



VEER NARMAD SOUTH GUJARAT UNIVERSITY

University Campus, Udhna - Magdalla Road, Surat – 395001, Gujarat, India.

Department of Information and Communication Technology MSc ICT Programme

PROJECT TITLE



MindsMeet – The Edu-Collab Center

**AS PARTIAL REQUIREMENTS FOR THE DEGREE
OF
MASTER OF SCIENCE IN INFORMATION AND COMMUNICATION
TECHNOLOGY (MSC ICT 2 YEAR COURSE)**

2024-25

(SEMESTER – I)

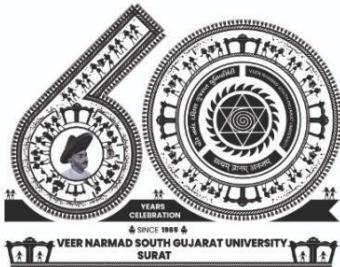
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[1036]



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M.Sc.(Information and Communication Technology) Programme

Certificate

This is to certify that Mr./Ms. Patel MuhammadShakil Mustak with exam seat number **1036** and PG Enroll Number **R24110018000710036** has worked on his/her project work entitled as "**MindsMeet – The Edu-Collab Center**" at **Department of ICT** as a partial fulfillment of requirement of M.Sc. (Information and Communication Technology) - 1st Semester, during the academic year 2024-2025.

Date: 24/12/2024

Place: Department of ICT, VNNGU, Surat

Internal Project Guide
MSc(ICT) 1st Semester
Department of ICT
VNNGU, Surat

Head of the Department
Department of ICT
VNNGU, Surat

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Thank you all for being a part of this journey and helping us achieve this significant milestone.

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1. Introduction

The advent of digital transformation in education has brought about significant changes in the way knowledge is shared, managed, and consumed. Traditional methods of learning, while effective in their time, are no longer sufficient to meet the demands of modern students and educators. There is a growing need for platforms that not only provide access to resources but also foster collaboration, innovation, and engagement.

MindsMeet is designed to address these needs, offering a dynamic and interactive environment where students, educators, and professionals can come together to share, learn, and grow. It combines the best features of a learning management system with social collaboration tools, creating a platform that is not just about academics but also about building communities of learners.

Key highlights of **MindsMeet** include its user-friendly interface, robust backend architecture, and the ability to cater to diverse user needs. Whether it's uploading notes, engaging in discussions, or celebrating achievements, **MindsMeet** ensures that every user has access to tools that make learning and collaboration more accessible, effective, and enjoyable.

By integrating cutting-edge technologies and a deep understanding of user behaviour, **MindsMeet** aims to redefine the educational experience for the digital age.

1.1 Objective of the System

The objective of *MindsMeet* is to go beyond traditional learning platforms by providing an innovative, scalable, and user-centric solution. Its core goals include:

1. **Building a Collaborative Ecosystem**
 - Create a space where users can interact seamlessly through features such as chats, forums, and live discussions.
 - Foster peer-to-peer learning and mentoring, allowing students and educators to share knowledge effectively.
2. **Centralizing Educational Resources**
 - Offer a unified repository for notes, tutorials, and multimedia content, categorized for easy navigation.
 - Ensure that all resources are verified and of high quality, providing users with trusted materials for their learning journey.
3. **Promoting Engagement through Innovative Tools**
 - Integrate features like audio playback, real-time translation, and achievement feeds to make the learning process more engaging and interactive.
 - Enable users to customize their experience with personalized dashboards and settings.
4. **Ensuring Accessibility and Inclusivity**
 - Design the platform to cater to users from diverse backgrounds, ensuring equal opportunities for learning and collaboration.
 - Incorporate accessibility features for differently-abled users to enhance usability for everyone.
5. **Encouraging Lifelong Learning**
 - Provide tools that go beyond formal education, helping users acquire new skills, participate in discussions, and stay updated on trending topics.
 - Create a sustainable platform where users can continually grow, both personally and professionally.

By addressing these objectives, *MindsMeet* aims to set a new standard in digital education and collaboration, empowering users to achieve their full potential in an ever-evolving academic and professional landscape.

1.2 Problem Definition

The challenges faced by students, educators, and institutions in today's educational landscape are multifaceted. Traditional learning methods often fail to address the dynamic needs of modern education. Below are some of the key problems that *MindsMeet* aims to solve:

1. **Fragmented Resources and Lack of Centralization**
 - Students often struggle to find reliable, organized, and verified study materials.
 - Educators face challenges in sharing notes and resources efficiently across multiple platforms.
 - The absence of a unified system leads to loss of time and effort.
2. **Limited Collaboration Opportunities**
 - Traditional learning systems offer little to no interaction between peers and mentors.
 - Existing platforms do not prioritize community-driven discussions, peer reviews, or real-time engagement.
3. **Lack of Accessibility and Personalization**
 - Many systems fail to accommodate diverse user needs, including language barriers, accessibility for differently-abled users, and personal learning preferences.
 - The lack of customizable interfaces hinders effective learning experiences.
4. **Absence of Engagement Features**
 - Conventional systems do not integrate innovative tools like gamified learning, achievement tracking, or interactive FAQs to keep users motivated and engaged.
5. **Difficulty in Managing and Verifying Content**
 - The lack of content verification leads to the circulation of outdated or inaccurate materials.
 - Educators often find it challenging to monitor and manage uploaded resources effectively.

By addressing these challenges, *MindsMeet* aspires to create a holistic solution that empowers users and redefines the educational ecosystem.

1.3 Core Components

MindsMeet is designed with several key components that work seamlessly to provide a comprehensive learning and collaboration platform. These core components include:

1. Notes Management Module

- Allows users to upload, download, and share categorized notes.
- Offers features like note translation into multiple languages and audio playback for better accessibility.
- Includes a verification system to ensure the quality and reliability of the uploaded resources.

2. FAQ and Discussion Module

- Similar to a Stack Overflow-like system, users can post questions and receive answers from the community.
- Supports multimedia queries and responses, including text, images, and code snippets.
- Enables voting mechanisms for prioritizing high-quality answers.

3. Achievement Feeds and Community Posts

- Allows users to share their achievements, participate in discussions, and celebrate milestones within the community.
- Encourages active engagement through notifications and recognition badges.

4. Chat Module

- Provides real-time, one-to-one communication between users.
- Includes advanced features such as message deletion, editing, and archiving for a seamless chat experience.

5. User and Admin Management

- Offers robust user authentication, profile management, and settings customization.
- Enables administrators to verify notes, block or unblock users, and manage platform operations.

6. Advanced Search and Filter Options

- Provides users with tools to search for notes, discussions, or posts using keywords and filters for faster access to relevant information.

7. Accessibility and Personalization

- Incorporates features like dark mode, adjustable font sizes, and layout customizations to enhance user experience.
- Supports differently-abled users through accessibility options like screen reader compatibility and text-to-speech functionalities.

Each of these components plays a vital role in delivering a seamless, efficient, and engaging experience for users, ensuring that *MindsMeet* remains at the forefront of modern educational platforms.

1.4 Project Profile

MindsMeet is an advanced Learning Management and Collaboration System designed to bridge the gap between traditional and modern education. Below are the key attributes of the project:

1. **Project Name:**
 - o *MindsMeet* – The Edu-Collab Center
2. **Developed By:**
 - o Patel MuhammadShakil Mustak
3. **Technologies Used:**
 - o **Frontend:** JSF, Primefaces, Tailwindcss
 - o **Backend:** Java EE, EJB, REST, JPA
 - o **Database:** MySQL
 - o **Other Tools:** REST APIs for seamless integration, real-time chat systems with WebSockets
4. **Key Features:**
 - o Notes Management
 - o Community-driven FAQ system
 - o Achievements feed and community posts
 - o Real-time chat module
 - o Admin and user management features
5. **Primary Objective:**
 - o To create a centralized platform for sharing knowledge, enhancing collaboration, and fostering academic growth through innovative features and user-friendly design.
6. **Target Users:**
 - o Students, educators, and academic institutions

By incorporating state-of-the-art technologies and a user-first approach, *MindsMeet* sets a new benchmark for digital learning and collaboration systems.

