Assignment 4 : Bringing it All Together – Designing a Basic & Informal Test Communication

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Subject: Software Testing Methodologies (SENG8041)

To: William Clark
From: Urvi
Date: April 11, 2025
Subject: Testing Plan and Quality Approach for Demoblaze.com

Hi William,

As requested, here is a simple and clear test plan for the e-commerce website **demoblaze.com**, the e-commerce website we're planning to buy. This outlines how we'll test the site to make sure it works well, is secure, fast, and easy to use.

Product Overview

Demoblaze.com is an online store for consumer electronics—mainly phones, laptops, and other gadgets. Users can browse products, create accounts, add items to their cart, and make payments (likely through PayPal or Stripe).

It's a responsive, web-based app built with standard frontend tech (HTML/CSS/JavaScript), backed by APIs and a database.

Target users are online shoppers aged 18–50, mostly using mobile or desktop. They expect a fast, smooth, and secure experience.

A few **key risk areas** we'll be focusing on:

- **Functional issues** with the cart or checkout process
- **Performance bottlenecks** under load
- **Security concerns** like injection attacks or weak authentication
- **Accessibility gaps** for users with assistive tech

Test Approach

We'll take a layered approach—starting from the backend logic and moving all the way up to the full user experience. Here's a quick breakdown:

Whitebox Testing (Code-Level)

We'll test backend logic directly—like cart total calculations, data validation, and token handling.
Tools: JUnit or Mocha/Chai (depending on backend stack)

Greybox Testing (Integration)

Here we'll check how well the frontend and backend talk to each other. That includes login sessions, placing orders, and saving data.
Tools: Postman, REST Assured, Insomnia

Blackbox Testing (User Flow)

We'll go through the actual user experience—testing things like browsing, signup, checkout, and cross-browser compatibility.
Tools: Selenium, Cypress, BrowserStack

Test Tools & Environment

- **UI automation:** Selenium, Cypress
- **API testing:** Postman
- **Performance:** JMeter, Lighthouse
- **Accessibility:** Axe DevTools, WAVE
- **Environment:** A staging setup that mirrors production, with test accounts and sandboxed payment APIs
- **Test data:** Synthetic test data covering edge cases and common scenarios. We'll also automate environment resets for clean test runs.

Core Smoke Tests

To check the basics are working across all layers:

Whitebox

- Cart total logic with different item combos
- SQL behavior for filtering products
- Token creation/validation for login

Greybox

- Verify login updates session table
- Place an order and check DB entries
- Log out from multiple tabs and check session invalidation

Blackbox

- Register, confirm, and log in
- Add multiple products to cart, update quantities, and checkout
- Test payments via PayPal or credit card sandbox
- Confirm UI works smoothly across mobile and desktop

Non-Functional Testing

Performance

- Ensure homepage and catalog load in under 3 seconds
- Simulate 50–100 users browsing and checking out at once
  Tools: JMeter, Lighthouse, BlazeMeter

Security (OWASP)

- Try SQL injection in search/login fields
- Check for broken authentication vulnerabilities (e.g., brute force login)

Accessibility (WCAG 2.0 A/AA)

- Ensure full keyboard navigation support
- Check color contrast meets minimum standards (4.5:1 for text/background)

Acceptance Testing

Test Persona:

“John,” a 35-year-old mobile-first shopper who values speed, simplicity, and secure payments.

Scenario:

John searches for a smartphone on his phone, adds it to the cart, and checks out with a credit card.

What We’ll Test:

1. Search results load quickly (within 2 seconds)
2. Cart shows correct prices and totals
3. Checkout process works without error
4. Confirmation is shown immediately, and an email receipt is sent

Communication Plan

- Weekly status updates by email
- Final report with defect summary and test coverage
- One short call to walk stakeholders through UAT results and sign-off

Thanks,
Urvi
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