LOVELY PROFESSIONAL UNIVERSITY

Edu-Connect Hub

Software Requirements Specification

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Introduction

The Edu-Connect Hub project aims to develop a comprehensive and interactive online platform designed to foster collaboration and communication between students and teachers in an educational setting. In today's digital age, there is an increasing demand for innovative solutions that facilitate remote learning, peer-to-peer interaction, and knowledge sharing beyond the confines of traditional classrooms. Edu-Connect Hub seeks to address this need by providing a user-friendly and secure environment where students can ask questions, share insights, and seek guidance from teachers, while educators can offer support, share resources, and engage with their students in a more personalized and efficient manner.

The inspiration behind Edu-Connect Hub stems from the recognition of the challenges faced by both students and teachers in accessing quality educational resources, receiving timely feedback, and maintaining meaningful connections in virtual learning environments. The platform aims to bridge this gap by integrating various features such as account creation, posting and viewing of doubts or questions, chat and group chat functionalities, search functionality for doubts, notification system, and profile updation. These features are designed to enhance user engagement, facilitate seamless communication, and promote collaborative learning experiences within a secure and supportive online community.

By leveraging modern web technologies, robust backend frameworks, and intuitive user interfaces, Edu-Connect Hub aims to redefine the way students and teachers interact, collaborate, and learn together in the digital age. The project embodies a commitment to innovation, inclusivity, and excellence in education, striving to empower users with the tools, resources, and support they need to succeed academically and personally.

1.1 Purpose

The purpose of this Software Requirements Specification (SRS) is to provide a detailed description of Edu-Connect Hub, a social media platform designed for students and teachers to connect, share posts, ask questions, and resolve doubts. This document is intended for software engineers, developers, and stakeholders involved in the design, development, and implementation of the Edu-Connect Hub platform.

1.2 Scope

Software Product: Edu-Connect Hub

Features:

Account creation and management for students and teachers

Posting and viewing of doubts or questions

Chat and group chat functionalities

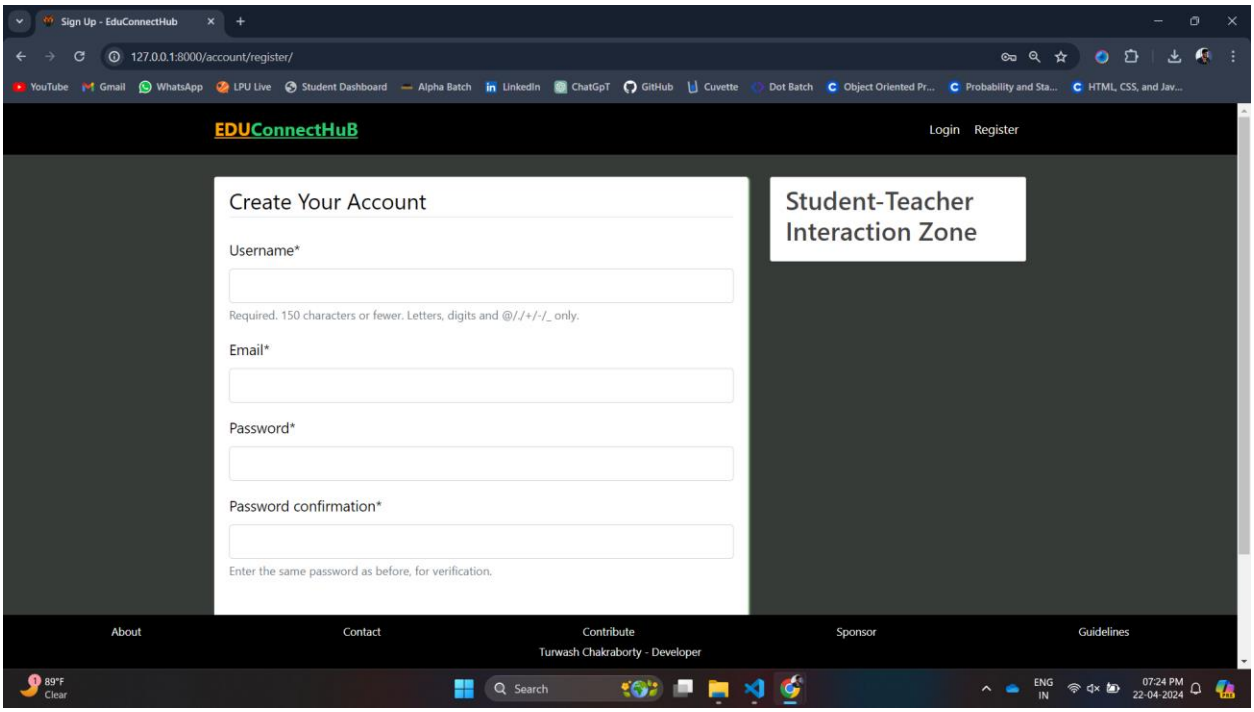
Search functionality for doubts

Notification system

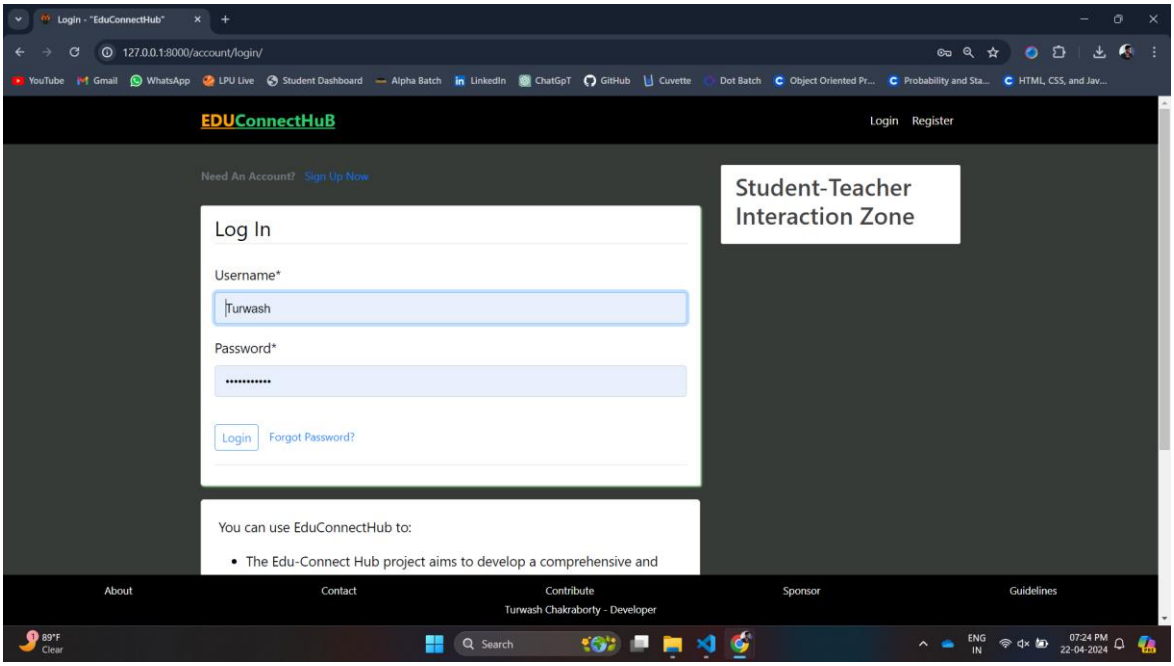
Profile updation

Application: The software will facilitate interaction between students and teachers, enabling them to share knowledge, ask questions, and resolve doubts in an organized and efficient manner.

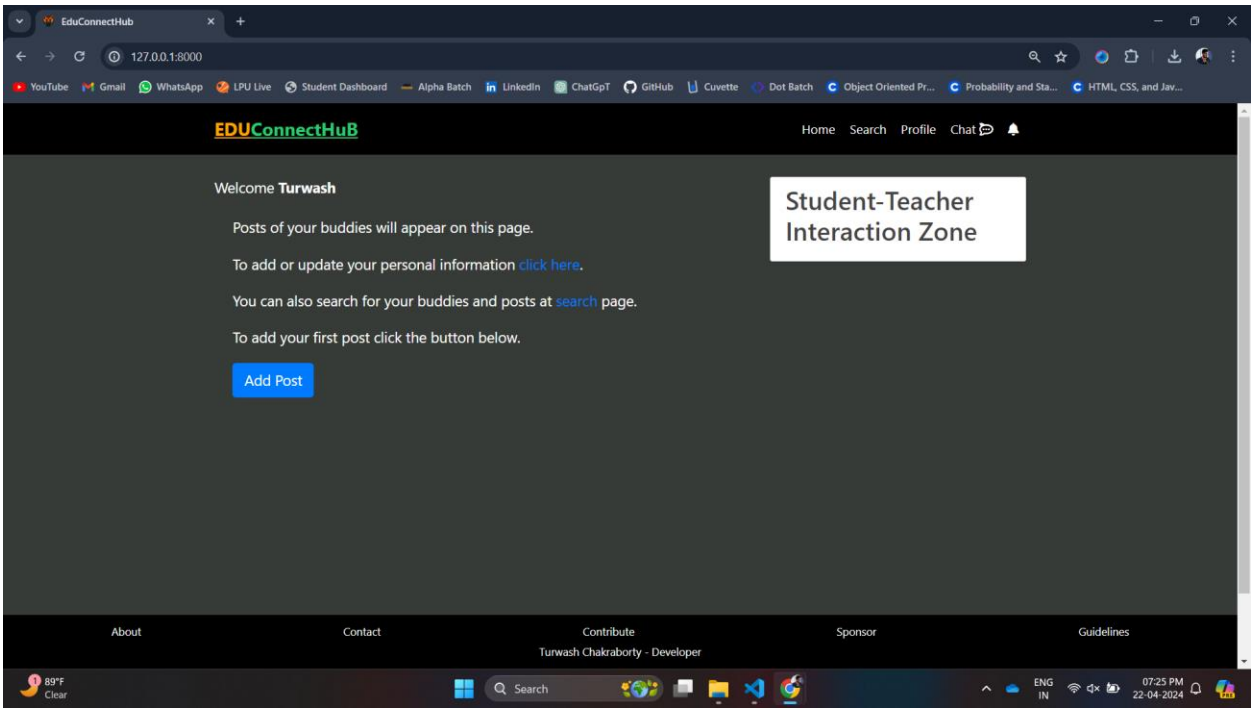
Screenshots:



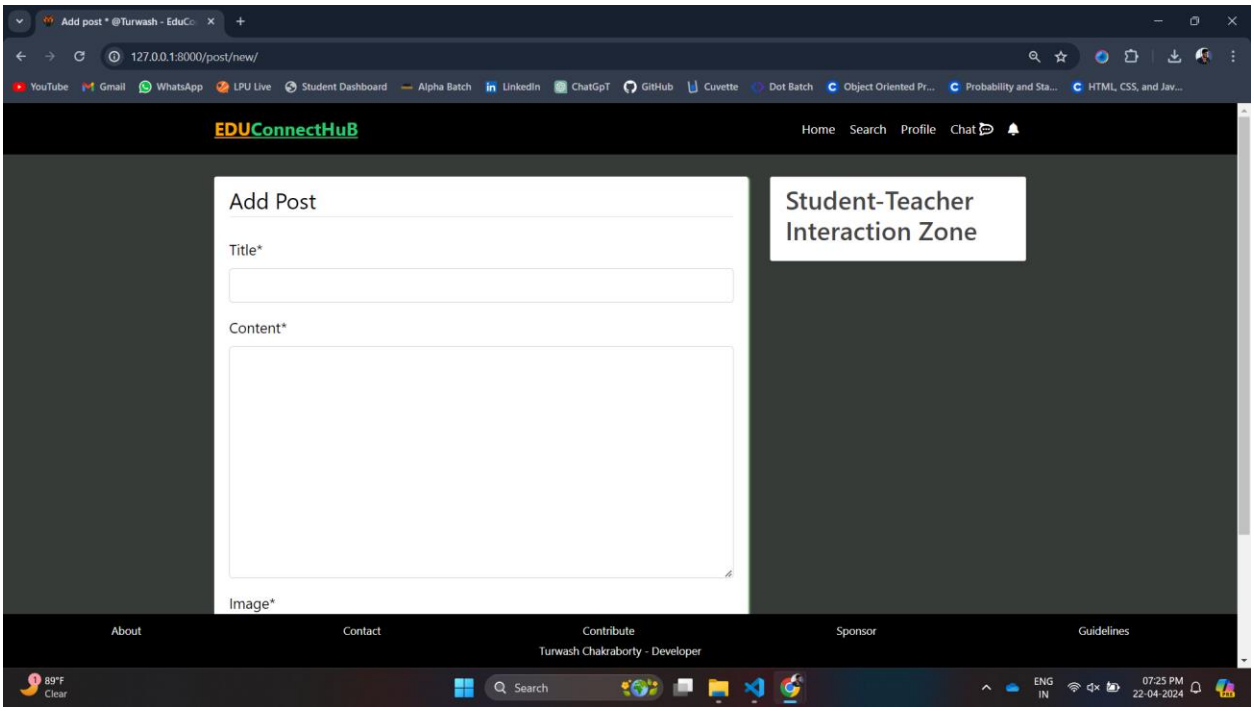
Registration of Account : You can create account here (Students and Teachers), all validations applied



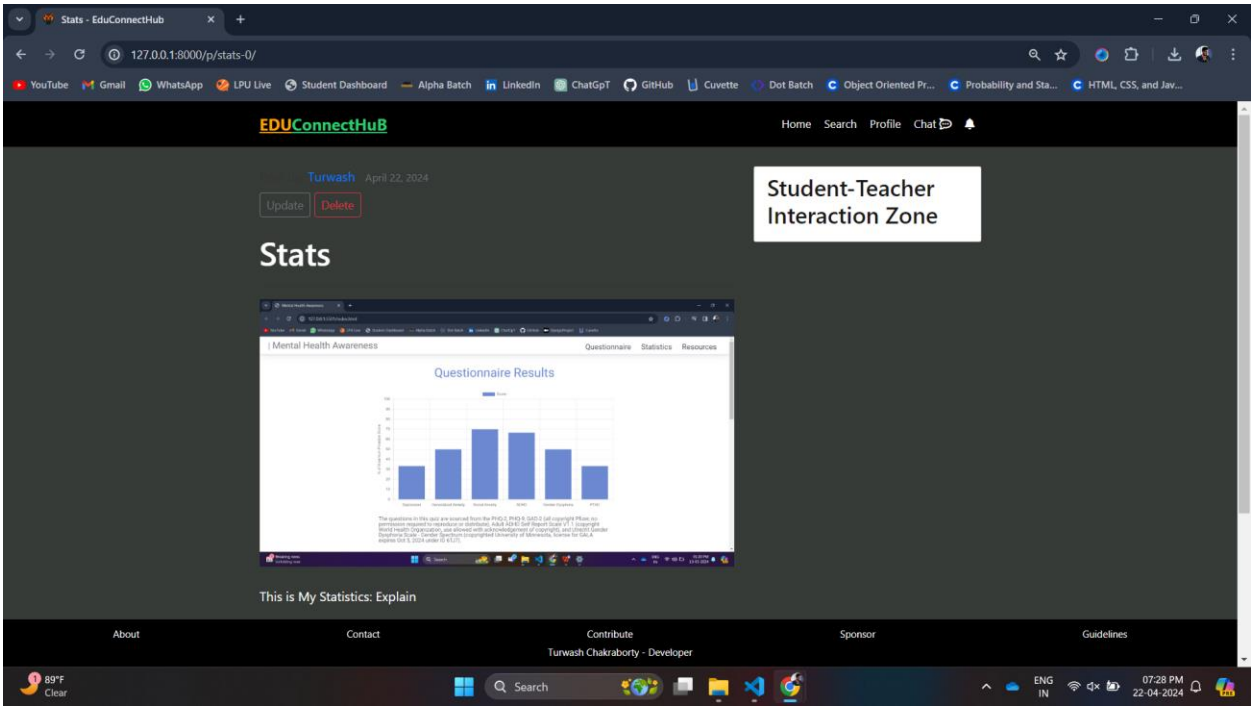
Login Page where with the credentials you can login, all validations applied



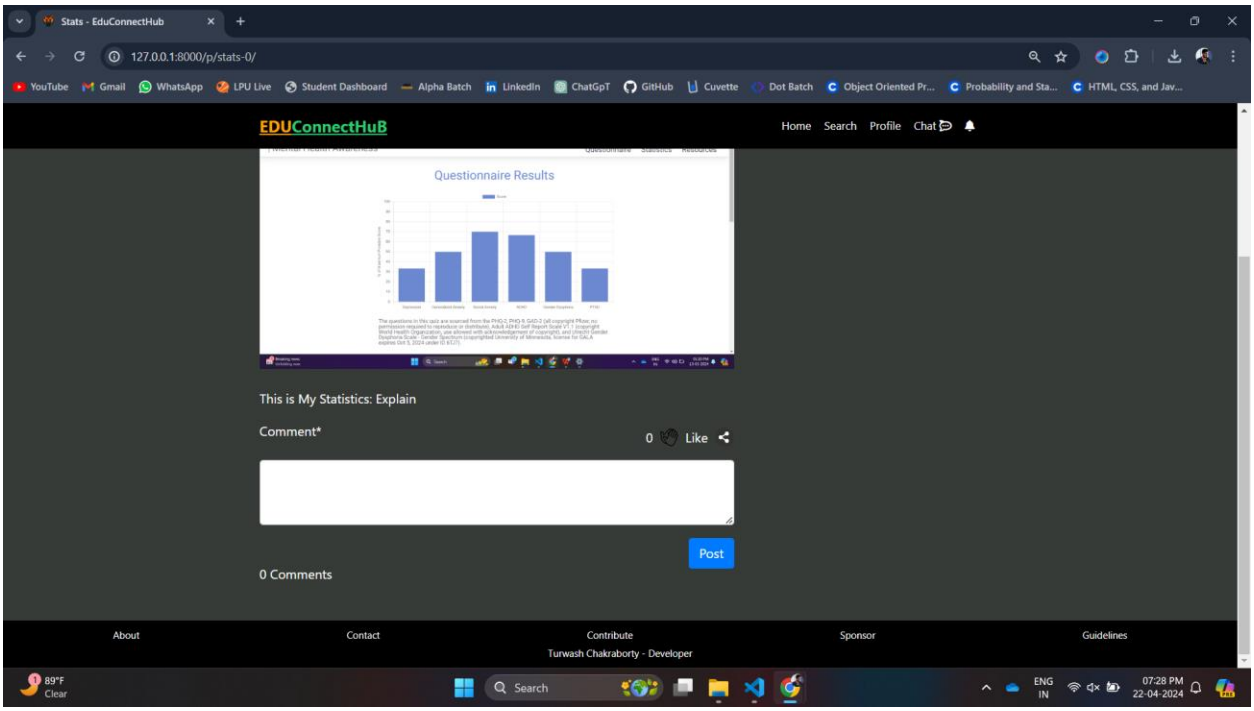
Home Page of the EduConnectHub, which gives all the functions link to add new post or to search post