1.5 Advantages of the Proposed System

The implementation of *MindsMeet* offers several advantages over traditional and existing platforms:

1. **Enhanced Collaboration:**
 - Facilitates real-time interactions among students and educators, fostering a collaborative learning environment.
2. **Centralized Resource Management:**
 - Provides a unified platform to upload, verify, and access categorized notes, eliminating redundancy and improving accessibility.
3. **Community Engagement:**
 - Encourages active participation through forums, FAQs, and achievement feeds, keeping users motivated and engaged.
4. **Customizable User Experience:**
 - Offers personalization features such as theme customization, language preferences, and accessibility options to cater to diverse user needs.
5. **Improved Productivity:**
 - Advanced search and filter options save time and enhance efficiency in finding relevant resources.
6. **Scalable and Secure Architecture:**
 - Built using scalable backend architecture and secure authentication mechanisms to ensure data integrity and platform reliability.
7. **Verified and Reliable Content:**
 - Ensures the quality of educational materials through content verification and admin approval processes.
8. **Future-Proof Features:**
 - Supports integration of emerging technologies such as **AI-driven recommendations** and advanced analytics for continuous improvement.

1.6 Future Enhancement

MindsMeet is designed to evolve continuously to meet the ever-changing demands of its users. Below are some of the planned future enhancements:

1. **AI-Driven Recommendations:**
 - Integrate AI to provide personalized learning recommendations based on user preferences, activity, and performance.
2. **Mobile Application Development:**
 - Expand the platform's reach by creating dedicated mobile applications for **Android** and **iOS** users.
3. **Gamified Learning:**
 - Introduce gamification elements like quizzes, leaderboards, and badges to make learning more engaging.
4. **Advanced Analytics and Insights:**
 - Provide detailed analytics for users to track their learning progress and for administrators to monitor platform performance.
5. **Language Localization:**
 - Add support for multiple languages to cater to a global audience and promote inclusivity.
6. **Integration with External Tools:**
 - Incorporate third-party tools like Google Drive, Microsoft Teams, and Zoom for seamless collaboration.
7. **Enhanced Security Features:**
 - Implement multi-factor authentication, data encryption, and user behaviour tracking for improved platform security.
8. **Virtual Reality (VR) and Augmented Reality (AR):**
 - Explore immersive learning experiences through VR and AR integration for interactive tutorials and simulations.

1.7 Project Scope

The scope of *MindsMeet* encompasses a wide range of functionalities aimed at revolutionizing the learning and collaboration experience in academic and professional environments. Below are the key aspects covered under the project scope:

1. Comprehensive Learning Management

- *MindsMeet* allows users to upload, manage, and share subject-specific notes.
- Publicly accessible verified notes ensure high-quality resources for all users.
- The platform supports multimedia content, including PDFs, images, and videos.

2. Community Interaction

- Interactive modules like FAQs, posts, and achievements provide a platform for users to share knowledge, resolve doubts, and showcase milestones.
- A collaborative environment encourages networking and active participation among students and educators.

3. Real-Time Communication

- Integrated one-to-one chat functionality facilitates direct communication.
- Support for message editing, deletion, and media sharing enhances the user experience.

4. User-Centric Features

- Offers customizable themes and privacy settings to suit individual preferences.
- Supports multilingual options and voice-to-text features for inclusivity.

5. Scalable Architecture

- Designed to accommodate a growing user base and integrate with emerging technologies like AI and machine learning.
- Cloud-enabled solutions ensure high availability and low latency.

6. Administrative Control

- Admins have tools to verify notes, manage user accounts, and moderate content.
- The ability to block or temporarily restrict users ensures a safe and respectful environment.

7. Technical Support and Security

- Built with robust security features, including encrypted communications and multi-factor authentication.
- Regular updates and technical support maintain system reliability.

Future Opportunities

- Expansion into professional learning sectors such as corporate training and skill development programs.
- Collaboration with educational institutions and organizations for tailored solutions.

MindsMeet aims to serve as a comprehensive, user-friendly, and scalable platform, empowering users to achieve their academic and collaborative goals efficiently.

2. Requirement Analysis

2.1 Requirement Gathering

The **requirement gathering** phase is essential for understanding the needs, expectations, and objectives of the stakeholders involved in the MindsMeet project. This phase lays the foundation for the design and development of the system. In this phase, we aim to determine what the system must achieve and define its functional and non-functional requirements.

Key Objectives of Requirement Gathering:

- **Understand Stakeholder Needs:** The primary goal is to understand what the end-users and stakeholders expect from the MindsMeet system. This includes understanding their educational needs, social collaboration expectations, and system usability preferences.
- **Establish Functional Requirements:** These are the features that the system must provide, such as uploading and sharing notes, user-to-user communication, feedback systems, admin management, and real-time notifications.
- **Define Non-Functional Requirements:** These are the system's performance criteria, including scalability, security, reliability, and user-friendliness.

Stakeholders Involved:

- **End-Users (Students and Teachers):** Their needs focus on an interactive platform for sharing notes, communicating with others, and receiving help in their academic journey.
- **Administrators:** Admins need tools to manage the system, monitor users, verify uploaded content, block inappropriate behavior, and maintain system integrity.
- **Developers and Designers:** Their focus is on implementing the system based on clear and achievable requirements, ensuring the platform is scalable and user-friendly.

Techniques for Gathering Requirements:

- **Interviews:** Direct interaction with potential users and stakeholders helps in collecting their needs and understanding the core functionality that MindsMeet should provide.
- **Surveys/Questionnaires:** Distributed to a larger audience of students and faculty, these tools help in gathering quantitative data regarding the desired features, priorities, and expectations.
- **Workshops:** Involving group discussions where stakeholders brainstorm and share their expectations.
- **Observation:** Reviewing existing systems or platforms, such as learning management systems (LMS) or collaboration tools, to understand their strengths, weaknesses, and potential areas for improvement.

Functional Requirements of MindsMeet:

- **User Management:** Admins should be able to create, edit, and block user accounts. Each user can manage their profile, settings, and preferences.

- **Notes Upload and Management:** Users must be able to upload, edit, and organize their notes. Admins should verify the notes and allow or reject them based on a review system.
- **Community Interaction:** Users should be able to interact with one another, comment on notes, ask questions, and share solutions.
- **Real-Time Updates:** The system must support real-time notifications for new comments, replies, or updates.
- **Feedback Mechanisms:** Rating or voting on notes and content, allowing users to contribute to the quality of the community-driven content.

Non-Functional Requirements:

- **Scalability:** The system should be able to handle a growing number of users, notes, and interactions without performance degradation.
- **Security:** The platform should be secure, with encrypted user data, role-based access control (RBAC), and protection from potential vulnerabilities such as SQL injection or XSS attacks.
- **Reliability:** The platform must provide high availability, with minimal downtime and an easy-to-recover mechanism in case of failure.
- **User-Friendly Interface:** The interface should be intuitive, enabling users to interact easily with the platform without steep learning curves.

2.2 Feasibility Study

A **feasibility study** evaluates the practicality of the *MindsMeet* project, considering several critical factors such as technical feasibility, economic feasibility, operational feasibility, and schedule feasibility. The goal is to assess whether the project can be completed successfully given the available resources and constraints.

Key Areas of Feasibility:

1. Technical Feasibility:

This aspect involves evaluating whether the existing technology, tools, and expertise are sufficient to develop and deploy the *MindsMeet* platform.

