Objective:

The group project serves as an evaluation of students' acquisition of knowledge and software skills related to web and mobile application development. This project will require students to collaborate in teams to design and implement a web or mobile application, showcasing their ability to **apply the learned concepts in a real-world context**.

Group Details:

- Group Size: **2-3 students per group**.

- Mobile Application Requirement: For groups with 3 students, a mobile application is also required in addition to the web application.

Project Guidelines:

1. Application Design and Implementation:

    o Each group will design and implement a web application based on their chosen topic.

    o The application should demonstrate proficiency in implementing **all CRUD (Create, Read, Update, Delete) operations** on at least two collections of data.

    o The **relationship between the collections** should be established.

    o **Token-based authentication** must be implemented to ensure secure access to the application.

2. Collaboration:

    o Each group must collaborate effectively and **distribute responsibilities among team members**.

3. Demonstration:

    o At the end of the project, each group will demo their web and/or mobile application during class.

4. Evaluation:

    o The projects will be evaluated based on the following criteria:

        ▪ Proficiency in implementing CRUD operations on at least two collections, with the use of lookup functionality (30).

        ▪ Successful implementation of token-based authentication (10).

        ▪ Responsive web design and user interface (20).

        ▪ Collaboration and the ability to demonstrate the application's functionality (20).

        ▪ Extra features such as role-based authentication, data visualizations and the use of pre-trained AI models (10).

        ▪ Code quality such as reasonable router, readability, etc (10).

Important Dates:

- Project Presentation: April 9 and April 16, 2025

Please Note:

- Students are expected to adhere to good programming practices and ethical guidelines throughout the project.

- Plagiarism or any form of academic misconduct will not be tolerated and may result in disciplinary action.

We believe that this group project will provide valuable hands-on experience in web and mobile application development, allowing students to showcase their skills and apply their knowledge in a practical setting. If you have any questions or require further clarification, please feel free to contact the instructor.