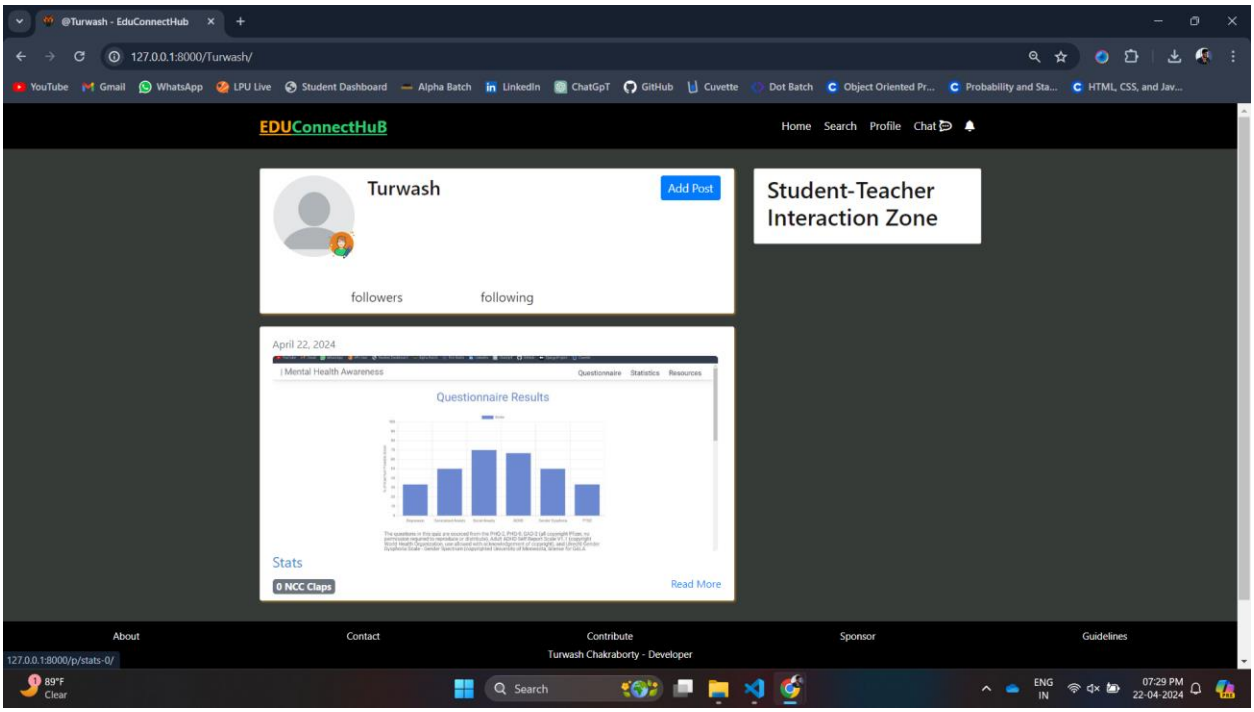
Adding New Post for the questions or doubts that Students can ask to the teacher



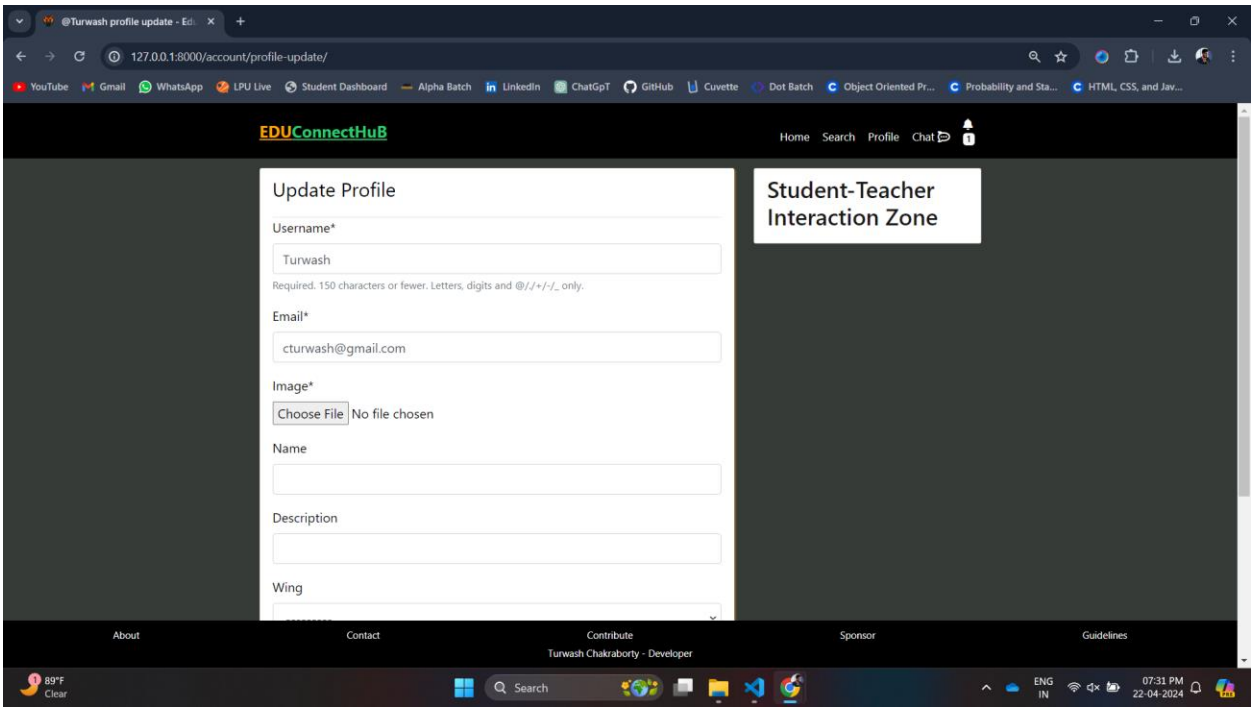
Added the question by the Student



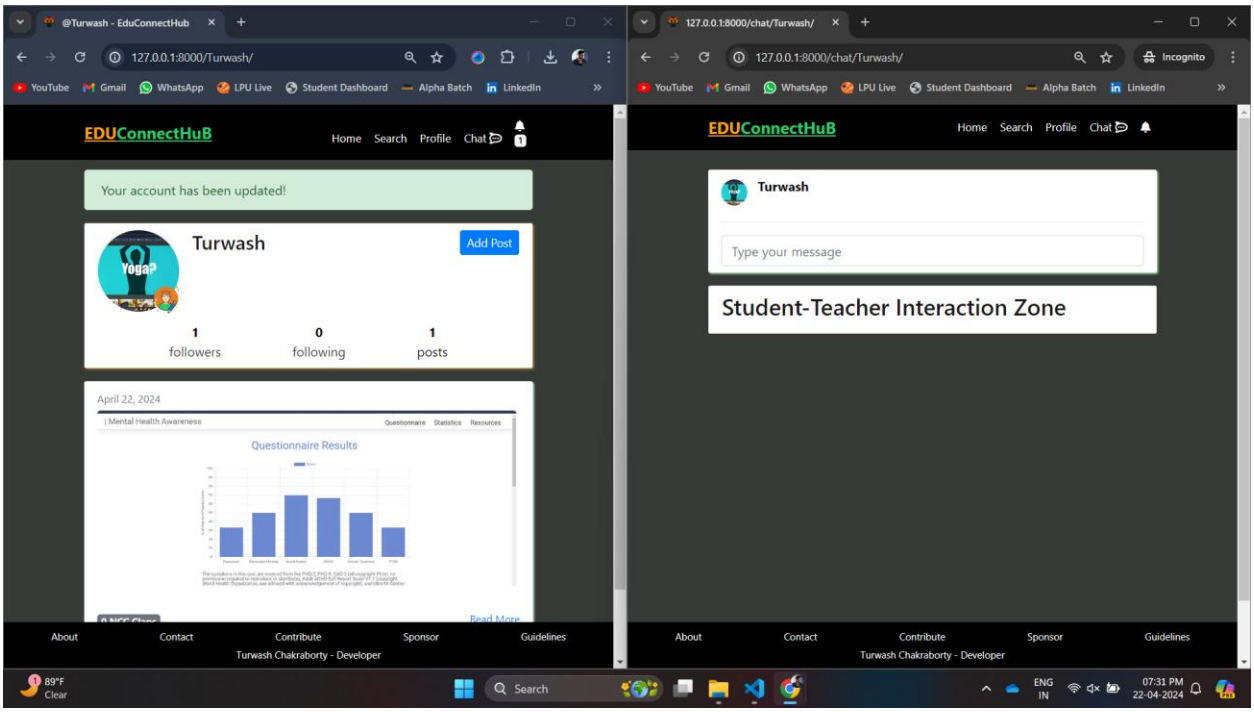
Here it has the option for the like comment of the Question post so that also peers of the student can resolve the issue