- **Technology Stack:** *MindsMeet* will be built using a combination of modern technologies such as Java for backend development, MySQL for the database, and Android with Kotlin or Jetpack Compose for mobile platforms. The project also involves web interfaces and might use frameworks like React.js for user-facing dashboards.
- **Integration Capabilities:** The system will integrate with various services, such as email notifications, real-time chat services, and possibly cloud storage for hosting notes.
- **Development Resources:** The development team should possess expertise in Java, MySQL, React.js, Android, and other relevant technologies. Given the team's skills in full-stack development and Android expertise, the technical feasibility is high.

2. Economic Feasibility:

This evaluates whether the project is financially viable, considering the costs involved in development, deployment, and maintenance.

- **Initial Development Costs:** The development costs include hiring developers, designers, testing teams, and procurement of necessary software or infrastructure, such as cloud servers, development tools, and licensing.
- **Operational Costs:** Ongoing operational costs include server hosting, software maintenance, security updates, and technical support. If *MindsMeet* uses cloud hosting, the platform can scale as needed, reducing upfront infrastructure costs.
- **Revenue Model:** The *MindsMeet* platform could generate revenue through a subscription model, allowing users to access premium features like additional storage, advanced collaboration tools, or administrative tools. Other potential revenue sources could include ads or partnerships with educational institutions.

3. Operational Feasibility:

Operational feasibility assesses the capacity of the organization to implement and manage the system in a real-world setting.

- **User Support:** *MindsMeet* must have an efficient support system, including an FAQ section, live chat support, and user forums to address user concerns.

- **Management Capabilities:** Admins will need to manage user accounts, oversee content verification, and handle system configurations. Training programs for administrators and users will be required to ensure smooth operation.
- **Adoption by Users:** The system must be designed for ease of use, ensuring that students and faculty members find it intuitive and useful. Marketing and awareness campaigns will be necessary to encourage initial adoption.

4. Schedule Feasibility:

Schedule feasibility analyses whether the project can be completed within the desired timeline.

- **Timeline:** The expected timeline for *MindsMeet* is divided into phases, with a clear focus on:
 - **Phase 1:** Requirement analysis, system design, and initial development (approximately 4-6 months).
 - **Phase 2:** Testing, feedback collection, and iteration (approximately 2 months).
 - **Phase 3:** Deployment, post-launch support, and scaling (ongoing).
- **Risk Management:** To ensure timely delivery, risks related to delays, resource limitations, and potential technical challenges should be mitigated with well-defined milestones, regular progress tracking, and contingency planning.

Conclusion of Requirement Analysis:

The requirement analysis phase for the *MindsMeet* project establishes a clear roadmap for the system's design, functionality, and goals. By understanding the needs of stakeholders, we have outlined functional and non-functional requirements and conducted a comprehensive feasibility study. The insights from this analysis provide a solid foundation for the system's development and future growth, ensuring that the *MindsMeet* platform is practical, financially viable, and capable of meeting its intended objectives.

3. System Design

Key Aspects of System Design:

1. **High-Level Design (HLD):**
 - Focuses on the overall architecture of the system.
 - Defines components like databases, servers, APIs, and their relationships.
 - Example: Identifying microservices in a distributed system or the tech stack.
2. **Low-Level Design (LLD):**
 - Details the internal workings of individual components.
 - Includes class diagrams, data structures, algorithms, and database schemas.
 - Example: How a user authentication service handles login requests.

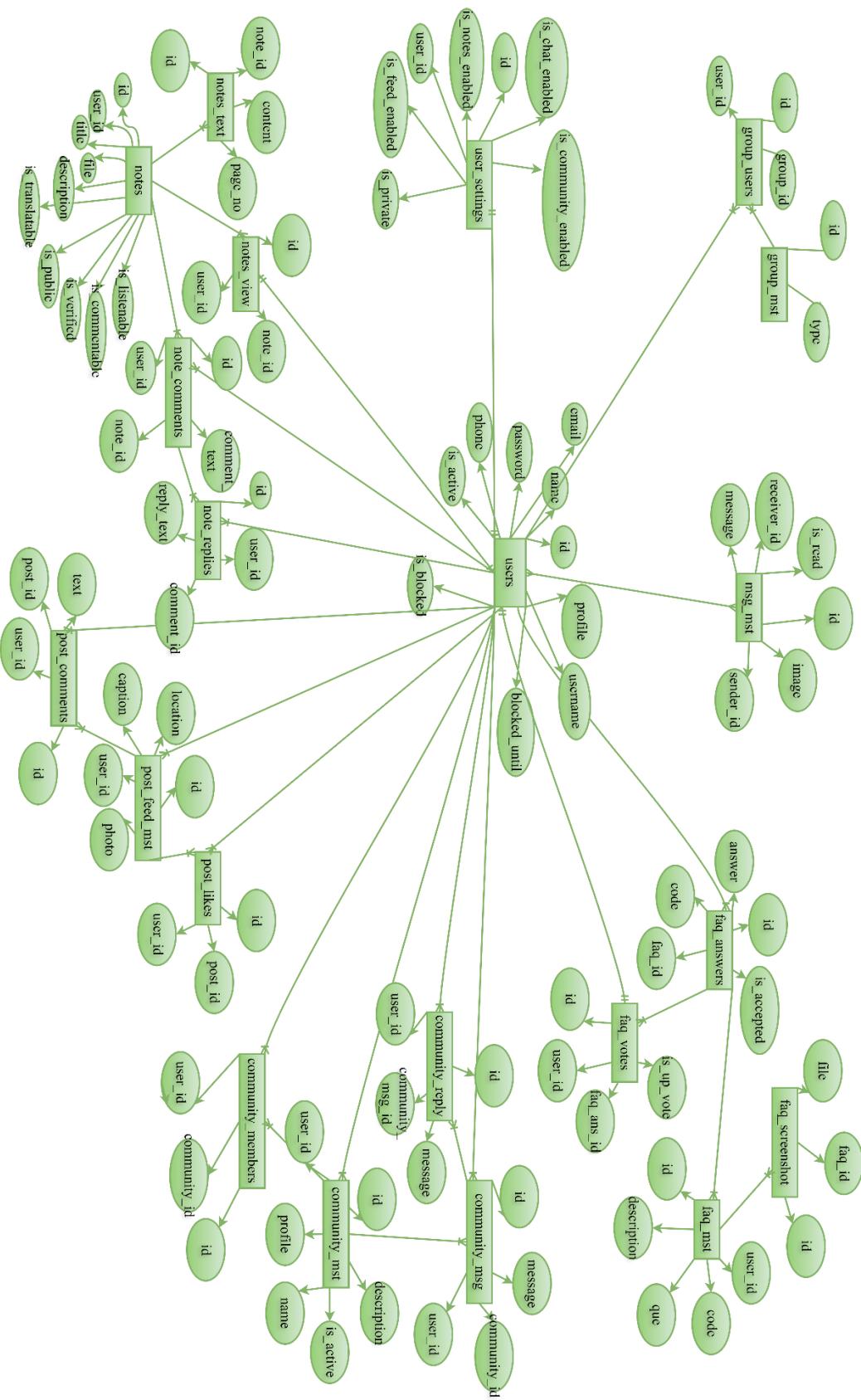
Components of System Design:

1. **Architecture Design:**
 - Determines how the system is structured, including monolithic, client-server, or microservices architecture.
 - Example: A social media platform may use a three-tier architecture with a presentation layer, application layer, and database layer.
2. **Data Flow:**
 - Describes how data moves through the system.
 - Example: A payment gateway that processes user inputs and forwards them to a payment processor.
3. **Scalability and Performance:**
 - Ensures the system can handle increasing loads by scaling vertically or horizontally.
 - Includes considerations for caching, load balancing, and database partitioning.
4. **Security:**
 - Focuses on protecting the system against unauthorized access and data breaches.
 - Example: Implementing HTTPS, encryption, and role-based access control.
5. **Fault Tolerance:**
 - Ensures the system can recover from failures with minimal downtime.
 - Example: Using redundant servers in a failover setup.

