Final Project Proposal & Test Plan

Project Title: Advantage Online Shopping Website Automation Testing

1. Project Description

The project focuses on developing an automated testing framework for the Advantage Online Shopping website — a sample e-commerce platform that allows users to register, log in, search for products, add items to the cart, and complete the checkout process.

The goal is to automate these core user flows to ensure consistent functionality, reliability, and faster regression testing. The framework will follow the Page Object Model (POM) design pattern and be integrated with CI/CD for continuous execution and reporting.

2. Group Members & Roles

Name	Role	Responsibilities
Taha Mohammed Amer	Team Leader / QA Engineer	Leads the project, performs quality assurance testing, reviews test cases, and ensures product functionality meets requirements.
Hazem Ahmed Said Khoshala	Test Analyst	Designs manual and automated test cases, tracks KPIs, and ensures test coverage.
Mahmoud Sami Abdullah	Backend Tester	Validates API responses and database integration.
Rana Mustafa Hassan	Automation Support Engineer	Supports automation framework maintenance, troubleshoots test issues, and ensures CI/CD stability.
Sara Akram Mahmoud Ali	Frontend Tester	Focuses on UI test automation, visual validation, and functional accuracy.
Shahd Ibrahim Eldesoky	Automation Engineer	Manages automation scripts and integrates with CI/CD pipelines.

3. Team Leader

Taha Mohammed Amer

4. Objectives

- Develop a robust and maintainable automation framework using Selenium and Pytest.

- Automate the key workflows: login, search, add-to-cart, checkout.

- Integrate automation with GitHub Actions (CI/CD) for continuous testing.

- Achieve a 95%+ automation success rate across all test executions.

- Provide detailed test reports and maintain high script reliability.

5. Tools & Technologies

Category	Tool / Technology
Programming Language	Java
Automation Framework	Selenium
Design Pattern	Page Object Model (POM)
Continuous Integration	GitHub Actions
Version Control	Git / GitHub
Test Management	Jira
Target Website	https://advantageonlineshopping.com/#/

6. Project Planning

The project follows an iterative Agile-based approach with clear milestones and deliverables. Phases include: Initiation & Planning, Design, Implementation, Integration, Execution & Review, and Delivery. Resources include six team members using Selenium, Pytest, GitHub Actions, Jira, and Postman within a 6-week timeline.

7. Stakeholder Analysis

Stakeholder	Role	Interest	Influence	Expectation
Team Members	Testers & Developers	High	High	Deliver a stable and efficient automation framework
Instructor /	Reviewer &	High	High	Ensure academic and

Supervisor	Evaluator			technical requirements are met
End Users	Website users	Medium	Low	Smooth website functionality and minimal bugs
CI/CD Environment	Testing Infrastructure	Medium	Medium	Continuous execution and accurate reporting

8. Milestones & Deadlines

Milestone	Description	Deadline
Project Planning	Define project scope, assign roles, finalize tools and KPIs	Oct 20, 2025
Test Case Design	Create manual test cases for all key functionalities	Oct 27, 2025
Framework Setup	Configure Selenium-Pytest structure and POM	Nov 3, 2025
Script Development	Automate Login, Search, Add-to-Cart, Checkout workflows	Nov 15, 2025
Integration & Reporting	Set up CI/CD and generate reports	Nov 25, 2025
Final Testing & Review	Execute full test suite and validate KPIs	Dec 2, 2025
Project Submission	Submit final report and presentation	Dec 5, 2025

9. KPIs

KPI	Description	Target
Test Coverage	Percentage of core e-commerce functions automated	≥ 90%

Automation Success Rate	Percentage of successful test executions	≥ 95%
Script Reliability	Percentage of flaky tests	≤ 3%
Maintainability Score	Code quality and structure	≥ 85%
Execution Efficiency	Full suite runtime	≤ 10 minutes
Defect Detection Effectiveness	Percentage of defects detected pre-release	≥ 90%

10. Test Plan

This section outlines the testing approach, types, user stories, environment, and deliverables for the project.

User Stories

Registration & Login, Product Search & Details, Cart Management, Checkout & Payment, User Profile & Orders, Contacts.

Testing Types

Manual Testing, Static Testing, API Testing, Automation Testing using Selenium and Postman.

Risks

Technical, Resource, Schedule, Operational, External, and Human risks are identified and mitigation strategies applied.

Entry & Exit Criteria

Entry: Requirements approved, environment ready, test cases designed.
Exit: All test cases executed, major defects resolved, summary reviewed, stakeholder sign-off.

Test Environment

Windows OS, Chrome browser, Selenium, Postman, and validated test data.

Deliverables & Approach

Deliverables: Test Case Document, Bug Reports, Test Summary Report.
Approach: Create test cases based on user stories, log bugs in Jira, and automate regression flows.