

Project Proposal

Automated Testing Framework for a Web Application

Group Code: ALX2_SWD6_G3 (NHA)

Job Profile: Software Tester

Technical Instructor: Hussein Ali

GitHub Repository: [ALX2_SWD6_G3_G2.git](#)

Project Name

Automated Testing Framework for a Web Application

Team Members	Email	Phone
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Project Idea & Overview:

Problem Statement: Manual testing of web applications is time-consuming, error-prone, and inefficient for continuous integration/continuous deployment (CI/CD) pipelines.

Solution: Develop an **automated testing framework** to validate web applications' functionality, performance, and security, reducing human effort and improving testing accuracy.

Scope:

- ☐ Create reusable test scripts for critical workflows (e.g., login, data submission, API integration).
- ☐ Integrate with CI/CD tools for automated test execution.
- ☐ Generate detailed test reports for stakeholders.

Technologies & Tools

- ☐ **Test Automation:** Selenium WebDriver, TestNG/JUnit
- ☐ **CI/CD Integration:** Jenkins, GitHub Actions

- ❑ **Version Control:** Git/GitHub
- ❑ **Test Reporting:** Allure Reports, ExtentReports
- ❑ **Performance Testing:** JMeter (optional)
- ❑ **Security Testing:** OWASP ZAP (optional)
- ❑ **Programming Language:** Java/Python
- ❑ **Collaboration:** Jira/Trello

Work Plan & Team Roles

Team Member	Role & Responsibilities
Mariam samy alfons	Team Leader: Framework architecture, CI/CD integration, documentation.
Youstina Samir Kamel	Test script development, API testing, and reporting.
Alaa Mohamed Saad	Functional testing, cross-browser compatibility.
Yasmiin hossam hendawy	Performance testing, security testing, bug tracking.

Timeline:

1. **Week 1-2:** Requirement analysis and tool setup.
2. **Week 3-4:** Develop core test scripts and integrate with Selenium.
3. **Week 5-6:** Implement CI/CD pipeline and reporting.
4. **Week 7-8:** Final testing, documentation, and demo preparation.

Functional Requirements

- ❑ Test scripts must validate login functionality, form submissions, and API responses.
- ❑ Support cross-browser testing (Chrome, Firefox, Edge).
- ❑ Generate HTML/PDF test reports with pass/fail status.
- ❑ Integrate with GitHub for version control and Jenkins for CI/CD.

Non-Functional Requirements

- ❑ **Performance:** Tests must execute within 10 minutes for a medium-sized web app.
- ❑ **Scalability:** Framework must handle 100+ concurrent test cases.
- ❑ **Usability:** Easy-to-read reports for non-technical stakeholders.
- ❑ **Security:** Encrypt sensitive test data (e.g., passwords).

GitHub Repository

- **Link:** https://github.com/mariamtester/ALX2_SWD6_G3_G2.git
- **Initial Setup:** Repository created with folders for test scripts, documentation, and CI/CD configurations.

Organizing Company: New Horizons Alex (NHA)

Training Governorate: Alexandria