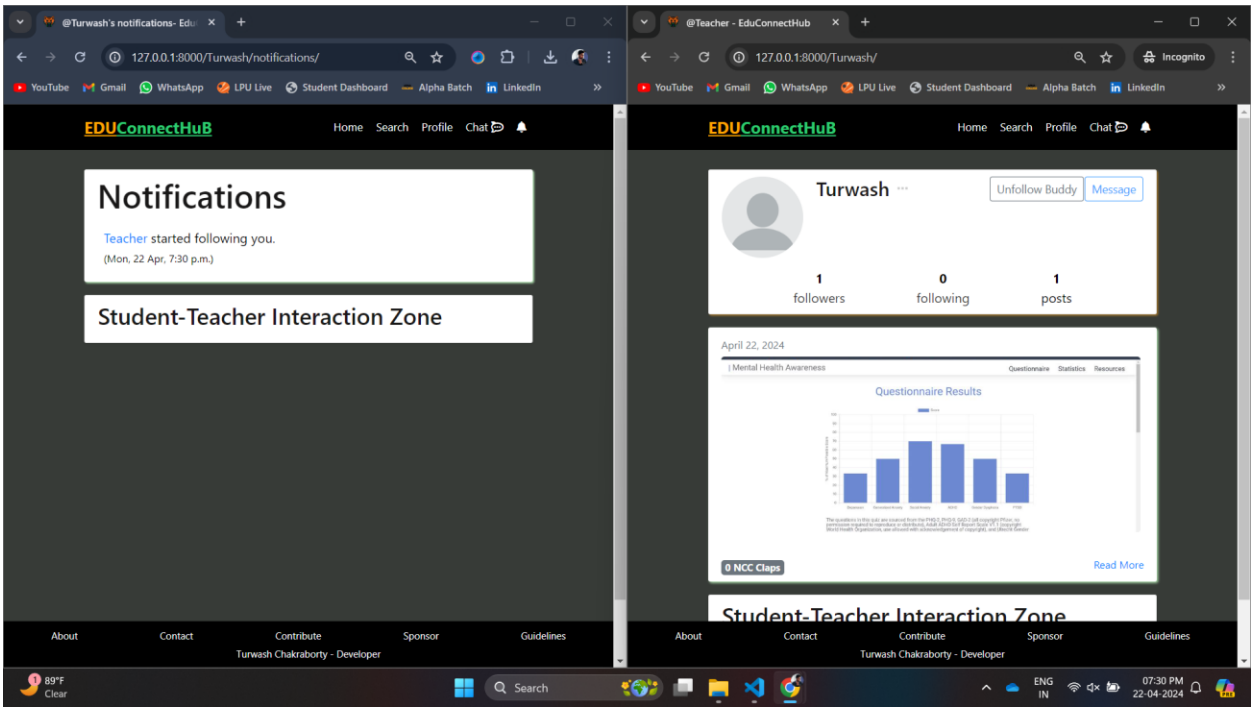
Profile Page, with Posts



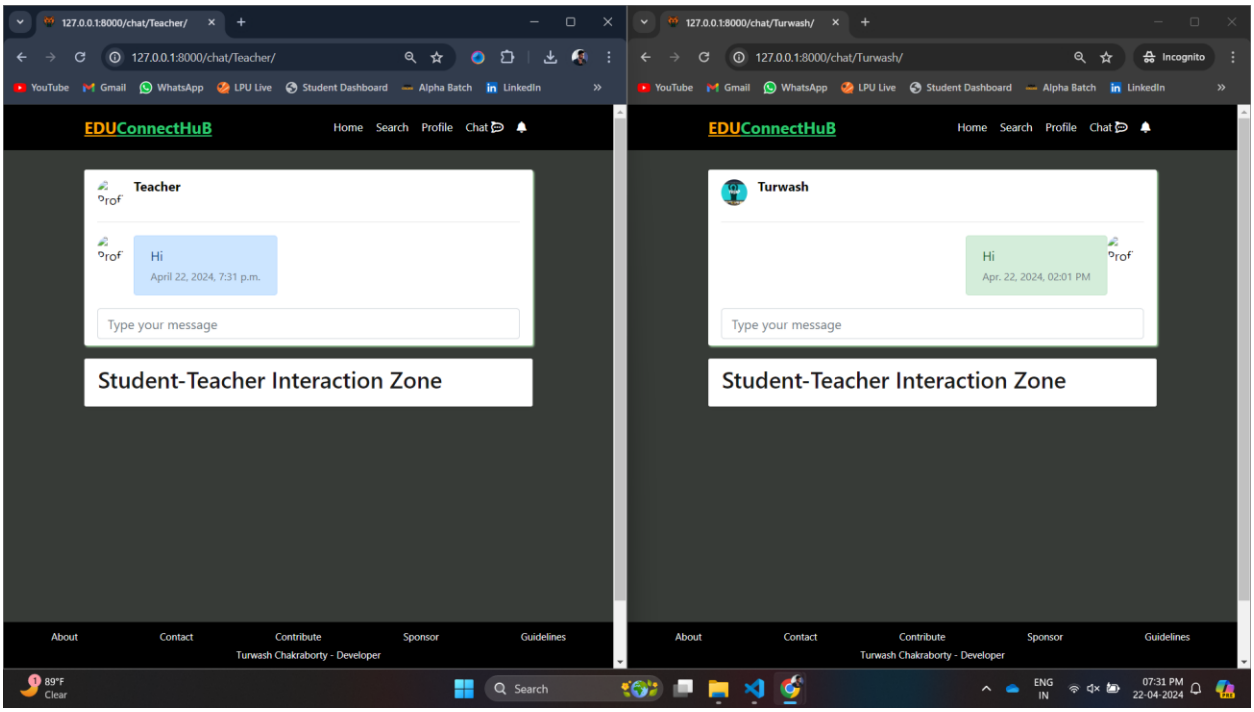
Profile updation, can add profile images and also roles descriptions etc



