

1. Project Description

This project focuses on executing a **comprehensive Quality Assurance (QA) strategy** for the **Swag Labs e-commerce demo website**, aiming to ensure high quality, reliability, and user satisfaction.

The core project idea is to fully test the web system to guarantee functionality, reliability, and user satisfaction for the Swag Labs platform. Our approach utilizes a **blended professional methodology** that combines: **Manual Testing - Automation Testing - API Testing**

The primary problem solved is the **detection of critical bugs and usability issues before release** to avoid system failures and poor user experience. The final outcome is a comprehensive suite of tests and artifacts that ensure high software quality.

2. Group Members & Roles

Team Member Name	Assigned Role & Key Responsibilities
Ahmed Ibrahim Meatmed AbdElmotaleb	Team Leader / Sidebar Testing (includes Logout)
Zeyad Lotfy	Checkout
Shimaa Emad Hassan	Login
Malak Said Hamouda	Cart
Mariam Saeed Awad	Home page
Saif Wael Abdelaleem Sharaf Eldin	Item's Page (6 items)

3. Project Objectives

- Objective 1 (Project Goal):** Ensure high software quality through effective manual and automated testing methods.
- Objective 2 (Framework Goal):** Design and implement an automated test framework for Swag Labs using Selenium WebDriver and Java.
- Objective 3 (Coverage Goal):** Cover key business flows like login, product selection, and checkout with User Stories & Test Cases.
- Objective 4 (Quality Goal):** Detect critical bugs and usability issues before release to avoid system failures and poor user experience.

- **Objective 5 (Delivery Goal):** Deliver a Comprehensive Test Plan, Automated Test Scripts, Detailed Bug Reports, and Professional Test Summary Reports.

4. Tools & Technologies

Category	Technologies Used	Rationale
Programming Language	Java	Used For Autonation Testing
Automation Framework	Selenium WebDriver	Used for UI regression tests
API Testing Tools	Postman	Used to automate API tests
Version Control	GitHub	For code and test case management

5. Milestones

Milestone	Milestone Description
M1	Planning: Requirement Analysis & Test Planning
M2	Design: Manual Test Case Design & Automation Setup
M3	Development: Automation Script Development
M4	Execution: Test Execution, Defect Logging, & Reporting
M5	Finalization: Final Report & Framework Submission

6. Key Performance Indicators (KPIs)

No.	(KPI)	Custom Project Definition	Target
1.	Test Coverage	Measures how much of the core functionality (login, search, add-to-cart, checkout) is covered by automated tests.	>= 90 %
2.	Automation Success Rate	Percentage of test cases that pass successfully across all runs.	>=95 %
3.	Script Reliability (Flaky Test Ratio)	Percentage of tests that fail intermittently due to timing or environment issues.	<= 5 %
5.	Execution Efficiency (Suite Runtime)	Measures how long it takes to run the full automated suite.	<= 5 mins
6.	Defect Detection Effectiveness	Percentage of total defects identified through testing before release.	>= 90 %