Test Plan for Swag Labs

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Group: 6 | DEPI_CAI2_SWD6_S7

Team and Roles

Name	Role
Mohamed Ali Mohamed Ali Ragab	**Team Leader**
Abdelrahman Ahmed El Sayed	Team Member
Mostafa Yasser Mostafa	Team Member
Farag Farhat Abdelsalam	Team Member

Document Change Record

Date	Author	Title	Version
6/4/2025	Mohamed Ali Ragab	Team Leader	1

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1. Introduction & Project Description

This document outlines a comprehensive test plan for the Swag Labs website (https://www.saucedemo.com), a dummy e-commerce platform simulating real-world online shopping experiences. The project employs both manual and automated testing approaches to verify functionality, usability, security, performance, and compatibility.

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2. Quality Objectives & Project Objectives

2.1 Quality Objectives

- **Functional Reliability:** Ensure that all website features work as intended.
- **Usability:** Provide a seamless and intuitive user experience.
- **Performance:**
  - Achieve acceptable page load times.
  - Test system stability under simultaneous user actions.
- **Security:** Identify vulnerabilities and verify secure authentication, authorization, and data integrity.
- **Compatibility:** Ensure the website functions correctly across supported browsers (Chrome, Edge) and devices.

2.2 Project Objectives

- Validate end-to-end functionality through manual and automated testing.
- Achieve high test coverage for critical user flows.
- Implement automated regression suites integrated with Continuous Integration (CI) systems to streamline future test cycles.

3. Project Planning & Management

3.1 Test Scope

3.1.1 In Scope

- **Login:** Test valid/invalid credentials, password recovery, and error messaging.
- **Homepage (Products/All Items):** Verify product display, sorting, filtering, and pagination.
- **Sidebar:** Ensure accessibility of navigation links.
- **Product Detail Page:** Check product information, images, and “Add to Cart” functionality.
- **Shopping Cart Page:** Test adding/removing items, quantity updates, and price calculations.
- **Checkout Process:** Validate form behavior and order confirmation.
- **About Page & Navbar:** Confirm content accuracy and correct navigation links.

3.1.2 Out of Scope

- Features introduced after the testing phase begins.
- In-depth backend database integrity testing.
- Compatibility testing on unsupported browsers/devices.

3.2 Key Performance Indicators (KPIs)

- Create test suites for manual, mobile, and API testing.
- Develop automated test scripts.
- Prepare comprehensive test cases for all testing types.
- Generate detailed bug reports with reproduction steps, severity, and priority.
- Measure test coverage percentages for manual, mobile, and API testing.
- Establish a traceability matrix.
- Develop checklists to ensure full coverage of test suites.

4. Testing Methodologies & Test Types

4.1 Test Types

4.1.1 Manual Testing

- **Component Testing:** Verify individual components for correct behavior.
- **Integration Testing:** Ensure that components work together as expected.
- **System Testing:** Validate the complete, integrated system functionality.
- **Component Integration Testing:** Check the integration points between specific components.
- **System Integration Testing:** Confirm end-to-end interactions across the entire system.

4.1.2 Performance Testing

- Measure the responsiveness and stability of the website under various load conditions.
- Evaluate page load times and simultaneous user actions to identify bottlenecks.

4.1.3 Security Testing

- Identify vulnerabilities and assess the application’s ability to protect data.
- Test secure authentication, authorization mechanisms, and data integrity.

4.1.4 Automation Testing

- Develop and execute automated test scripts for regression and high-priority test cases.
- Integrate automation with Continuous Integration (CI) systems to provide rapid feedback on code changes.

4.1.5 Mobile App Testing

- Verify that the mobile application (if applicable) mirrors the web experience.
- Test usability, responsiveness, and layout across various devices and screen sizes.
- Ensure mobile-specific features are functioning as intended.

API Testing:

- Validate requests and responses for all endpoints using Postman.

