SW Engineering CSC890

Project Title: Code Talkers

Team Number: 04

Names of Students:
Snehal Patil (Team Lead)
Manali Seth (Github Master)

Milestone: 2

Date: 10/17/2022

History Table

Date	**Revision**
10/17/2022	Created as the first version

Functional Requirements

Priority 1

Unregistered Users

1) Unregistered users shall be able to register to the portal.
2) Unregistered users shall be prompted to create an account (lazy registration).
3) Unregistered users shall be able to navigate between different features/ functionalities.

Registered Users

4) Registered users shall inherit all the functions from unregistered users.
5) Registered users shall be able to login to the portal.
6) Registered users shall be able to logout from the portal.
7) Registered users shall be able to choose a programming language using the dropdown option.
8) Registered users shall be able to enter a question/code in an input text box displayed as a prompt on the interface.
9) Registered users shall be able to click the submit button in order to generate the response for their respective question.

Priority 2

Registered Users

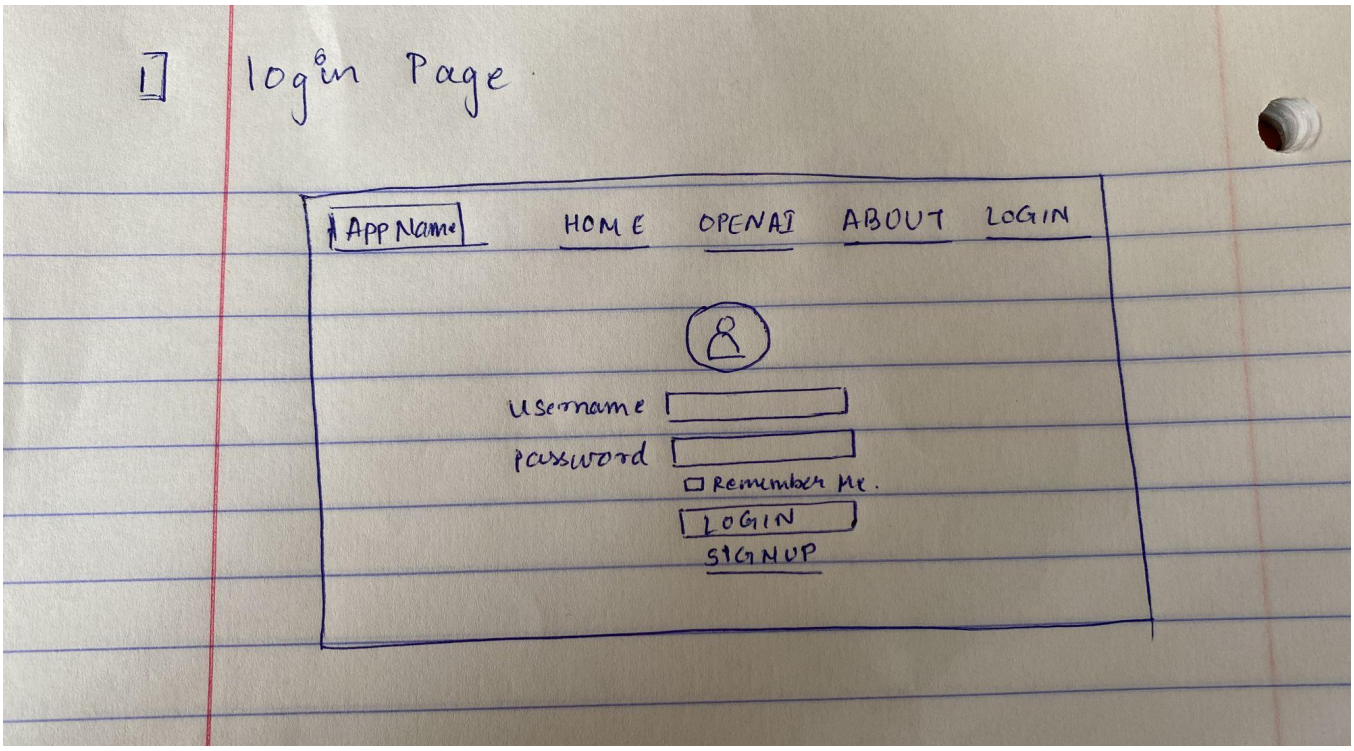
10) Registered users shall be able to see the generated output on the same page in a text box.