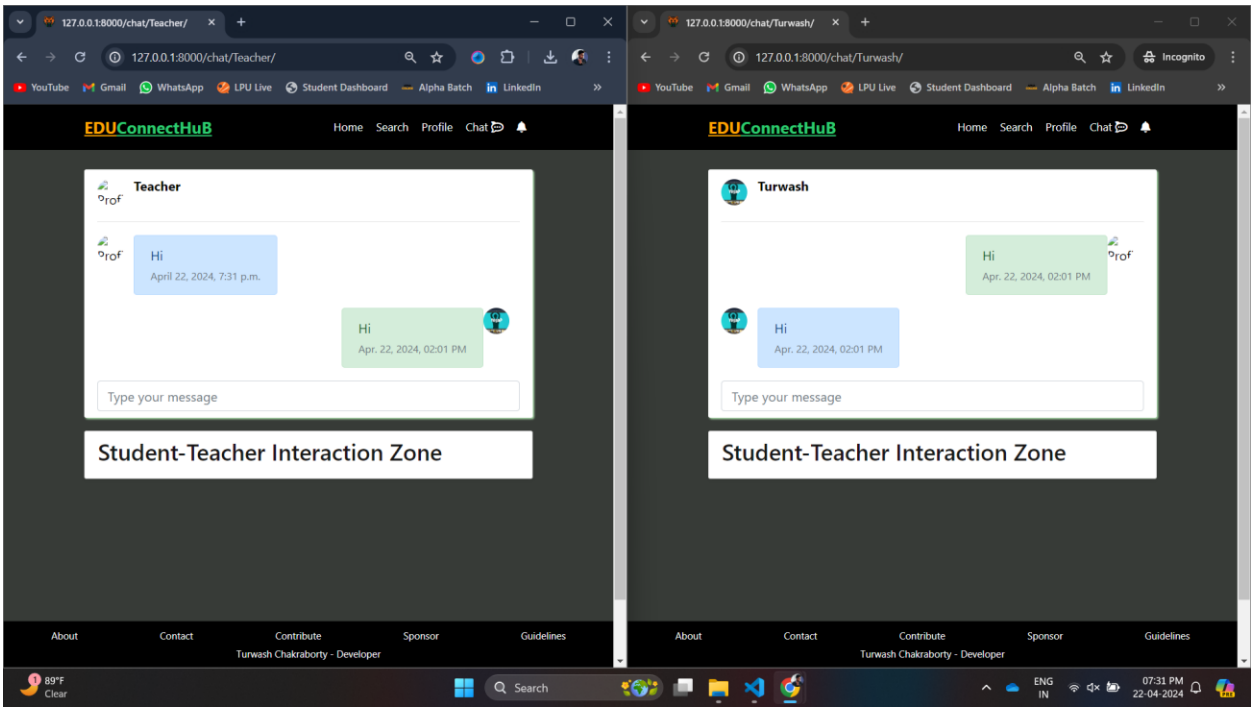
Updated with profile pic



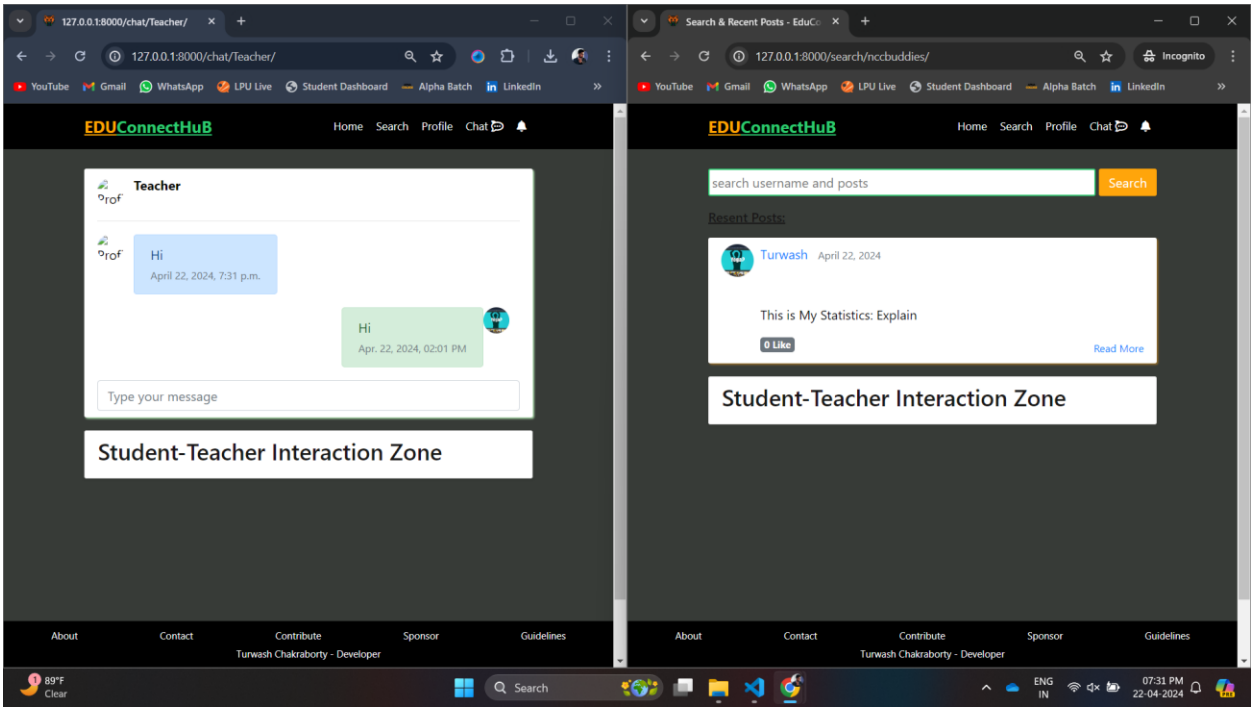
Notification Received after following each other

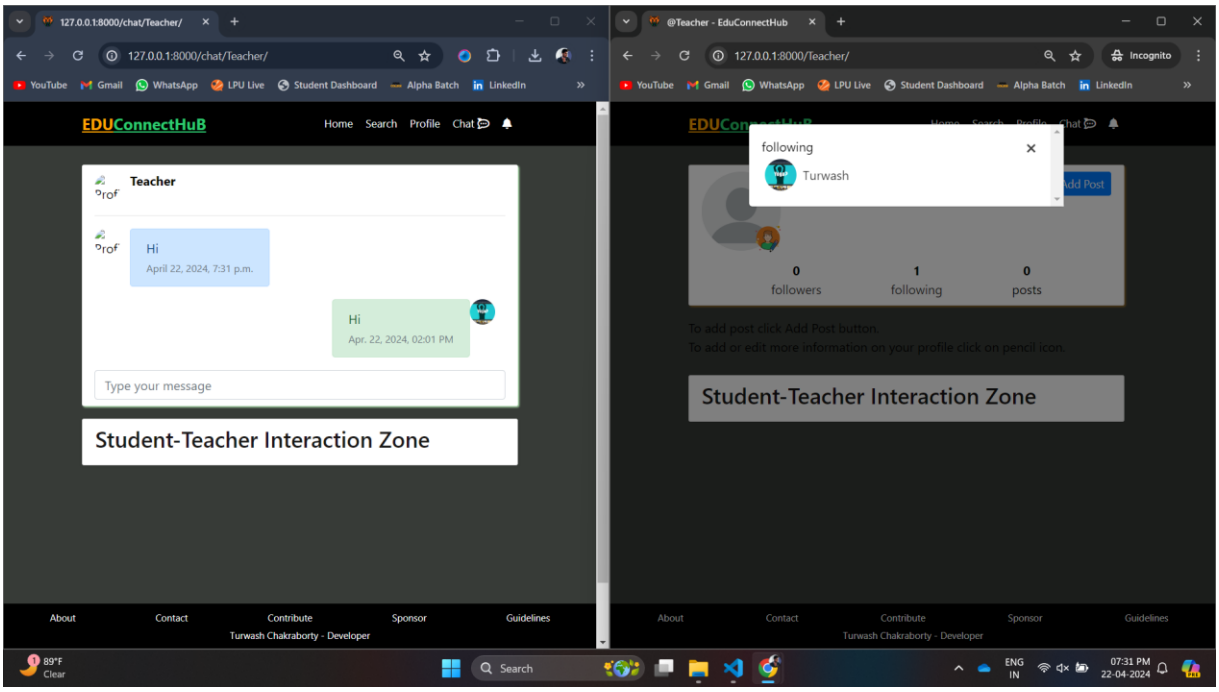


Teacher and student can connect with each other and can interact together through chats

