**🧾 Software Test Design (STD)**

**Demoblaze E-commerce Website**

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# 1. Introduction

This document defines the test design for the Demoblaze e-commerce website. It outlines the test cases, their objectives, preconditions, and expected outcomes to ensure the application functions as intended.

# 2. Test Environment

* **Browser:** Edge (latest version)
* **OS:** Windows 10
* **Test Automation Framework:** Selenium WebDriver with Python (pytest)
* **Network:** Stable broadband connection

# 3. Test Tools

* Selenium WebDriver
* pytest
* Jira (for bug tracking)
* GitHub (for version control)

# 4. Test Scope

The tests cover:

* User authentication (login/signup)
* Product display and navigation
* Shopping cart functionality
* Purchase flow
* UI elements like carousel behavior

# 5. Test Strategy

Tests are designed to cover:

* Functional testing (valid and invalid inputs)
* UI behavior and responsiveness
* Positive and negative scenarios
* Edge cases (e.g., weak credentials)

# 6. Assumptions & Constraints

* Users used in tests are pre-registered unless otherwise noted.
* The website is stable and reachable during testing.
* Some tests rely on fixed test data which may cause failures if the data changes.

# 7. Test Data Management

* Test accounts with known credentials are used for login/signup tests.
* Product names and details are assumed static for product navigation tests.
* Alert messages are expected to be consistent for validation.

# 8. Test Cases Summary

| **TC ID** | **Test Case Name** | **Description** | **Pre-conditions** | **Test Steps** | **Expected Result** | **Status** |
| --- | --- | --- | --- | --- | --- | --- |
| TC-001 | test\_login\_success | Verify successful login | User is registered | 1. Open the website2. Open login modal3. Enter valid credentials4. Login | User is logged in, username is displayed | Pass |
| TC-002 | test\_login\_failure | Verify login failure with invalid credentials | User not registered | 1. Open website2. Open login modal3. Enter invalid credentials4. Login | Alert "User does not exist." is displayed | Pass |
| TC-003 | test\_login\_success\_weak\_password\_username | Verify login success with weak username/password | User is registered | 1. Open website2. Open login modal3. Enter weak credentials4. Login | User is logged in, username is displayed | Pass |
| TC-004 | test\_signup\_success | Verify successful sign-up | Username not already registered | 1. Open website2. Open sign-up modal3. Enter username and password4. Submit | Alert "Sign up successful." is displayed | Pass / Fail¹ |
| TC-005 | test\_products\_displayed | Verify products are displayed on homepage | User logged in successfully | 1. Login2. Check products display | More than 0 products displayed | Pass |
| TC-006 | test\_carousel\_all\_indicators\_change\_image | Verify carousel images change when indicators clicked | Homepage is open | 1. Click each carousel indicator2. Check active image | Number of images equals number of indicators | Pass |
| TC-007 | test\_click\_product\_opens\_details | Verify product details page opens on product click | User logged in successfully | 1. Login2. Click first product3. Verify product title on details page | Product title on details page matches selected | Pass |
| TC-008 | test\_click\_product\_opens\_details\_from\_next\_page | Verify product details open from next product page | User logged in, multiple pages | 1. Login2. Go to next product page3. Click product4. Verify product title | Product title matches the selected product | Pass |
| TC-009 | test\_add\_to\_cart | Verify product can be added to cart | User logged in successfully | 1. Login2. Click first product3. Click "Add to cart" | Alert "Product added" is shown | Pass |
| TC-010 | test\_buy\_with\_fully\_details | Verify successful purchase with full details | Product in cart, user logged in | 1. Login2. Add product to cart3. Go to cart4. Fill purchase details5. Confirm purchase | Confirmation message "Thank you for your purchase!" | Pass |
| TC-011 | test\_buy\_with\_empty\_details | Verify purchase fails with empty purchase details | Product in cart, user logged in | 1. Login2. Add product to cart3. Go to cart4. Leave purchase details empty5. Confirm purchase | Should show error or reject purchase (but it passes) | Fail (Bug) |
| TC-012 | test\_buy\_without\_login | Verify purchase fails when not logged in | Product in cart, user not logged in | 1. Add product to cart2. Go to cart3. Fill purchase details4. Confirm purchase | Should reject purchase or prompt login (but it passes) | Fail (Bug) |

# 9. Test Execution Schedule

* Manual and automated tests run daily on CI pipeline.
* Regression tests run before every release.
* Exploratory testing performed for new features.

# 10. Testers and Responsibilities

| **Tester Name** | **Role** | **Responsibilities** |
| --- | --- | --- |
| Husein Aljohary | QA Engineer | Test design, execution, bug reporting |

# 11. Reporting & Tracking

* Test results are documented in test management tools.
* Bugs are tracked and prioritized in Jira.
* Weekly QA reports sent to stakeholders.

**Notes:**

The signup test might fail if username already exists in the system. Consider using randomized usernames for repeated test runs.