4.2 Test Completion Criteria

- All in-scope functionalities have been thoroughly tested.
- All critical/high-impact issues have been documented.
- Final test summary reports have been reviewed and approved by stakeholders.

5. Assigned Testing Roles

Testing Area	Assigned Roles
Manual Testing	Mohamed Ali & Farag
Mobile App Testing	Mohamed Ali, Abdelrahman & Mostafa
API Testing	Mohamed Ali, Abdelrahman & Mostafa
Security Testing	Mohamed Ali & Farag
Performance Testing	Mohamed Ali & Farag
Automation Testing	Mohamed Ali, Abdelrahman & Mostafa

6. Task Distribution & Time Estimates

#	User Story	Test Case Creation	Test Case Execution	Total Duration	Assigned To	Role
1	Login	1.5 hours	3 hours	4.5 hours	Mohamed Ali	Team Leader
2	Checkout Process	1.5 hours	3 hours	4.5 hours	Mohamed Ali	Team Leader
3	Product Detail Page	1.5 hours	3 hours	4.5 hours	Abdelrahman Ahmed	Team Member
4	Shopping Cart Page	1.5 hours	3 hours	4.5 hours	Abdelrahman Ahmed	Team Member
5	Homepage (Products/All Items)	1 hour	2 hour	3 hours	Farag Farhat	Team Member
6	Sidebar	1 hour	1.5 hours	2.5 hours	Mostafa Yasser	Team Member
7	About Page	2 hours	1.5 hours	3.5 hours	Mostafa Yasser	Team Member
Total	**-**	**10 hours**	**17 hours**	**27 hours**	-	-

7. Test Strategy

1. **Preparation:** Develop a detailed **test plan** including scope, roles, and schedule.
2. **Test Case Creation:** Define test cases for each user story with clear expected outcomes.
3. **Execution:** Run test cases and conduct exploratory testing sessions.
4. **Bug Reporting:** Log issues with reproduction steps, severity, priority, and include screenshots (using JIRA).
5. **Reporting:** Compile a final report covering test coverage, execution results, and defect analysis.

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8. Test Environment & Tools

8.1 Test Environment

- **Browsers:** Latest versions of Chrome and Edge.
- **Devices:** Desktop (Windows) and appropriate mobile devices.

8.2 Test Tools & Technologies

- **Test Management:** TestRail.
- **Automation Testing:** Selenium WebDriver.
- **Bug Tracking:** JIRA.
- **API Testing:** Postman.
- **Performance Testing:** JMeter.

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9. Risk Identification

Team Risks

- **Availability:** Unplanned leave or reassignments.

  Mitigation: Prepare backup plans and cross-training initiatives.

Environment Risks

- **Equipment Failure:** Malfunction of testing devices.

  Mitigation: Maintain backups and schedule regular maintenance.

Project Risks

- **Server Downtime:** Infrastructure unavailability.

  Mitigation: Use redundancy and continuous monitoring.

Process Risks

- **Exploratory Testing Gaps:** Lack of a structured approach.

  Mitigation: Document session notes and conduct regular reviews.

- **Time Constraints:** Limited time window for testing.

  Mitigation: Prioritize critical scenarios and include time buffers.

- **Automation Maintenance:** UI changes may break scripts.

  Mitigation: Regularly review and update automation scripts.

- **Cross-Browser Issues:** Inconsistent behavior across browsers.

  Mitigation: Initiate testing early on all supported browsers.

10. Test Outputs & Reporting

- **Test Summary Reports:** Final reports detailing test coverage, execution results, and defect percentages.
- **Defect Reports:** Detailed reports documenting reproduction steps, severity, and priority for each defect.
- **Daily/Weekly Status Updates:** Regular updates tracking progress and critical issues throughout the testing phase.

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11. Stakeholder Communication

- **Daily Standups:** Short meetings to review progress and share observations.
- **Weekly Reports:** Summaries of manual and automated testing outcomes, highlighting critical issues.
- **Final Test Summary Report:** A comprehensive report covering execution results, coverage metrics, and defect analysis.