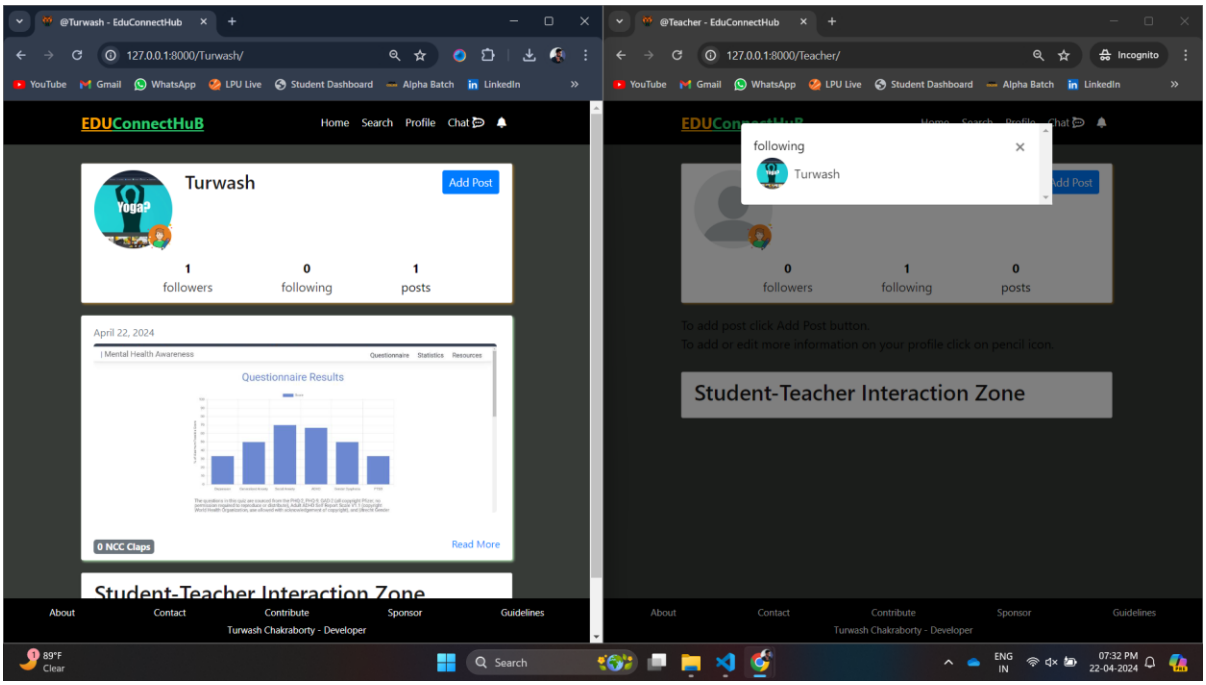


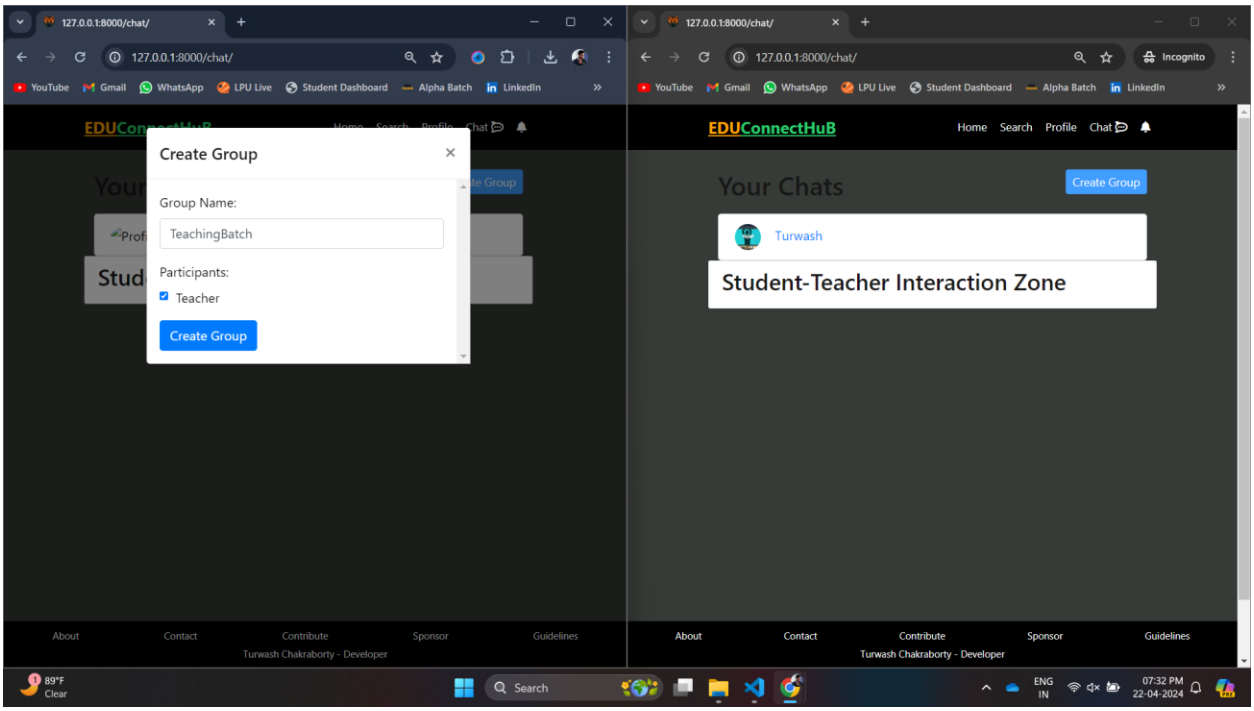
Interacting in personal chats



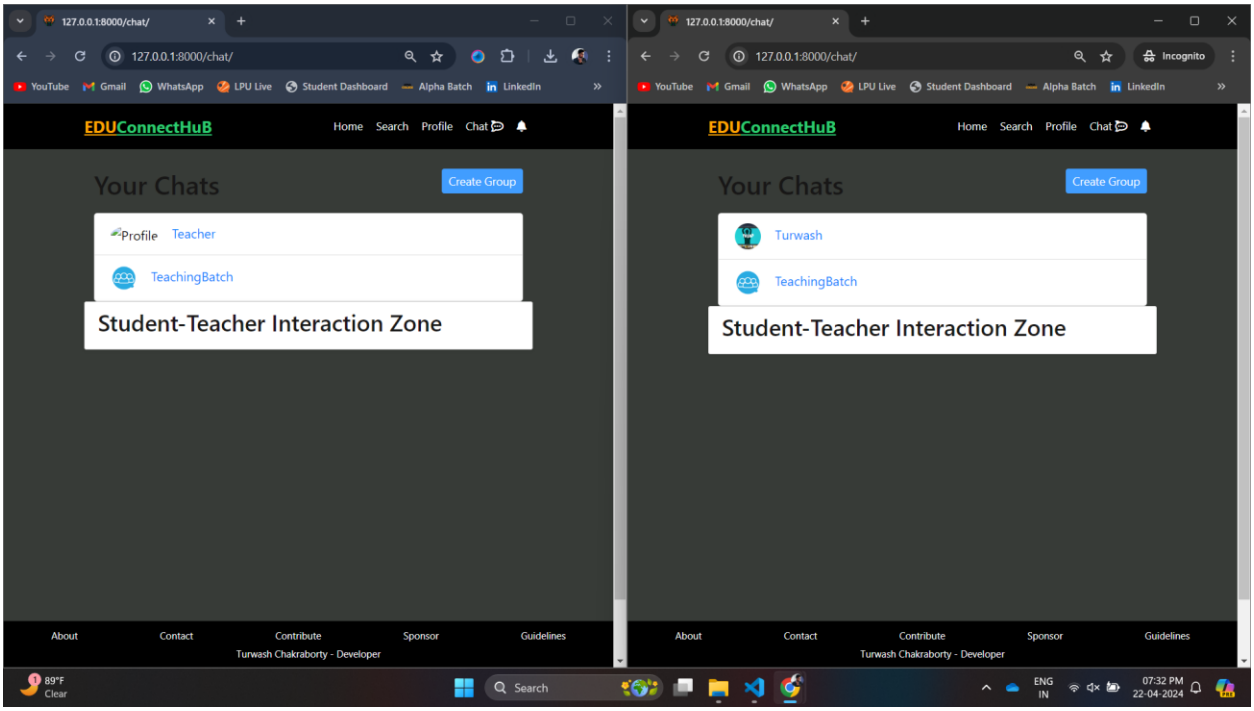


You can see the followers of each other

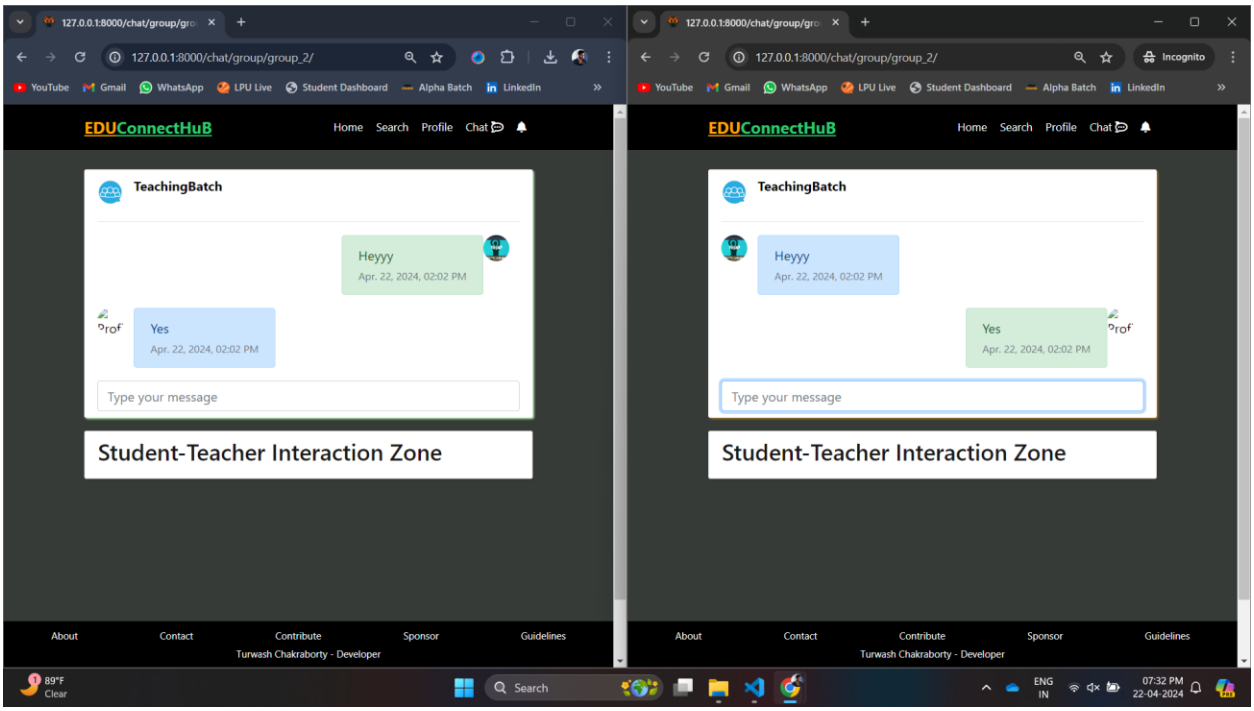




Now creating a group chat with teacher and stucdents

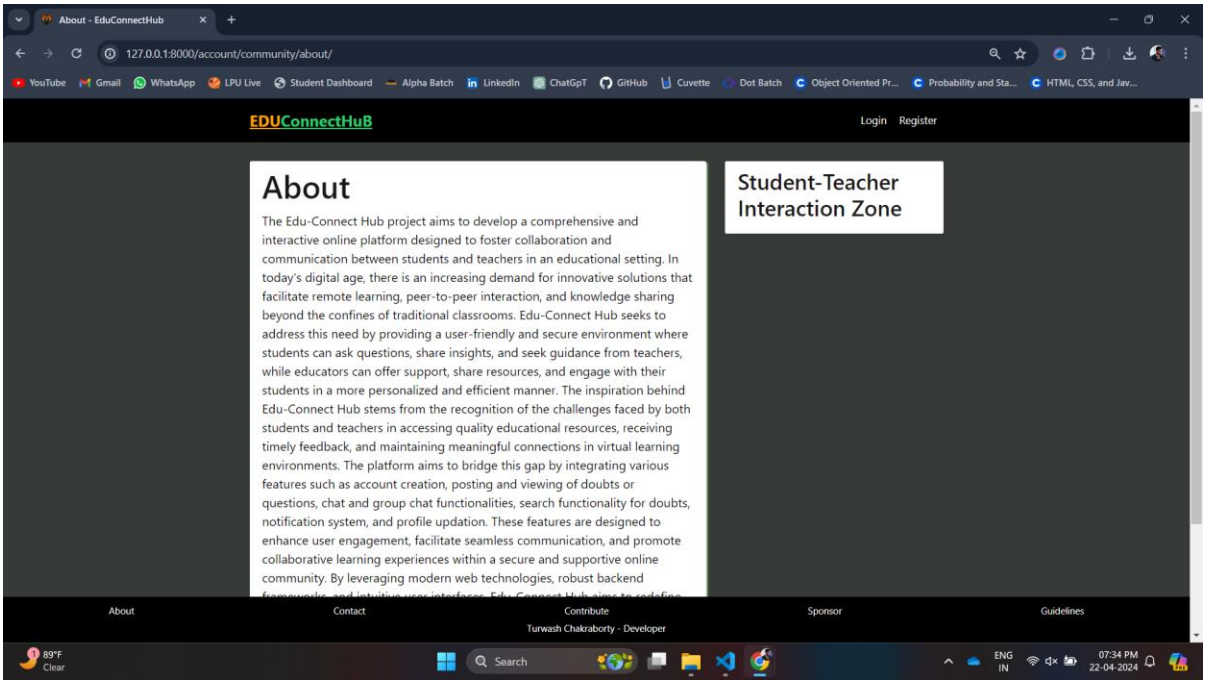


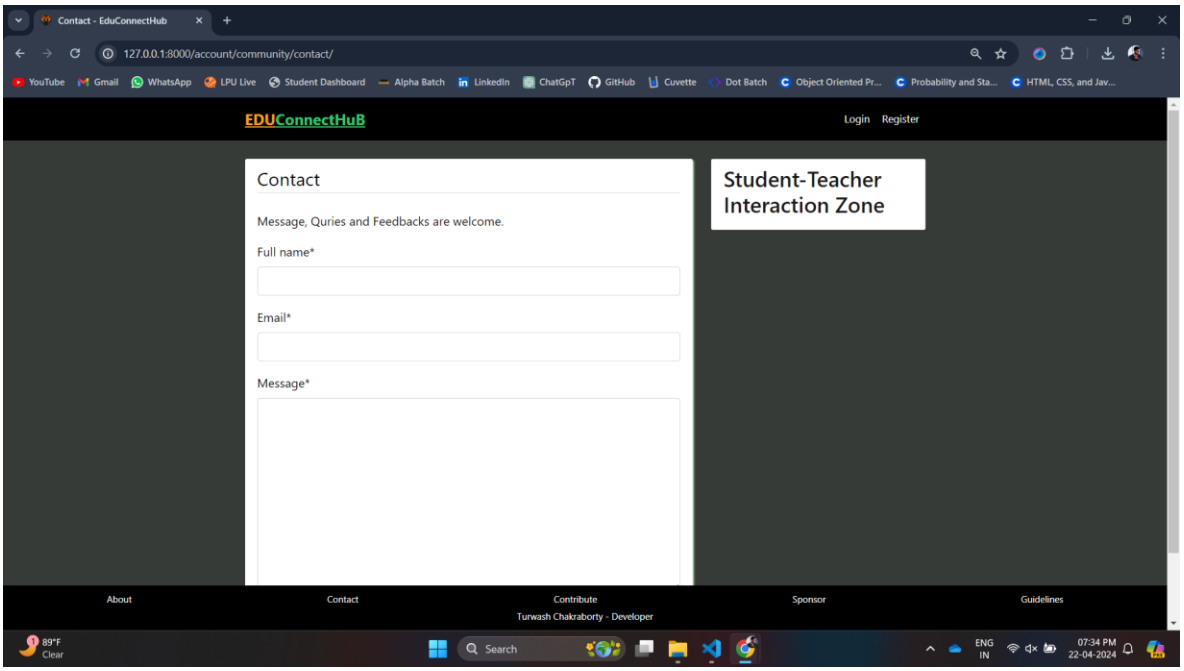
Group Chat Created

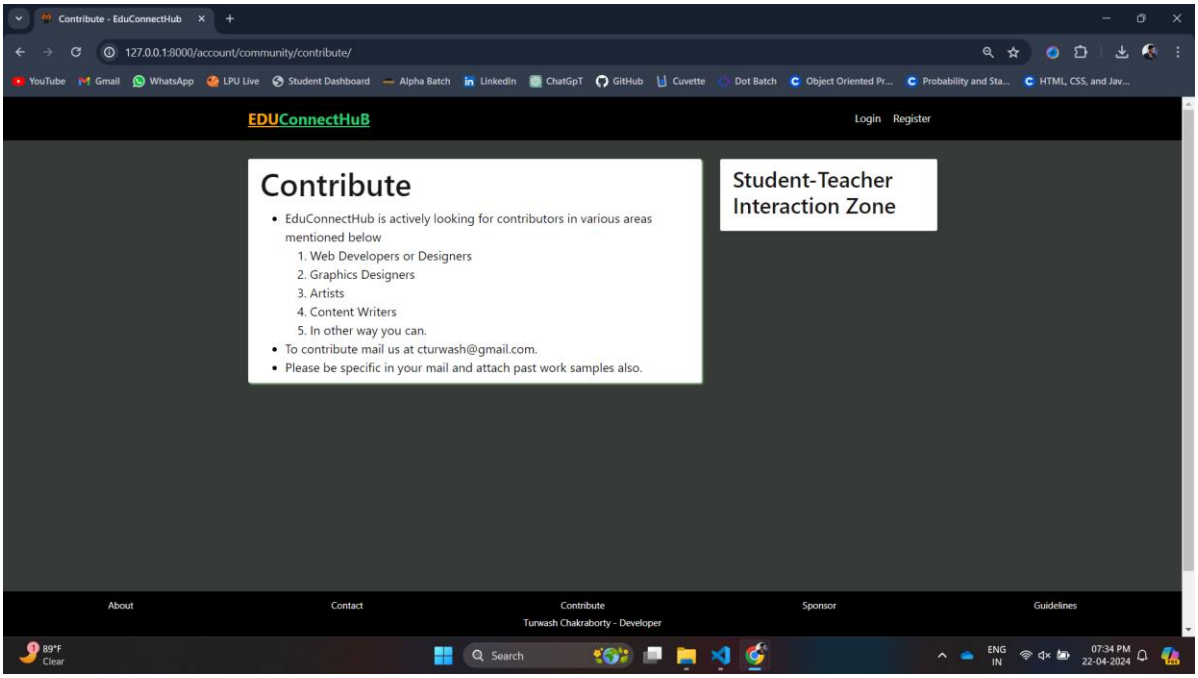


Group Chat Feature

Now Other Features:




Contact - EduConnectHub
127.0.0.1:8000/account/community/contact/
EDUConnectHuB
Login Register
Contact
Message, Quries and Feedbacks are welcome.
Full name*
Email*
Message*
Student-Teacher Interaction Zone