Common Tools and Techniques:

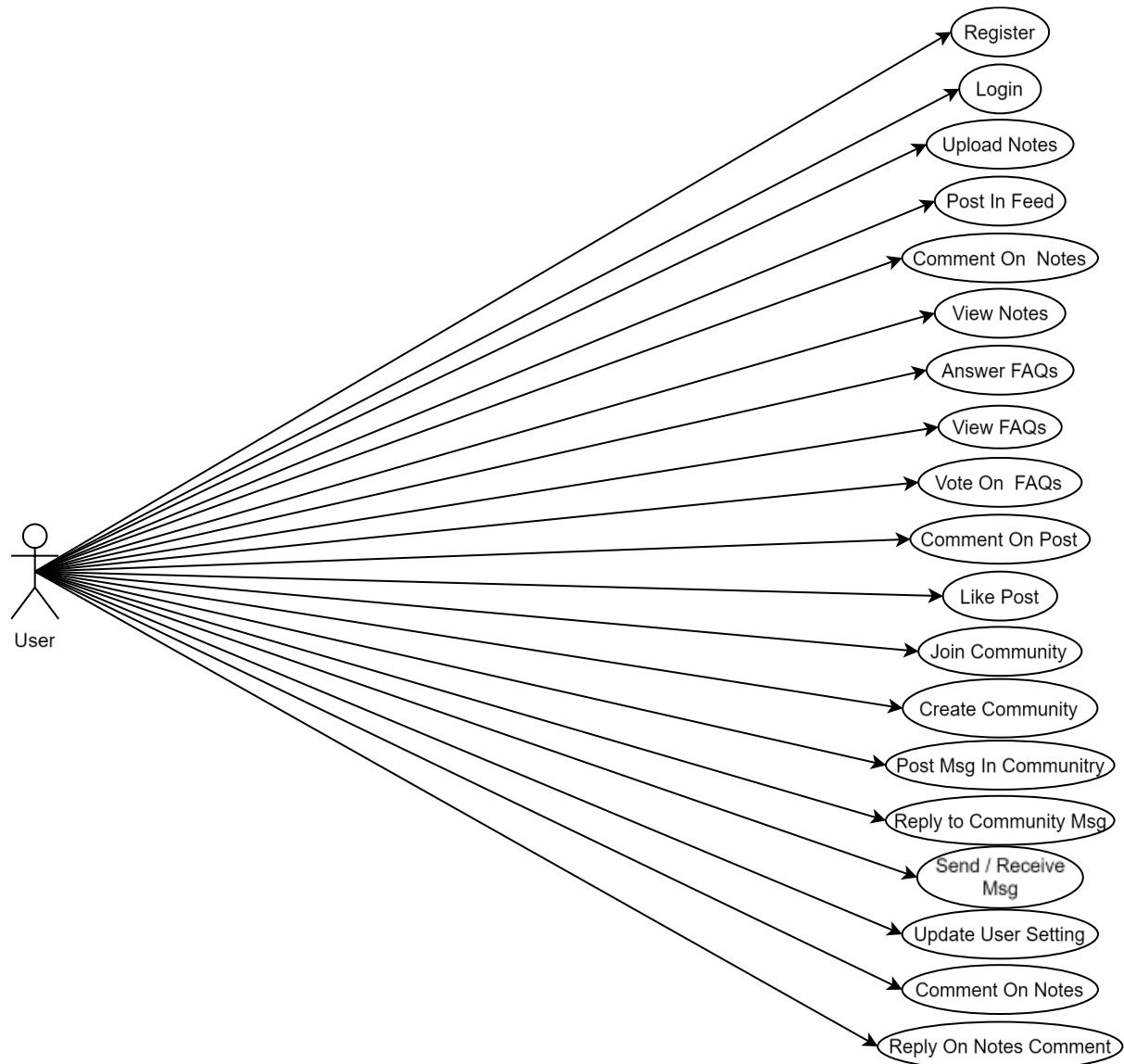
1. **Unified Modeling Language (UML):** For diagrams like class and sequence diagrams.
2. **Entity-Relationship (ER) Modelling:** For database structure.
3. **Architecture Patterns:** Examples include MVC, Microservices, and Event-Driven Architecture.

