CS458
SOFTWARE VERIFICATION AND VALIDATION
2024-2025 SPRING
PROJECT Part 2
INTRODUCTION TO TEST AUTOMATION (MOBILE)

You are asked to do the following stuff as team:

- Implement a mobile-native AI (Artificial Intelligence) survey app. The app can work on **either Android or iOS (only one is enough)**. Choose one mobile operating system. The app should ask login and the login page of Project Part1 should be used here. You have to adapt your login page for the mobile app. The app should ask for
    - Name-surname
    - Birth Date
    - Education Level
    - City
    - Gender
    - AI model/type (like ChatGPT, Bard, Claude, Copilot etc.) they tried (multiple selection)
    - Any defects or cons of the model(s) (for each selected item)
    - Any use case of AI that is beneficial in daily life (free text)

  When the areas are supplied with proper data, the “Send” button appears at the bottom Area. Send button should send the survey result to your email.
- Examine Appium which automates mobile applications. List of 10 main capabilities.
- Write 5 test cases for your survey page.
- Write test automation code for 5 test cases using Appium for your survey page. Attach your code.
- Evaluate your mobile automation experience.
- Compare Appium and Selenium from your test automation experience.
- Prepare a report that covers all the above tasks and follows the instructions below.

Instructions

A-Test cases and test automation

- Try to come up with test cases of comprehensive nature. For instance if you say
    - Test case#1: Check how the code responds to valid/invalid name.
    - Test case#2: Check how the code responds to valid/invalid birthdate.
    - Test case#3: Check how the code responds to valid/invalid City. .. etc (you got the idea).

  Those will be considered as 1 test case, not 5. Try to be creative when designing your tests. Take your time when thinking about test cases; this is the most important part of your project. Please remember that, testing should focus on finding errors with minimal effort, then during test case writing, think like test expert not like a developer.

- When automating tests, think about executing thousands of tests in a few seconds. Do not write trivial test codes that require the simple interaction of the end-user (such as examining the behavior of the application during a test by displaying a pop-up message).

B-Report preparation:

The report should have the following properties:

- It should contain screenshots as well as UML diagrams of the actual application.
- It should contain important **excerpts** of the test code, explaining how those excerpts correspond to the automation of your test cases.
- It **should not** exceed 20 pages including the cover page.
- It **should** contain your code of the project not the code libraries. Auto-generated HTML or CSS codes should not be included. Your code should be submitted next to the report as discussed in the following.
- The report should be self-contained. That is, the reader shouldn't feel the need to refer to your code for understanding what you have done, s/he only needs to refer to the code if s/he feels curious about some implementation detail.
- Cheating is prohibited.
- Your own ideas and your own words are expected.
- Creativity is appreciated.

C-Code submission:

The code can be submitted either as a separate zipped file (attached or a link to online storage) or as a link to an online code repository. The code directory ***must*** contain a README file with information about where to find the source as well as the test codes (or in case you send the whole project, the README file explains how the project is structured and instruction on how to run the code).

D-Submission details:

- Deadline: **April 7th, 23:59:59 PM.**
- Email subject: CS458 p#2 submission - [Name][Surname] (of the sender)
- Email body should contain: [Name] [Surname] - [Email address]-[Student ID] of all group members.
- Attach the report in (**pdf format only)** and send to *altunel@bilkent.edu.tr* and Giray Akyol (giray.akyol@bilkent.edu.tr) along with the code/ link to code.

Good luck