About Contact Contribute Sponsor Guidelines
Turwash Chakraborty - Developer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127.0.0.1:8000/account/community/contribute/
EDUConnectHuB
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Contribute
EduConnectHub is actively looking for contributors in various areas mentioned below
1. Web Developers or Designers
2. Graphics Designers
3. Artists
4. Content Writers
5. In other way you can.
To contribute mail us at cturwash@gmail.com.
Please be specific in your mail and attach past work samples also.
Student-Teacher Interaction Zone
About Contact Contribute Sponsor Guidelines
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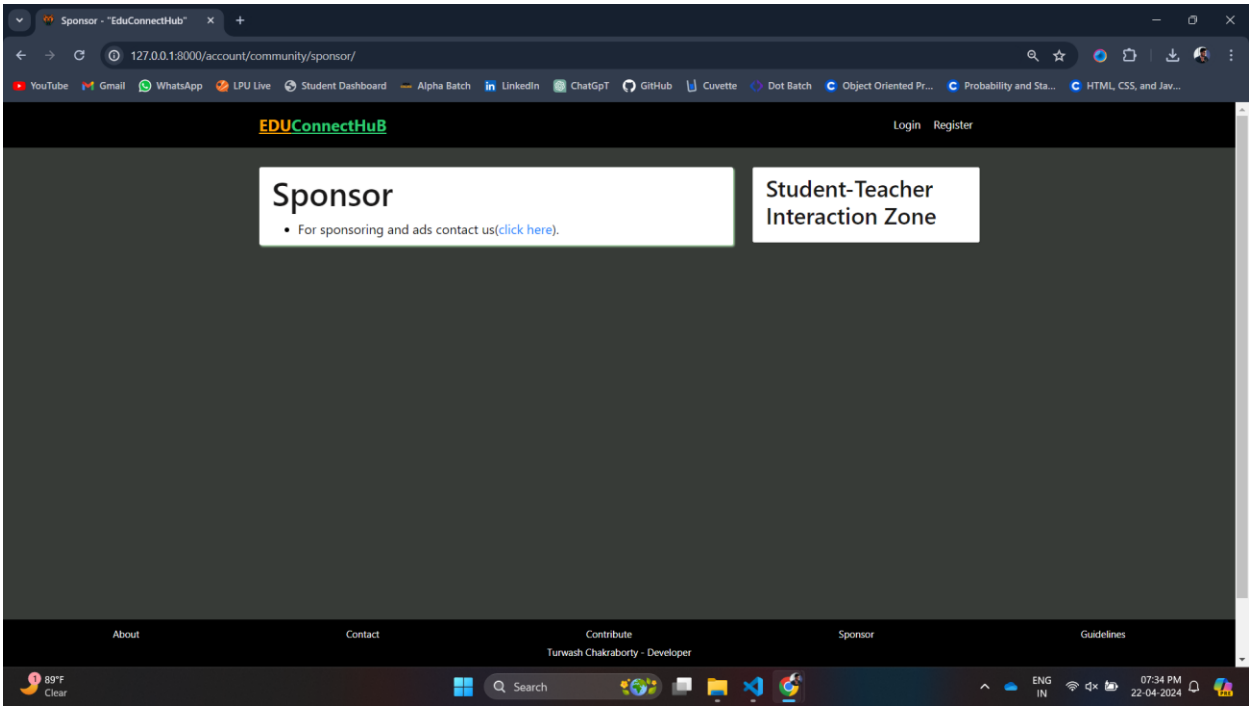