3.1 Entity Relationship Diagram

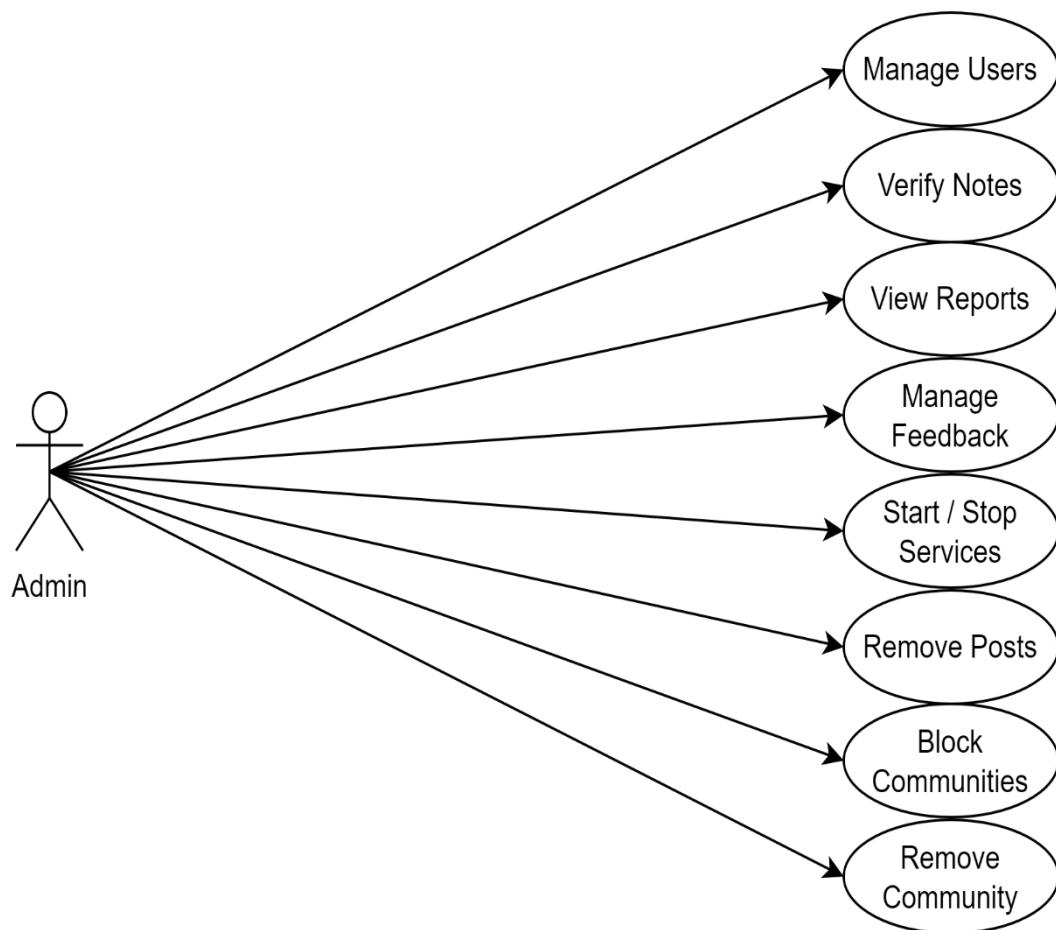


3.2 Use Case Diagram

3.2.1 User

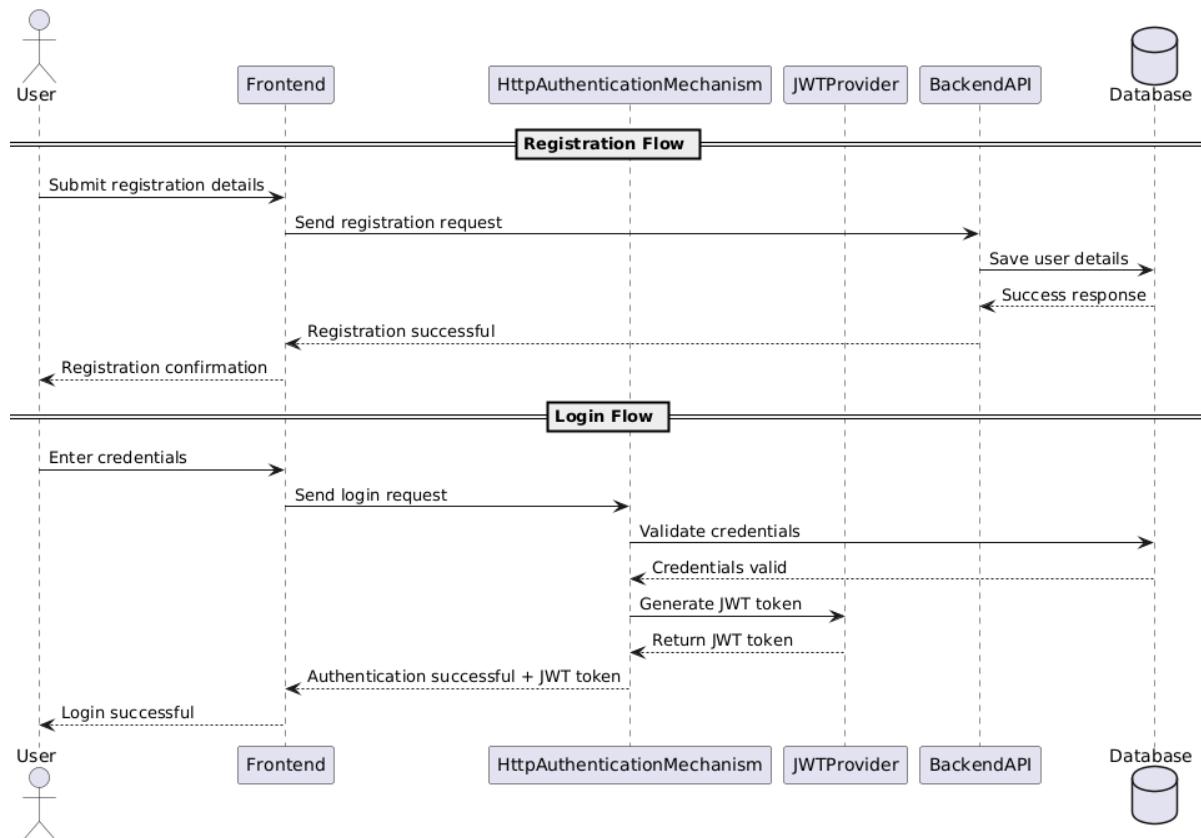


3.2.2 Admin

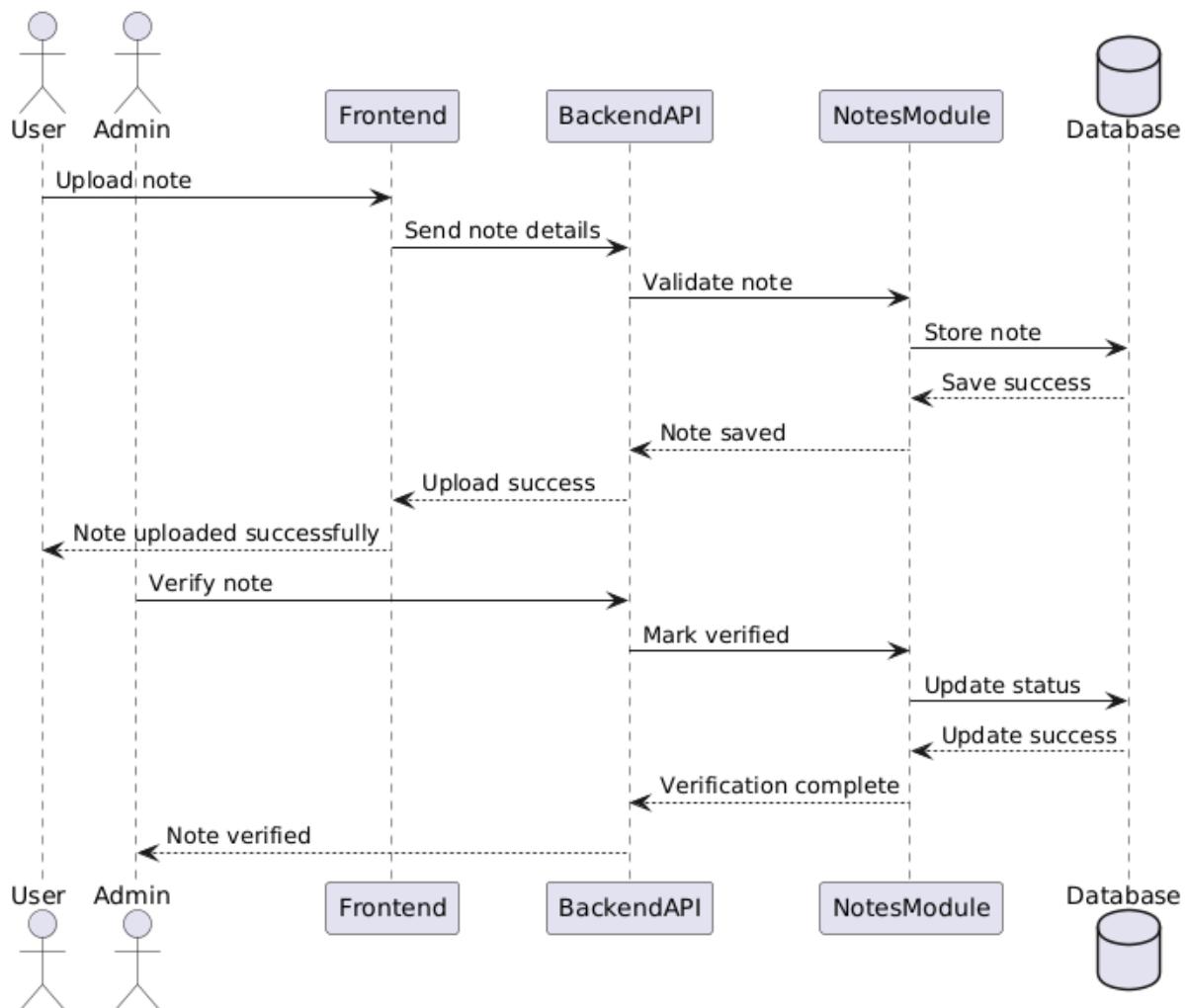


3.3 Sequence Diagram

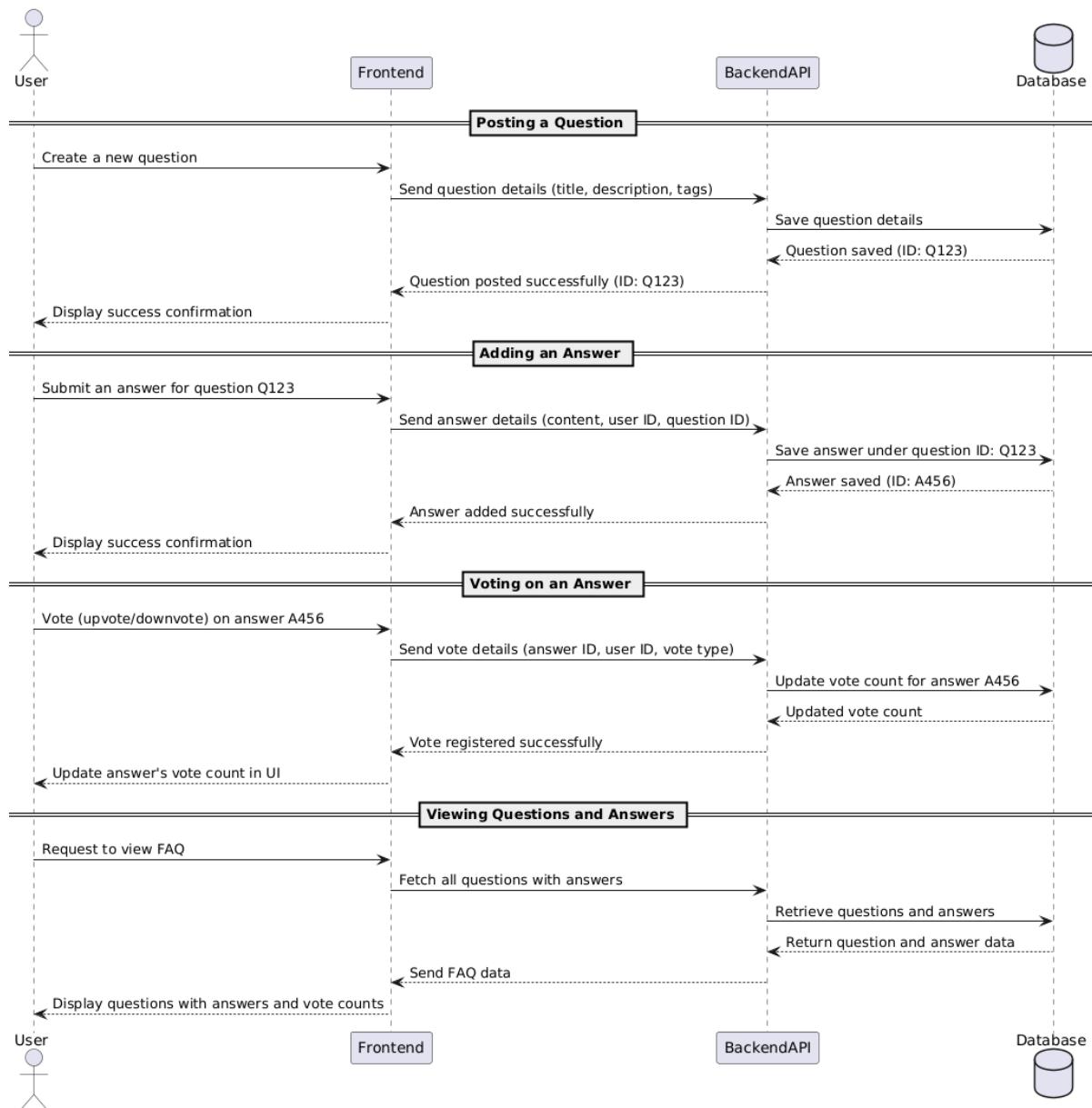
3.3.1 Authentication Module



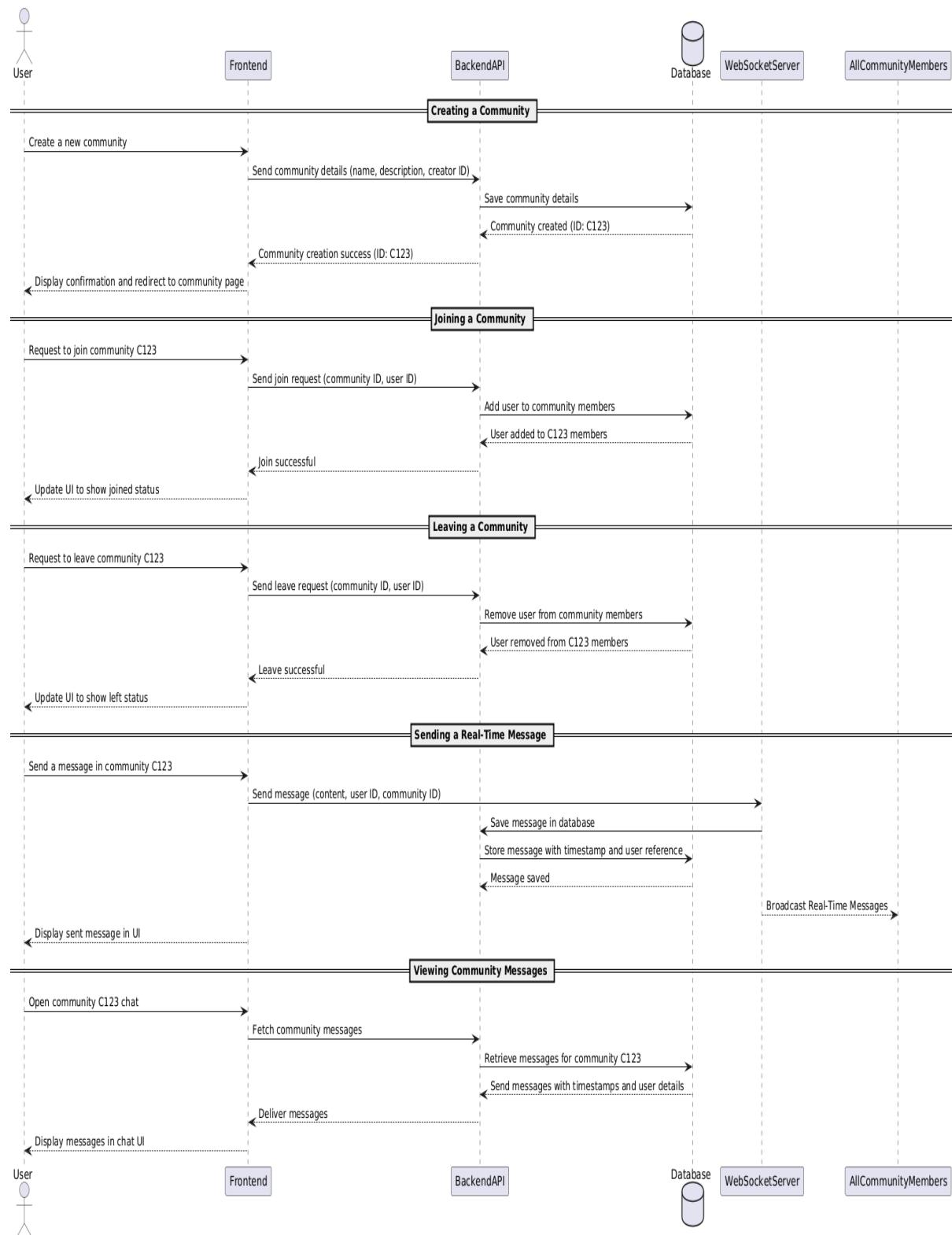
3.3.2 Notes Module



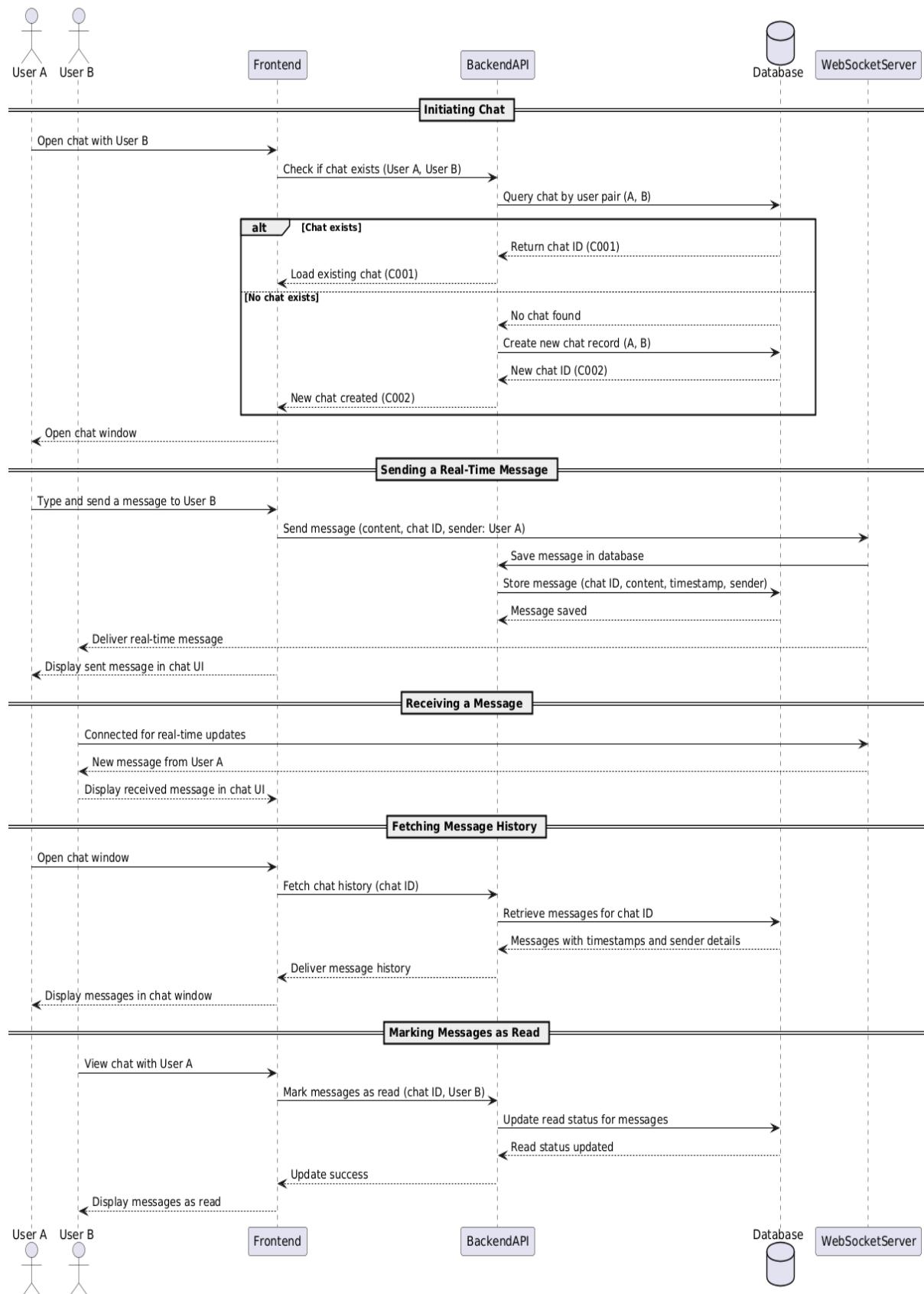
3.3.3 FAQs Module



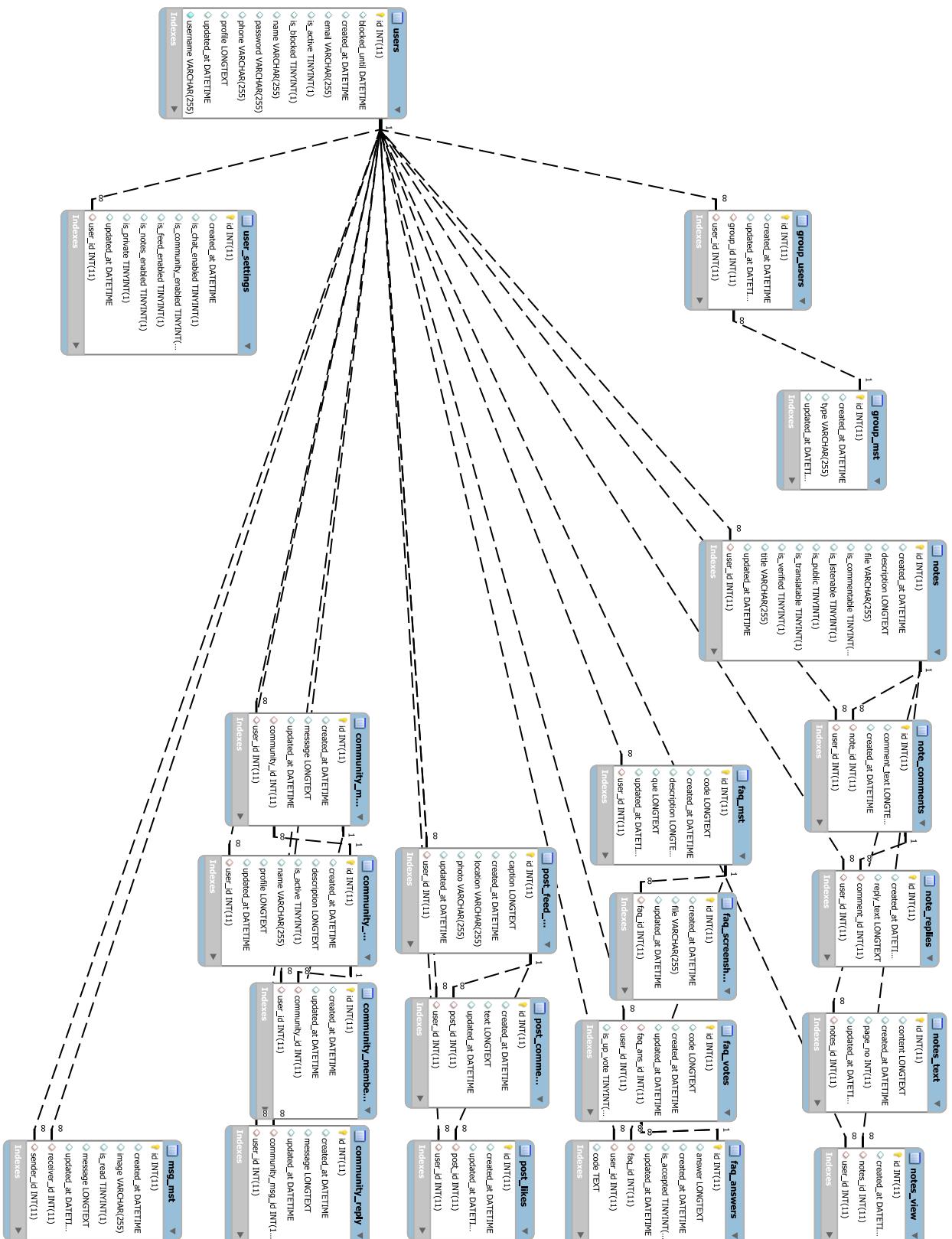
3.3.4 Communities Module



3.3.5 Chat Module



3.4 Class Diagram



3.5 Database Design

1 User

Column	Type	Attributes	Null	Default	Extra
