Midterm Activity – Social Coding Midterm Project

## Social Coding Selection

Select a social coding project application for your team from the below options:

* Option 1: Feature enhancements of the Lab 4.9.2 code by adding user-friendly features to the MapQuest REST API [Level of difficulty: +++]
* Option 2: Adapting the Lab 4.9.2 python framework to integrate GPT-3/GPT-4 REST API [Level of difficulty: ++++]

What were the reasons your team selected this option?

**We chose Option 2 because we were intrigued by the challenge of integrating the Gemini AI into the Directions App, enabling the inclusion of real-time information, such as weather updates.**

Describe your team's project application and its deliverables. What are the specific objectives of this application?

* A terminal-based Python application that provides users with enhanced directions to a destination, including routes, travel time, weather conditions, and personalized travel tips.
* Deliverables:
  + Integration with OpenStreetMap (Nominatim) for geocoding and OSRM for routing.
  + AI-generated travel tips and contextual info using Google's Gemini AI.
  + Visual and functional UI using the textual framework for route, weather, and tips display.
* Main objectives:
  + Help users find the best route to a destination.
  + Offer real-time weather information for both start and end locations.
  + Provide travel-time estimation based on selected transportation mode (car, bike, walk).

Record your team member roles and skillsets

|  |  |
| --- | --- |
| Team member | Role/Knowledge/Skillset |
| Shukurullo | Team leader, api backend creator, api integration, project management, |
| Mirjavkharbek 12214737 | Skills Used: Python, Textual, code integration, UI/UX for terminal apps  **Role:** Built and refined the CLI interface using Textual, and integrated teammates' modules for OpenStreetMap, weather, and Gemini features into a cohesive app. |
| Mirsaid | **Skills Used:** Python, API integration, JSON parsing, RESTful APIs, Secure credential management Role: Developed the Weather Checker feature by integrating the OpenWeatherMap API. Implemented secure handling of API keys through .gitignore and structured directory usage. **Role:** Parsed real-time weather data using geocoordinates from the routing service and enhanced the user experience with contextual weather reports for both origin and destination. Collaborated closely with the UI lead to ensure smooth output presentation within the CLI interface. |
| Daesan 12235608 | Documentation, Presentation |

## Strategy/Project Plan

Provide a brief description of your team’s strategy for completing this project.

* Organized online zoom meeting.
  + Decide on: objectives, roles and responsibilities.
* Communicated in telegram group chat with updates.
* Everyone completed their part.
* Additionally, committed new ideas that arouse to enhance the project (visuals).

## Using GitHub for Collaboration

What is the link to your GitHub repository?

<https://github.com/shukurullo2004/ISE4133_software_engineering>

Describe how GitHub was used to:

1. Create branches (in the context of this project)

**Created Student ID branches with individual contributions.**

1. Add team members (and their branches/commits)

**Branch “Shukurullo” of Shukurullo**

**Branch “12225253” of Mirsaid**

**Branch “12214737” of Mirjavkharbek**

**Branch “12235608” of Daesan**

1. Mention pull requests, code review, merge, etc. (in the context of this project)

* Shuurullo, team leader created a template of code. We pulled it and individually started adding our ideas for revision.
* Some ideas were committed and merged, and some refined and changed.

## Final Deliverables

### Presentation

Create a presentation about the project you selected. Your presentation should include:

* Information about your application, covering what features your team included
* The reasons that your team decided on these specific features in your application
* Application code including comments and documentation. Your comments and documentation should be sufficient for any other team to be able to continue the project if required. Another team should be able to understand the application, your features and how to continue with the project
* Demonstration of the application
* List of future enhancements (backlog)
* Reflection points – what issues have you faced while working on this activity, how did you find solutions, what have you learned, etc.