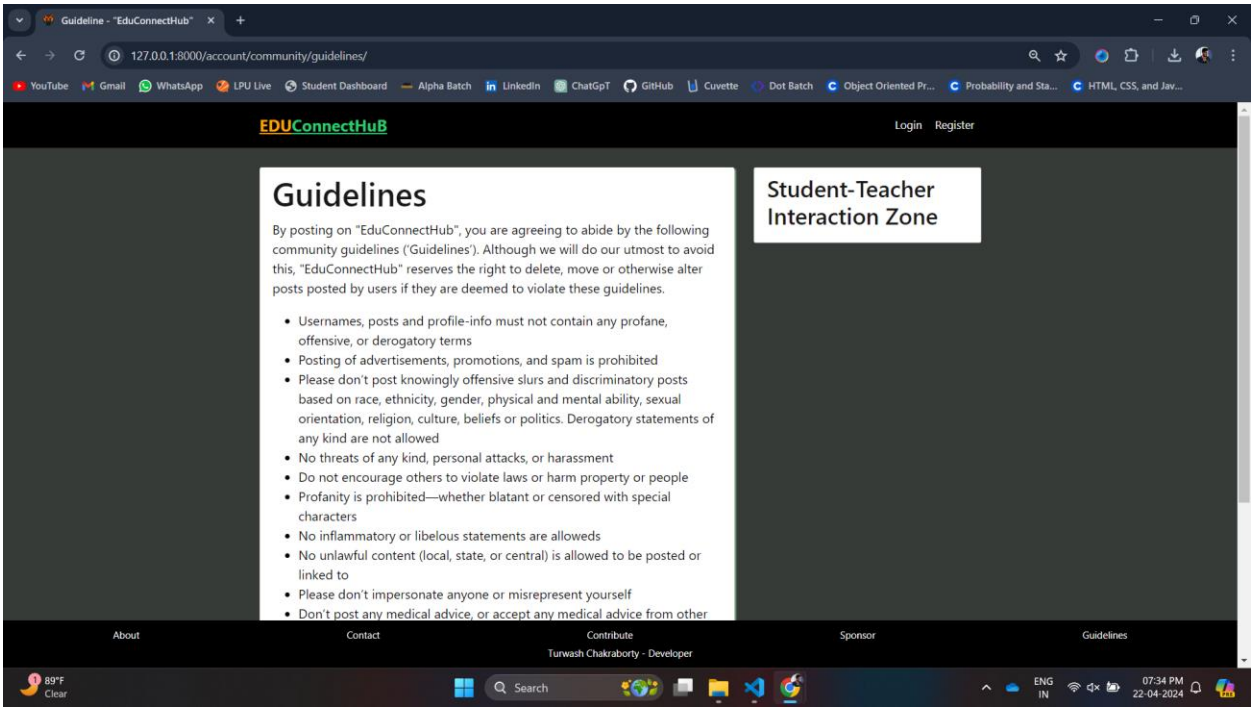

Guildelines of the EduConnectHub

1.3 Definitions, Acronyms, and Abbreviations

SRS: Software Requirements Specification

UI: User Interface

API: Application Programming Interface

DB: Database

HTTP: HyperText Transfer Protocol

1.4 References

IEEE Guide to SRS

Django Documentation

SQLite Documentation

Python Documentation

1.5 Overview

This SRS document contains detailed requirements, features, and specifications for the Edu-Connect Hub platform. The document is organized into sections that describe the general description, specific requirements, analysis models, and appendices related to the software project.

General Description

2.1 Product Perspective

Edu-Connect Hub is a standalone social media platform designed specifically for educational purposes. It will interact with other systems through APIs for authentication and data sharing.

2.2 Product Functions

The primary functions of Edu-Connect Hub include:

Account creation and management

Posting and viewing of doubts or questions

Chat and group chat functionalities

Search functionality for doubts

Notification system

Profile updation

2.3 User Characteristics

The target users of Edu-Connect Hub include students and teachers. Students will use the platform to ask questions, share posts, and interact with teachers. Teachers will use the platform to answer questions, resolve doubts, and share knowledge.

2.4 General Constraints

The platform must comply with data protection and privacy regulations.

The platform must be compatible with popular web browsers and mobile devices.

The platform must be scalable to accommodate a growing user base.

2.5 Assumptions and Dependencies

The platform will be developed using Django framework and SQLite database.

External APIs will be used for authentication and data sharing.

Users will have access to a stable internet connection for using the platform.

Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

Responsive web design for desktop and mobile browsers

Intuitive and user-friendly interface for account creation, posting, chatting, and profile management

3.1.2 Hardware Interfaces

Compatible with standard web servers and databases

Support for popular web browsers and mobile devices

3.1.3 Software Interfaces

Integration with Django framework for backend development

Integration with SQLite database for data storage

Integration with third-party APIs for authentication and data sharing

3.1.4 Communications Interfaces

HTTP/HTTPS protocols for web communication

WebSocket protocol for real-time chat and notifications

3.2 Functional Requirements

3.2.1 Account Creation

3.2.1.1 Introduction

Users can register by providing necessary details like name, email, password, and role (student/teacher).

3.2.1.2 Inputs

Name

Email

Password

Role (student/teacher)

3.2.1.3 Processing

Validate user inputs

Generate unique user ID

Store user details in the database

3.2.1.4 Outputs

Confirmation message upon successful registration

3.2.1.5 Error Handling

Display error messages for invalid inputs or existing email addresses

3.2.2 Post Creation and Viewing

3.2.2.1 Introduction

Users can create posts by asking doubts or questions, and other users can view and respond to these posts.

3.2.2.2 Inputs

Post content

Tags or categories

User ID

3.2.2.3 Processing

Validate post content and user ID

Store post details in the database

Display posts based on tags or categories

3.2.2.4 Outputs

Display posts with comments and responses

3.2.2.5 Error Handling

Display error messages for invalid post content or missing user ID

3.2.3 Chat and Group Chat

3.2.3.1 Introduction

Users can initiate one-on-one chats or join group chats with other users.

3.2.3.2 Inputs

Message content

User IDs (for one-on-one chats)

Group ID (for group chats)

3.2.3.3 Processing

Validate message content and user IDs

Store messages in the database

Deliver messages in real-time using WebSocket

3.2.3.4 Outputs

Display chat history for one-on-one chats

Display group chat messages for group chats

3.2.3.5 Error Handling

Display error messages for invalid message content or missing user IDs

3.2.4 Search for Doubts

3.2.4.1 Introduction

Users can search for specific doubts or questions using keywords or tags.

3.2.4.2 Inputs

Search query

Tags or keywords

3.2.4.3 Processing

Retrieve relevant posts from the database

Display search results based on relevance

3.2.4.4 Outputs

Display search results with links to relevant posts

3.2.4.5 Error Handling

Display error message for empty or invalid search queries

3.2.5 Notification System

3.2.5.1 Introduction

Users receive notifications for new messages, responses, and updates related to their posts.

3.2.5.2 Inputs

User ID

Notification type

3.2.5.3 Processing

Retrieve relevant notifications from the database

Send notifications in real-time using WebSocket

3.2.5.4 Outputs

Display notifications to the user

3.2.5.5 Error Handling

Display error message for invalid user ID or missing notifications

3.2.6 Profile Updation

3.2.6.1 Introduction

Users can update their profile details, including name, email, password, and profile picture.

3.2.6.2 Inputs

User ID

Updated profile details

3.2.6.3 Processing

Validate user ID and updated details

Update user profile in the database

3.2.6.4 Outputs

Confirmation message upon successful profile update

3.2.6.5 Error Handling

Display error message for invalid user ID or missing profile details

3.5 Non-Functional Requirements

3.5.1 Performance

The platform should load within 2-3 seconds on standard internet connections.

The chat feature should deliver messages in real-time with minimal latency.

3.5.2 Reliability

The platform should maintain data integrity and consistency across all user interactions.

The notification system should reliably deliver notifications to users.

3.5.3 Availability

The platform should be available 99.9% of the time, excluding scheduled maintenance.

3.5.4 Security

User passwords should be securely hashed and stored in the database.

All communications should be encrypted using HTTPS and WebSocket protocols.

3.5.5 Maintainability

The codebase should be well-organized and documented for ease of maintenance.

Updates and patches should be easily deployable without affecting the platform's functionality.

3.5.6 Portability

The platform should be compatible with popular web browsers (Chrome, Firefox, Safari) and mobile devices (iOS, Android).

3.7 Design Constraints

The platform's design should be responsive and adaptive to various screen sizes and resolutions.

The platform's architecture should be modular and scalable to accommodate future enhancements and features.

3.9 Other Requirements

The platform should comply with data protection regulations, including GDPR and CCPA.

The platform should support multi-language support for global accessibility.

Analysis Models

GitHub link.....

[https://github.com/Turwash/EduConnectHub]

This document serves as the comprehensive Software Requirements Specification for the Edu-Connect Hub platform. It outlines the functional and non-functional requirements, design constraints, and analysis models necessary for the successful development and implementation of the platform. All stakeholders are encouraged to review and provide feedback on this SRS to ensure alignment with project objectives and expectations.