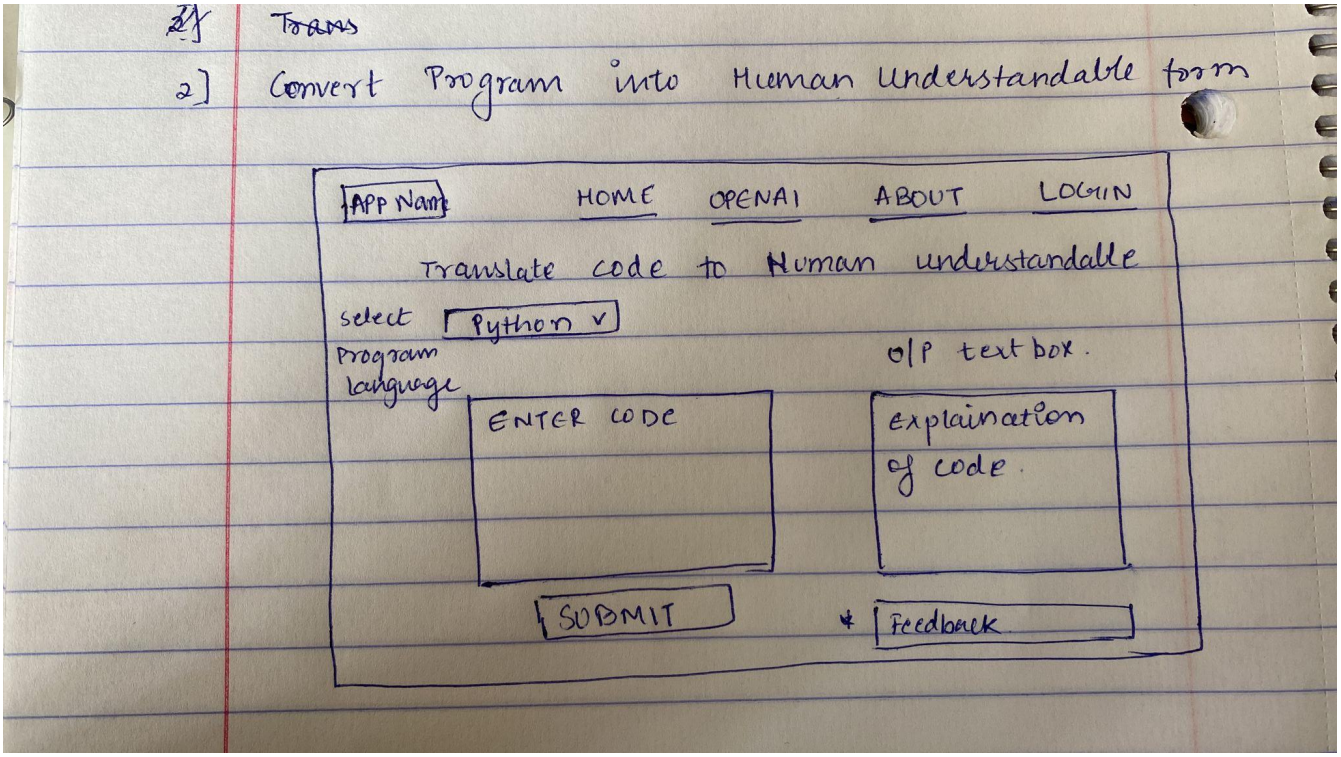
Priority 3

Registered Users

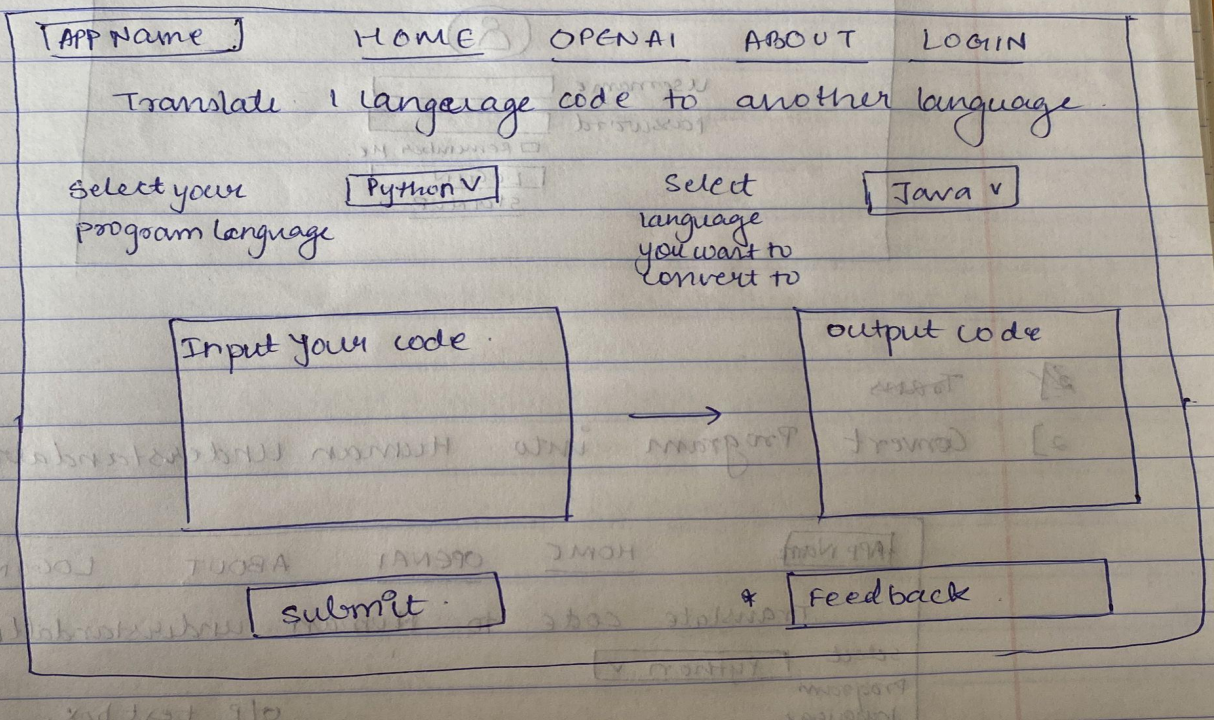
11) Registered users shall be able to write feedback about their experience using the tool.
12) Registered users (Professor) shall be able to see the feedback given by the users (Student) for the respective feature.

UI Mockups and Storyboards (high level only)

