

Project Proposal: Automated Testing Framework for a Web Application

Group Code: ALX2_SWD6_G3 (NHA)

Job Profile: Software Tester

Technical Instructor: Hussien Ali

GitHub Repository: [ALX2_SWD6_G3_Group3](#)

1. Project Name

Automated Testing Framework for a Web Application

1. Team Members

No	Student Name	Email	Phone
1	Fatma Elzahraa Hesham Rashed (Team Leader)	fatmaelzahraabdelmawla@gmail.com	010 13309610
2	Marwa Ahmed Moustafa	physicists16@gmail.com	0 12 73801882
3	Toka Osama Kabbary	Tokaosama58@gmail.com	0 12 70223385
4	Nadia Mahmoud Shebl	Nadiahmahmoudshebl24@gmail.com	0 12 03311933

1. 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.

1. Technologies & Tools

- **Test Automation:** Selenium WebDriver.
- **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

1. Work Plan & Team Roles

Team Member	Role & Responsibilities
Fatma Elzahraa Hesham rashed	Team Leader: Manual Testing, API Testing, documentation.
Marwa Ahmed Moustafa	Test script development, Automation testing.
Toka Osama Kabbary	Automation testing, Manual Testing, bug reporting.
Nadia Mahmoud shebl	Performance testing, ManualTesting, bug reporting.

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.


1. 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.

1. 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).

1. GitHub Repository

- **Link:**  [GitHub - fattmaaelzahraa/ALX2_SWD6_G3-G3: Digital Egypt Pioneers Initiative Graduation Project](#)
- **Initial Setup:** Repository created with folders for test scripts, documentation, Presentation, Api, Automation,.

Organizing Company: New Horizons Alex (NHA)

Training Governorate: Alexandria