewports.

**6.3. Test Approach**

\*\*Black-box Testing:\*\* This will be the primary approach, as testing will be conducted from the user's perspective without knowledge of the internal code structure.

\*\*Data-driven Testing:\*\* Will be used for the login functionality to test the application's behavior with different user credentials (`standard\_user`, `locked\_out\_user`, etc.).

\*\*Risk-based Testing:\*\* Prioritizing test efforts on critical functionalities such as login, add to cart, and the checkout process.

**6.4. Entry Criteria**

PRD and Test Plan documents are reviewed and approved.

The test environment (`https://www.saucedemo.com`) is stable and accessible.

The latest stable build is deployed.

All required test data (user credentials) is known and available.

**6.5. Exit Criteria**

All high-priority test cases are executed with a 100% pass rate.

All critical and major defects are resolved and retested.

No open blocking or critical defects.

Test Summary Report is prepared and approved.

**7. Test Environment**

\*\*Hardware Requirements:\*\* Standard desktop/laptop machines for testing.

\*\*Software Requirements:\*\*

\*\*Operating System:\*\* Windows 10/11, macOS.

\*\*Browsers:\*\* Chrome (latest), Firefox (latest), Microsoft Edge (latest).

\*\*Network Configurations:\*\* Standard internet access.

\*\*Test Data Requirements:\*\* Predefined user accounts as specified on the login page: `standard\_user`, `locked\_out\_user`, `problem\_user`, `performance\_glitch\_user`.

**8. Test Data Management**

Test data is static and provided by the application itself. The primary test data consists of the four user profiles designed to test different application states. No test data creation or modification is required.

**9. Roles and Responsibilities**

\*\*Test Lead:\*\* Overall test strategy, planning, and reporting.

\*\*Test Engineers:\*\* Test case design, execution, defect reporting, and retesting.

\*\*Development Team:\*\* Defect fixing and environment support.

\*\*Business Analyst:\*\* PRD clarification and requirement validation.

**10. Schedule and Estimation**

**Note:** Detailed scheduling and precise estimation require human input and project-specific factors not present in the PRD. This section serves as a placeholder for where this information would be added.

\*\*High-Level Phases:\*\*

Test Planning & Design: \*\*[e.g., 1 week]\*\*

Test Execution: \*\*[e.g., 2-3 weeks]\*\*

Defect Management & Retesting: \*\*[Ongoing during execution]\*\*

Reporting: \*\*[End of test cycle]\*\*

\*\*Estimated Effort:\*\* To be determined based on the complexity and volume of the final test cases and available resources.

**11. Deliverables**

Test Plan Document (this document)

Detailed Test Cases

Test Execution Reports

Defect Reports

Test Summary Report

**12. Risk and Contingencies**

\*\*Identified Risks:\*\*

\*\*Test Environment Instability:\*\* The public demo site may experience downtime or performance issues outside of our control.

\*\*Contingency:\*\* Allocate buffer time in the schedule for environment issues. Report any outages to the appropriate channels if known.

\*\*Ambiguous Non-Functional Requirements:\*\* NFRs like "WCAG AA" can be broad and require specific checklists.

\*\*Contingency:\*\* Use standard WCAG AA checklists for accessibility testing and document which specific criteria were tested.

\*\*Assumptions/Clarifications Needed from PRD:\*\*

What specific criteria of WCAG AA should be prioritized for usability testing?

Are there specific error messages expected for the `problem\_user` scenarios, or is the "problem" related to UI rendering only?

**13. Example Test Cases**

**Feature: User Authentication**

**Test Case ID: TC-LOGIN-001**

\*\*Feature/Module:\*\* User Login

\*\*Requirement ID/User Story Reference:\*\* US-01: Successful Login

\*\*Test Case Title:\*\* Successful User Login with Standard Credentials

\*\*Preconditions:\*\* User is on the login page at `https://www.saucedemo.com`.

\*\*Test Steps:\*\*

1. Navigate to the login page.

2. Enter the username "standard\_user".

3. Enter the password "secret\_sauce".

4. Click the "Login" button.

\*\*Expected Result:\*\*

The user is successfully authenticated and redirected to the inventory page (`/inventory.html`).

The inventory page displays a list of products in a container with `id="inventory\_container"`.

\*\*Test Data:\*\* Username: `standard\_user`, Password: `secret\_sauce`

\*\*Priority:\*\* Critical

\*\*Test Type:\*\* Functional, Positive

**Test Case ID: TC-LOGIN-002**

\*\*Feature/Module:\*\* User Login

\*\*Requirement ID/User Story Reference:\*\* US-02: Locked-out User Error

\*\*Test Case Title:\*\* Verify Error Message for Locked Out User

\*\*Preconditions:\*\* User is on the login page.

\*\*Test Steps:\*\*

1. Navigate to the login page.

2. Enter the username "locked\_out\_user".

3. Enter the password "secret\_sauce".

4. Click the "Login" button.

\*\*Expected Result:\*\*

The user remains on the login page.

An error message is displayed containing the text: "Epic sadface: Sorry, this user has been locked out."

\*\*Test Data:\*\* Username: `locked\_out\_user`, Password: `secret\_sauce`

\*\*Priority:\*\* High

\*\*Test Type:\*\* Functional, Negative

**Feature: Shopping Cart Management**

**Test Case ID: TC-CART-001**

\*\*Feature/Module:\*\* Shopping Cart

\*\*Requirement ID/User Story Reference:\*\* US-04: Add to Cart & Cart Badge

\*\*Test Case Title:\*\* Verify Cart Badge Updates When Adding and Removing an Item

\*\*Preconditions:\*\* User is logged in as `standard\_user` and is on the inventory page. The shopping cart is empty.

\*\*Test Steps:\*\*

1. Verify the shopping cart badge in the top-right corner is not visible or shows '0'.

2. Click the "Add to cart" button for the "Sauce Labs Backpack".

3. Verify the shopping cart badge now displays the number '1'.

4. Click the "Remove" button for the "Sauce Labs Backpack".

5. Verify the shopping cart badge is no longer visible.

\*\*Expected Result:\*\*

The shopping cart badge count accurately reflects the number of items in the cart in real-time.

\*\*Test Data:\*\* N/A

\*\*Priority:\*\* High

\*\*Test Type:\*\* Functional, Positive

**Feature: Checkout Process**

**Test Case ID: TC-CHECKOUT-001**

\*\*Feature/Module:\*\* Checkout

\*\*Requirement ID/User Story Reference:\*\* US-05: Checkout Process

\*\*Test Case Title:\*\* Successful End-to-End Order Completion

\*\*Preconditions:\*\* User is logged in as `standard\_user`. At least one item is in the shopping cart.

\*\*Test Steps:\*\*

1. Add the "Sauce Labs Onesie" to the cart.

2. Click the shopping cart icon to navigate to the cart page.

3. Verify the "Sauce Labs Onesie" is listed in the cart.

4. Click the "Checkout" button.

5. Enter "Test" in the "First Name" field.

6. Enter "User" in the "Last Name" field.

7. Enter "12345" in the "Zip/Postal Code" field.

8. Click the "Continue" button.

9. On the "Checkout: Overview" page, verify the item and total price, then click "Finish".

\*\*Expected Result:\*\*

The user is redirected to the "Checkout: Complete!" page (`/checkout-complete.html`).

A success message "Thank you for your order!" is displayed.

The shopping cart is now empty.

\*\*Test Data:\*\* First Name: Test, Last Name: User, Zip: 12345

\*\*Priority:\*\* Critical

\*\*Test Type:\*\* Functional, Positive