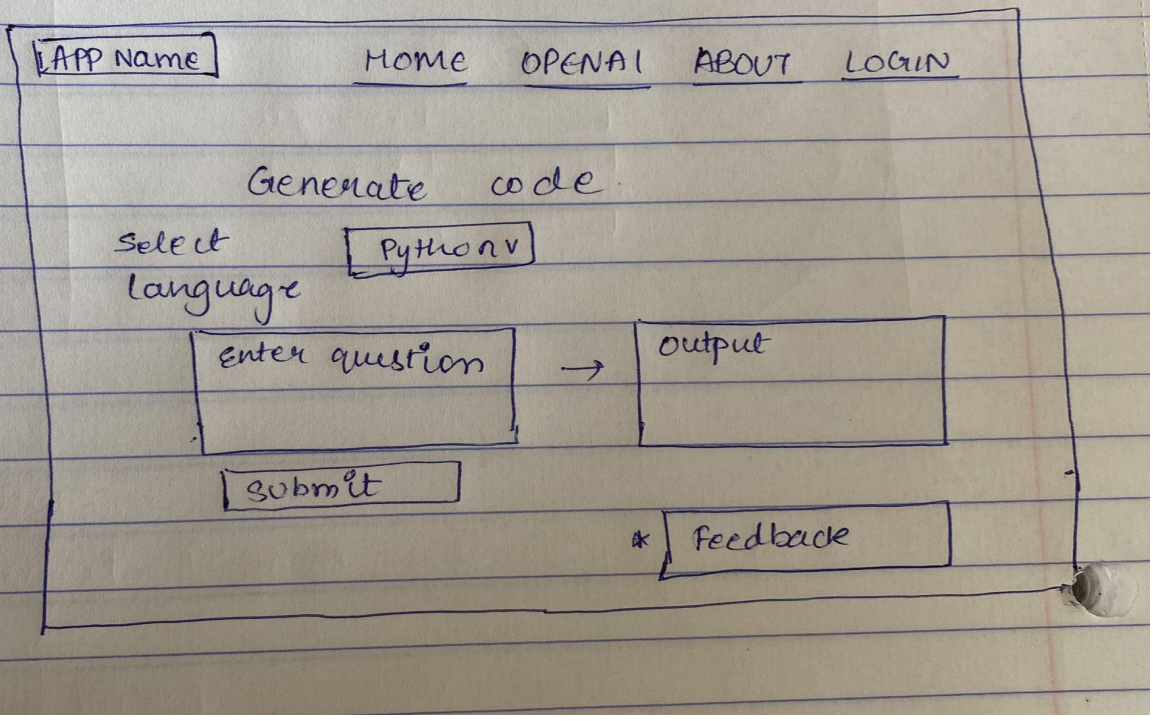


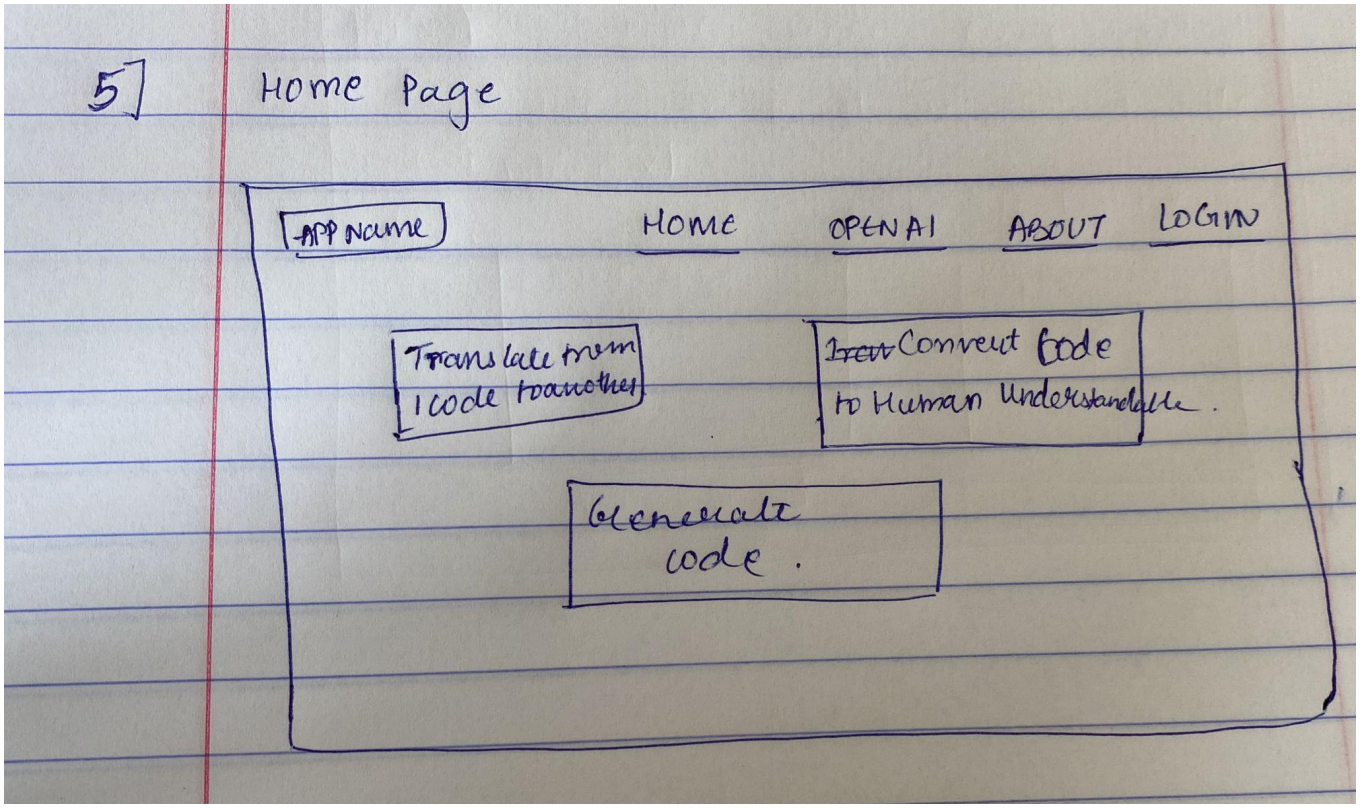


3] Translate code from 1 language to another.

