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 both options to build our own simplified NotebookLM-like tool with useful features like file upload, summarization, and question answering using local AI models.

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

It’s a web app that helps users upload documents (like PDFs or TXT files) and ask questions about them. Instead of reading the whole document, users can type a question, and the app gives a clear answer based on the document’s content.

### Objectives of the Application:

Make it easier to understand long or complex documents.

Let users search for information using questions, not just keywords.

Support common document formats like PDF and TXT.

Give accurate answers using AI based on the document.

Keep the interface simple and easy to use.

**Deliverables:**

A frontend interface where users can upload files and ask questions.

A backend system that processes the files and questions using AI.

An AI setup that reads the document, finds relevant parts, and answers questions.

A storage system that helps the app quickly search document content using embeddings.

Record your team member roles and skillsets

|  |  |
| --- | --- |
| Team member | Role/Knowledge/Skillset |
| Elyor Rasulov | Project manager / C++, Python, AutoCAD, Problem-Solving & Critical Thinking, AI & Machine Learning |
| Tilov Raykhonov | developer / Python, C++, Computer Vision, IoT system / Programming, Real-time system integration, Hardware prototyping, Troubleshooting, Object tracking, Tutoring |
| Akhrorbek Ilkhomov | developer / C++, Python, AutoCAD, Design & Simulation |
| Rizamukhamedov Abdulaziz | developer / Basic Python, C++, Java, Decision-Making |
| Mamajonov Diyorbek | developer/ Node.js, MERN/ NEXT.js, Nest.js |

## Strategy/Project Plan

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

Our strategy was to divide the project into smaller, manageable tasks and assign roles based on each team member’s strengths**.** We started with research and planning, then worked on the backend, frontend, and AI features in parallel. We had regular team meetings to track progress, solve issues, and make improvements. We also tested each part as we built it to make sure everything worked smoothly together.

## Using GitHub for Collaboration

What is the link to your GitHub repository?

<https://github.com/elee02/se-midterm-team-7-2025>

Describe how GitHub was used to:

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

We used both github web-application and git terminal tool to create branches. On terminal:

git checkout -b [branch\_name] # create a local branch

git push -u origin [branch\_name] # to push the newly created local branch to remote repo

1. Add team members (and their branches/commits)
2. Abdulaziz:
   1. Branch name – Abdulaziz\_12230330
   2. Files worked - parser.py, assets/presentation.pdf
3. Ahkror:
   1. Branch name - akhror/generation
   2. Files worked - app.py, rag.py
4. Diyorbek:
   1. Branch name - 12230315\_diyorbek
   2. Files worked - static/index.html
5. Tilov:
   1. Branch name - tilov
   2. Files worked - app.py
6. Elyor:
   1. Branch name - elyor/rag
   2. Files worked - rag.py
7. Mention pull requests, code review, merge, etc. (in the context of this project)

Three people were maintainers in our group:

* Elyor reviewed:
  + https://github.com/elee02/se-midterm-team-7-2025/pull/4
* Tilov reviewed
  + https://github.com/elee02/se-midterm-team-7-2025/pull/3
* Akhror

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.