id	int(11)		No		auto_increment
blocked_until	datetime		Yes	NULL	
created_at	datetime		Yes	NULL	
email	varchar(255)		Yes	NULL	
is_active	tinyint(1)		Yes	0	
is_blocked	tinyint(1)		Yes	0	
name	varchar(255)		Yes	NULL	
password	varchar(255)		Yes	NULL	
phone	varchar(255)		Yes	NULL	
profile	longtext		Yes	NULL	
updated_at	datetime		Yes	NULL	
username	varchar(255)		No		

2 User Settings

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
created_at	datetime		Yes	NULL		
is_chat_enabled	tinyint(1)		Yes	0		
is_community_enabled	tinyint(1)		Yes	0		
is_feed_enabled	tinyint(1)		Yes	0		
is_notes_enabled	tinyint(1)		Yes	0		
is_private	tinyint(1)		Yes	0		
updated_at	datetime		Yes	NULL		
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE CASCADE

3 Group Mst

Column	Type	Attributes	Null	Default	Extra
id	int(11)		No		auto_increment
created_at	datetime		Yes	NULL	
type	varchar(255)		Yes	NULL	
updated_at	datetime		Yes	NULL	

4 Group Users

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
created_at	datetime		Yes	NULL		
updated_at	datetime		Yes	NULL		
group_id	int(11)		Yes	NULL		-> group_mst.id ON UPDATE CASCADE ON DELETE CASCADE
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE CASCADE ON DELETE CASCADE