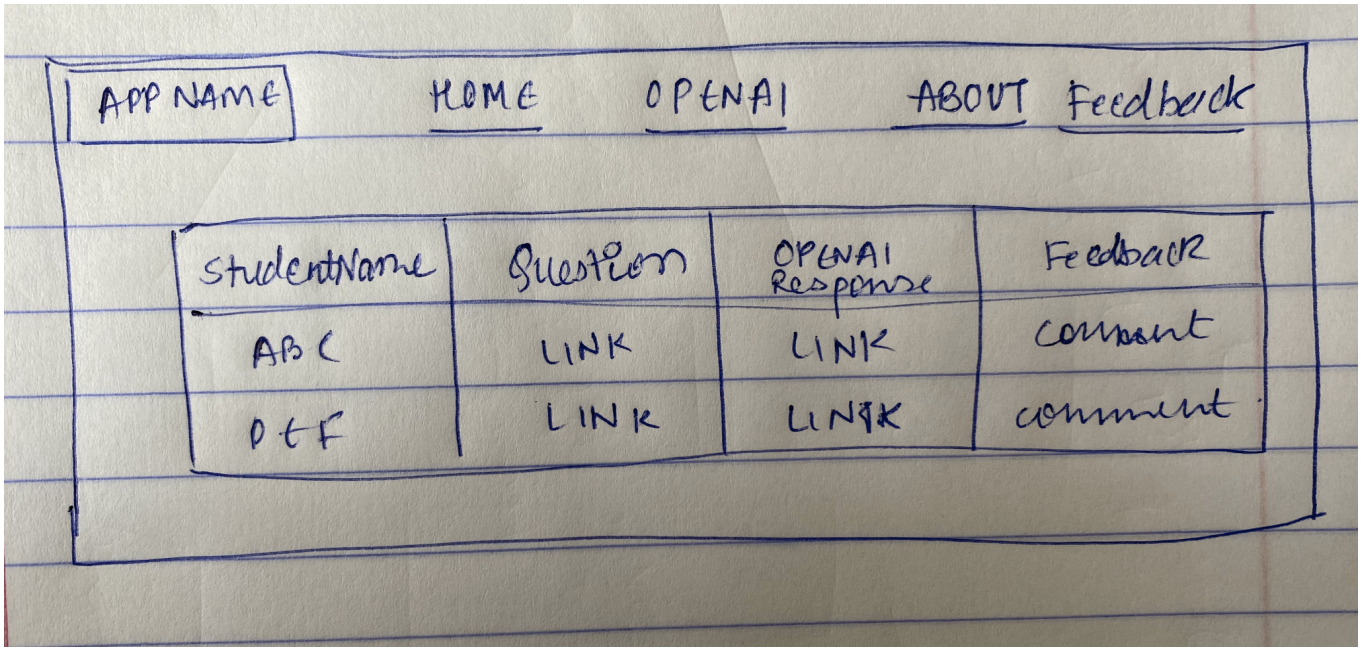


4] Generate code.





6) View student feedback



High Level Architecture

APIs

registerUser(): This method will be used when a user creates a new account and will properly handle storing the new user into the database and logging the user into the site after returning.

loginUser(): This method will use the supplied username and password and attempt to authenticate the user in the database. Only returning a valid login attempt when the user supplies the proper password for the username.

viewFeedback(): This method can be used by Professors in order to view feedback of any student using the tool.

