BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

School of Computing and Academic Studies
Programs: CST

Assignments #2

COMP4977
Due: Thu Nov 20, 2025, at 11:59 pm

Overview

This assignment will be done in teams of three students. Your lab instructor decides on the selection process.

In week 6, we developed an application that communicates with an online LLM. We determined that putting a personal-access-token in your iOS application is a baaaad idea. Instead, this architecture makes more sense:

This assignment involves making this a reality:

WebAPI

You will build an ASP.NET WebAPI application that acts as the middle tier between the mobile iOS app and the LLM. The LLM is hosted on GitHub Models, and the personal-access-token is saved in the *appsettings.Development.json* file.

Make sure that the *appsettings.Development.json* configuration file is not pushed to source control by adding it to your *.gitignore* file. Once the WebAPI app is deployed to Azure, the token is safely placed as Azure's environment variable.

You will implement token-authentication in the WebAPI application.

iOS App

You will develop an iOS app with a UI that allows the user to send prompts to the LLM through the WebAPI application. The response from the AI will be displayed to the user in an easy-to-read manner.

You will ground the AI so that it focuses on a particular domain of your choice. Some ideas are:

- Functions Calling against an API for things like Weather Forecasting, Stock Prices, etc.
- Functions Calling against data in a DB
- Talking to an MCP server
- Etc.

A user can register and login against the WebAPI to use the iOS app. When registering, you will capture FirstName, LastName, Email, and Password. The schema for a user will also capture account-creation-date and the last-login-date.

The application will have these tabs: AI, Profile and About tabs.

The *Profile* tab will display information about the user who is logged in: Name, Email, date account was created, and last login date.

The *About* tab will have the names of students in the team.

Additional Requirements

- Be generous in creating sub-views. Each significant sub-view is to be refactored into a separate Swift file.
- Each Swift-UI sub-view has a working preview provider.
- If there are any technical details missing, try to make realistic assumptions.
- Customize a unique color scheme.
- Delete unnecessary code.
- Implement proper validations on all input data.
- Your app must have a unique icon
- You are encouraged to go beyond what has been asked for, in terms of functionality and app design. However, you should satisfy the basic mentioned features at a minimum.

Testing your app

The marker will test your assignment with the iPhone 17 emulator.

Submission:

- Clean your solution before submitting it to learning-hub.
    - iOS app >> In Xcode: Product >> Clean build folder
    - WebAPI app >> delete bin and obj folders

- As you upload your solution to Learning Hub (D2L), put the following information into the comment:
    - How did you ground the AI
    - each student must describe contributions made
    - what you have NOT completed
    - any major challenges
    - any special instructions for testing your app
- Assignments must be zipped (.zip extension) and uploaded to the drop-box folder for Assignment 2 in D2L (Learning Hub). Do not use any compression utility other than plain old ZIP.
- Your ZIP file will include all directories and files comprising your entire android app.

COMP4977 Assignment 2 marking guide:

Task	**Max Mark**	**Actual Mark**
Backend WebAPI • Deployed to azure • Authentication • AI middle tier • Others…	10	
iOS app functionality	20	
iOS app • Look & Feel • Layout • Color Scheme • Architecture • Unique icon • Scroll where necessary • Etc….	7	
Other • student Names BCIT ID numbers on About screen • Design and coding conventions • D2L comments • Etc….	3	
TOTAL:	**40**	