

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?

There are several reasons to choose **option 2**. The most important reason is that we all want to challenge some difficult tasks to inspire our own potential and expand our minds. And the second reason is that combining GPT with our app makes it more convenient for people to use .

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

Our team's project app is primarily a travel navigation that helps users get around with ease. It is divided into three functions, the first of which is to realize that the user wants to know the information about getting from one country to another, the distance, the means of transportation, and how long it will take. The second feature is, the whisper API. Implement the user's voice function. When the server asks a question, it just needs to talk to get the relevant information. For example, where you are now, where you want to go, what means of transportation you want to use, and give each about 7 seconds. The third function is to connect to ChatGPT, so that it can give users more humanized and relevant text messages. For example, the number of people in the destination, the best month to travel, 3 available flights, 3 famous food names, 5 places to visit, etc. In addition, if you have any questions you want to ask, you can ask them directly on the user side.

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Record your team member roles and skill sets

Team member	Role/Knowledge/Skillset
12200335_Jamshid	Leader; programming;
12214731_Diyora Bobokulova	Recorder;
12240121_Zhang Xiaomeng	Recorder;
12200182 _Alhammadi Mohamed	Programming;

Strategy/Project Plan

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

First, we completed the lab 4.9.2 to be able to understand how Graphhopper API works

and to integrate different APIs. Afterwards, we discussed how to improve the Geocode

application and created a plan accordingly. According to the plan, our application has **3 main**

functions: 1)Manual routing, 2)Voice Command routing and weather info, 3)GPT-4 chatbot.

And for these 3 main functions we used **4 APIs:**

1) **Graphhopper API** includes the coordination of locations and helps us to calculate the

distance and time based on the mode of transportation. 2) **Whisper API** allows the

Voice Command function which is integrated with **Graphhopper API**. 3) **Weather API** allows

us to know the weather in different locations. 4) **GPT 4 API** allows us to search any additional

information. We distributed the tasks based on our skills and background.

Using GitHub for Collaboration

What is the link to your GitHub repository?

[Branches · Jamshid-Ganiev/DevOps-Pixel-Team · GitHub](#)

Describe how GitHub was used to:

- a. Create branches (in the context of this project)

we pushed all codes to main branch and all team members reviewed code in main branch

- b. Add team members (and their branches/commits)

Pixel Team's branch:

[GitHub - Jamshid-Ganiev/DevOps-Pixel-Team: A repository for the Pixel team in Software Engineering Course](#)

Diyora's branch:

[GitHub - Jamshid-Ganiev/DevOps-Pixel-Team at 12214731_Diyora](#)

Jamshid's branch:

[GitHub - Jamshid-Ganiev/DevOps-Pixel-Team at 12200335_Jamshid](#)

Zhang Xiaomeng's branch:

[GitHub - Jamshid-Ganiev/DevOps-Pixel-Team at 12240121_branch](#)

Mohamed's branch:

[GitHub - Jamshid-Ganiev/DevOps-Pixel-Team at 12200182_Mohamed](#)

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

1st

[DevOps-Pixel-Team](#) / [mid_term_project](#) / [gpt_4_api.py](#) 

 **Jamshid-Ganiev** complete gpt-4 api chatbot feature

Code **Blame** 83 lines (72 loc) · 2.87 KB

```
1  from openai import OpenAI
2  import os
3  from dotenv import load_dotenv
4
5  # Load the environment variables from .env file
6  load_dotenv()
7
8  client = OpenAI(api_key=os.getenv("GPT_4_API_KEY"))
9
10 def ask_question():
11     question = input("What do you want to know?\nEnter your question: ")
12     return question
13
14 def get_answer(prompt):
15     try:
16         completion = client.chat.completions.create(
17             model="gpt-4-turbo",
18             messages=[
19                 {"role": "system", "content": "You are a helpful assistant. Answer the user's questions professionally."},
20                 {"role": "user", "content": prompt}
21             ]
22         )
23     except Exception as e:
24         return "Sorry, I couldn't understand your question."
25     response = completion
26     if response.choices:
27         return response.choices[0].message.content
28     else:
29         return "Sorry, I couldn't understand your question."
30
31 # handles exceptions, like API errors
32 return f"An error occurred: {str(e)}"
```

2nd

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DevOps-Pixel-Team / mid_term_project / graphhopper_geocoding_routing_api.py

alhammadimohamed Update graphhopper_geocoding_routing_api.py

Code Blame 84 lines (66 loc) · 2.5 KB

```
1  import requests
2  import os
3  from dotenv import load_dotenv
4
5  # loads the environment variables from .env file
6  load_dotenv()
7
8
9  def format_time(minutes):
10     # formats the time in hours and minutes
11     if minutes < 60:
12         return f"{minutes:.2f} minutes"
13     else:
14         hours = (minutes % 1440) // 60
15         remaining_minutes = minutes % 60
16         return f"{int(hours)} hours, and {int(remaining_minutes)} minutes"
17
18
19  def geocode_location(location, api_key):
20     # gets the coordinates of the given locations and return latitude and longitude
21     url = "https://graphhopper.com/api/1/geocode"
22     params = {
23         "q": location,
24         "key": api_key
25     }
26
27     response = requests.get(url, params=params)
28
29     if response.status_code == 200:
30         data = response.json()
31         if len(data['hits']) > 0:
32             return data['hits'][0]['point']
33     else:
```

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DevOps-Pixel-Team / mid_term_project / voice_control_Whisper_and_OpenWeather_APIs.py 

 alhammadimohamed Update voice_control_Whisper_and_OpenWeather_APIs.py

Code Blame 208 lines (175 loc) · 6.97 KB

```
1  import requests
2  import os
3  from dotenv import load_dotenv
4  import speech_recognition as sr
5  import time
6
7  # Load environment variables from .env file
8  load_dotenv()
9
10 # function to format time
11 ✓ def format_time(minutes):
12     if minutes < 60:
13         return f"{minutes:.2f} minutes"
14     else:
15         hours = (minutes % 1440) // 60
16         remaining_minutes = minutes % 60
17         return f"{int(hours)} hours, and {int(remaining_minutes)} minutes"
18
19 # function to geocode location
20 ✓ def geocode_location(location, api_key):
21     url = "https://graphhopper.com/api/1/geocode"
22     params = {
23         "q": location,
24         "key": api_key
25     }
26
```

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.

