Group Assignment

IS 3440 – IT Quality Assurance

Deadline for submission: Phase wise deadlines will be given by lecture time to time

Final presentation: 7th and 8th Feb 2026

Automation Project Assignment Instructions

Objective:

The objective of this group assignment is to provide students with hands-on, industry-aligned experience in Software Quality Assurance. Students will design, implement, and execute automated tests for a role-based web application using both UI automation and API automation techniques.

The assignment focuses on:

- Understanding application requirements from a Software Requirements Specification (SRS)
- Designing test artefacts from implemented UIs and APIs
- Automating functional test scenarios using modern automation frameworks
- Reporting defects and test results in a professional manner

The application under test is the **QA Training App**, which includes Admin and User roles and supports management of Categories, Plants, and Sales.

Application access details (UI URLs), login credentials for Admin and Test User, and deployment instructions is available in "QA Training App – Deployment & Access Instructions" document.

API documentation is available via Swagger UI. Students are expected to: - Refer to the SRS document for UI requirements - Refer to Swagger documentation for API request/response structures, validations, and error handling.

Group Formation:

- **Group Size:** Each group should consist of a maximum of 5 members.
- **Group Composition:** The assigned group lists are final and cannot be altered.

Framework Assignment:

- Each group has been assigned a specific automation framework to utilize for their project:
  - Selenium, Rest Assured, and TestNG
  - Serenity BDD
  - Playwright
  - Cypress

Project Scope:

- **UI and API Testing:** Each group must create an automation suite that encompasses both UI and API testing.
- **Individual Contributions:**
    - Each student must write 10 API and 10 UI test cases.
        - 5 Admin and 5 User Role API Tests
        - 5 Admin and 5 User Role UI Tests
    - Each team member must also contribute to the creation of bug report.

Deliverables:

- **Project Folder:** Each group must submit a folder named with their assigned group number (e.g., "Group01"). This folder should contain:
    - **Test Suite Folder:** Containing all source code, test data, and configuration files for the automation suite.
    - **Test Case Document:** A comprehensive document outlining all test cases developed by the group. A sample document template will be provided.
    - **Defect Report:** A document detailing all identified and documented bugs. A sample report template will be provided.
- Printed Documents must submit when on the day which is given by the Lecture for each phase.

Project Tools:

- **Cucumber:** All teams are encouraged to consider using Cucumber for implementing behavior-driven development (BDD) principles.
- **Git:** All team members must utilize a single Git repository for version control and collaborative development.
- **Build Tool:** Jenkins or a similar build tool must be used to automate the build and execution process.
- **Reporting:**
    - All teams (except those using Serenity BDD) are recommended to use the Allure reporting framework.
    - Serenity BDD teams should utilize the built-in Serenity reporting mechanism.

Submission Deadline:

All project deliverables must be submitted on the day instructed by the lecture.

Evaluation Criteria:

- **Test Suite Quality:** Functionality, code quality, maintainability, and robustness of the automation suite.
- **Test Case Coverage:** Adequacy and effectiveness of the test cases in covering various scenarios.
- **Defect Reporting:** Accuracy, completeness, and clarity of the bug reports.
- **Framework Utilization:** Effective and efficient use of the assigned automation framework.

- **Tool Usage:** Proper implementation and utilization of Git, Jenkins, and the chosen reporting framework.
- **Teamwork and Collaboration:** Effective communication, coordination, and contribution from all team members.

Academic Integrity:

All work submitted must be original and adhere to the university's academic integrity policies. Plagiarism will not be tolerated.