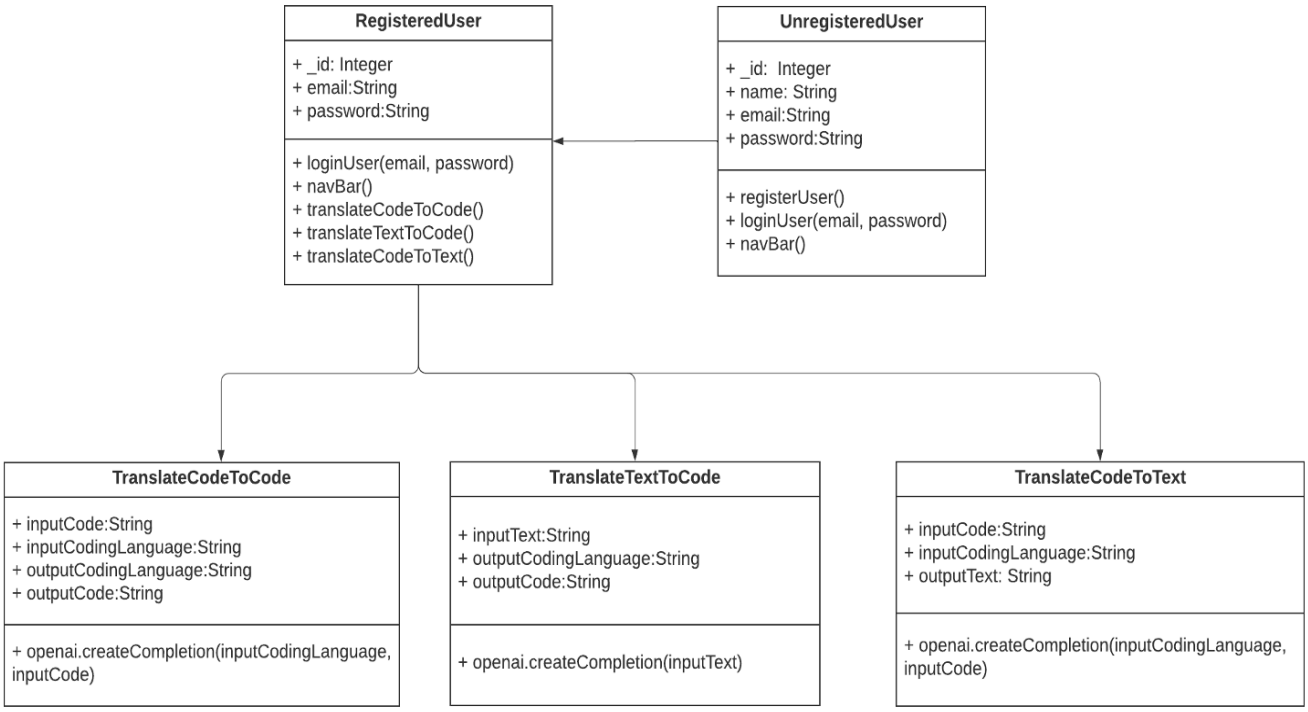
OpenAI APIs

Translate Programming Languages: The OpenAI API will be used to translate code from one to another programming language.

Generate Code: The OpenAI API will be used to generate a code for a natural language form of question mentioned in the input in the desired programming language.

Explain Code: The OpenAI API will be used to provide explanation to a code mentioned as an input in any programming language in a human understandable form (natural language)

High Level UML Diagrams



Actual Key Risks

1. Skill Risks:

- Team needs to follow proper coding conventions in order to avoid errors that may lead to programming glitches.
- Team needs to learn and get familiarize working with MERN stack

Plan to Resolve:

- Team is following a document based on a single coding style throughout the project.
- Team is following tutorials and videos based on the MERN stack in order to properly implement every feature of the tool.

2. Schedule Risks:

- Team might find it difficult sometimes to complete all the tasks assigned to them on time given unexpected events and other things on the plate.

Plan to Resolve:

- Team uses discord to communicate and assign tasks with deadlines to each individual team member.
- Team tries to keep limited scope to ensure completing priority tasks on time.

3. Teamwork Risks:

- Team found it difficult at first to schedule time that worked for each team member.

Plan to Resolve:

- Team managed to fix a time to meet at least twice a week, update about tasks done and assign tasks for the next milestone.

4. Legal / Content Risks:

N/A