5 Notes

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
created_at	datetime		Yes	NULL		
description	longtext		Yes	NULL		
file	varchar(255)		Yes	NULL		
is_commentable	tinyint(1)		Yes	0		
is_listenable	tinyint(1)		Yes	0		
is_public	tinyint(1)		Yes	0		
is_translatable	tinyint(1)		Yes	0		
is_verified	tinyint(1)		Yes	0		
title	varchar(255)		Yes	NULL		
updated_at	datetime		Yes	NULL		
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT

6 Notes Text

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
content	longtext		Yes	NULL		
created_at	datetime		Yes	NULL		
page_no	int(11)		Yes	NULL		
updated_at	datetime		Yes	NULL		
notes_id	int(11)		Yes	NULL		-> notes.id ON UPDATE RESTRICT ON DELETE RESTRICT

7 Notes View

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
created_at	datetime		Yes	NULL		
notes_id	int(11)		Yes	NULL		-> notes.id ON UPDATE RESTRICT ON DELETE RESTRICT
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT

8 Notes Comments

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
comment_text	longtext		Yes	NULL		
created_at	datetime		Yes	NULL		
note_id	int(11)		Yes	NULL		-> notes.id ON UPDATE RESTRICT ON DELETE RESTRICT
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT

9 Notes Replies

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
created_at	datetime		Yes	NULL		
reply_text	longtext		Yes	NULL		
comment_id	int(11)		Yes	NULL		-> note_comments.id ON UPDATE RESTRICT ON DELETE RESTRICT
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT

10 Faq Mst

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
code	longtext		Yes	NULL		
created_at	datetime		Yes	NULL		
description	longtext		Yes	NULL		
que	longtext		Yes	NULL		
updated_at	datetime		Yes	NULL		
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT

11 Faq Screenshot

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
created_at	datetime		Yes	NULL		
file	varchar(255)		Yes	NULL		
updated_at	datetime		Yes	NULL		
faq_id	int(11)		Yes	NULL		-> faq_mst.id ON UPDATE RESTRICT ON DELETE RESTRICT

12 Faq Votes

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
code	longtext		Yes	NULL		
created_at	datetime		Yes	NULL		
updated_at	datetime		Yes	NULL		
faq_ans_id	int(11)		Yes	NULL		-> faq_answers.id ON UPDATE RESTRICT ON DELETE RESTRICT
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE CASCADE ON DELETE CASCADE
is_up_vote	tinyint(1)		Yes	NULL		

13 Faq Answers

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
answer	longtext		Yes	NULL		
created_at	datetime		Yes	NULL		
is_accepted	tinyint(1)		Yes	0		
updated_at	datetime		Yes	NULL		
faq_id	int(11)		Yes	NULL		-> faq_mst.id ON UPDATE RESTRICT ON DELETE RESTRICT
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT
code	text		Yes	NULL		

14 Post Feed Mst

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
caption	longtext		Yes	NULL		
created_at	datetime		Yes	NULL		
location	varchar(255)		Yes	NULL		
photo	varchar(255)		Yes	NULL		
updated_at	datetime		Yes	NULL		
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT

15 Post Comments

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
created_at	datetime		Yes	NULL		
text	longtext		Yes	NULL		
updated_at	datetime		Yes	NULL		
post_id	int(11)		Yes	NULL		-> post_feed_mst.id ON UPDATE RESTRICT ON DELETE RESTRICT
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT

16 Post Likes

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
created_at	datetime		Yes	NULL		
updated_at	datetime		Yes	NULL		
post_id	int(11)		Yes	NULL		-> post_feed_mst.id ON UPDATE RESTRICT ON DELETE RESTRICT
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT

17 Community Mst

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
created_at	datetime		Yes	NULL		
description	longtext		Yes	NULL		
is_active	tinyint(1)		Yes	0		
name	varchar(255)		Yes	NULL		
profile	longtext		Yes	NULL		
updated_at	datetime		Yes	NULL		
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT

18 Community Members

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
created_at	datetime		Yes	NULL		
updated_at	datetime		Yes	NULL		
community_id	int(11)		Yes	NULL		-> community_mst.id ON UPDATE RESTRICT ON DELETE RESTRICT
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT

19 Community Msg

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
created_at	datetime		Yes	NULL		
message	longtext		Yes	NULL		
updated_at	datetime		Yes	NULL		
community_id	int(11)		Yes	NULL		-> community_mst.id ON UPDATE RESTRICT ON DELETE RESTRICT
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT

20 Community Reply

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
created_at	datetime		Yes	NULL		
message	longtext		Yes	NULL		
updated_at	datetime		Yes	NULL		
community_msg_id	int(11)		Yes	NULL		-> community_msg.id ON UPDATE RESTRICT ON DELETE RESTRICT
user_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT

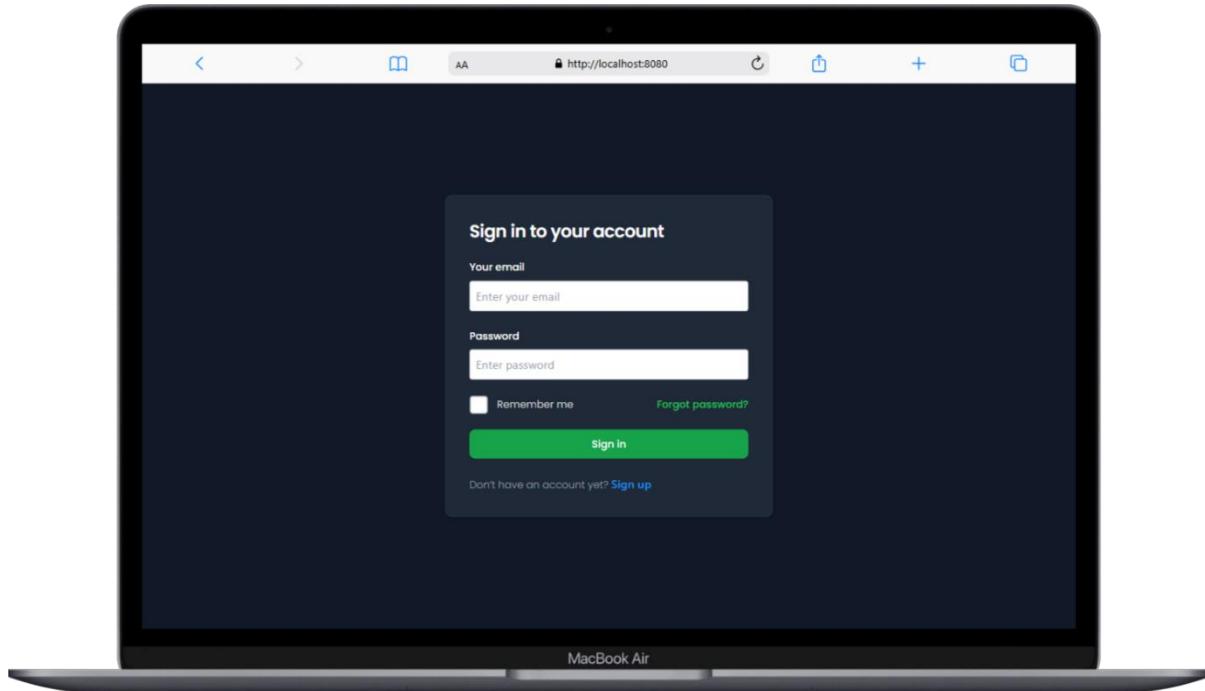
21 Msg Mst (Real – Time Chat)

Column	Type	Attributes	Null	Default	Extra	Links to
id	int(11)		No		auto_increment	
created_at	datetime		Yes	NULL		
image	varchar(255)		Yes	NULL		
is_read	tinyint(1)		Yes	0		
message	longtext		Yes	NULL		
updated_at	datetime		Yes	NULL		
receiver_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT
sender_id	int(11)		Yes	NULL		-> users.id ON UPDATE RESTRICT ON DELETE RESTRICT

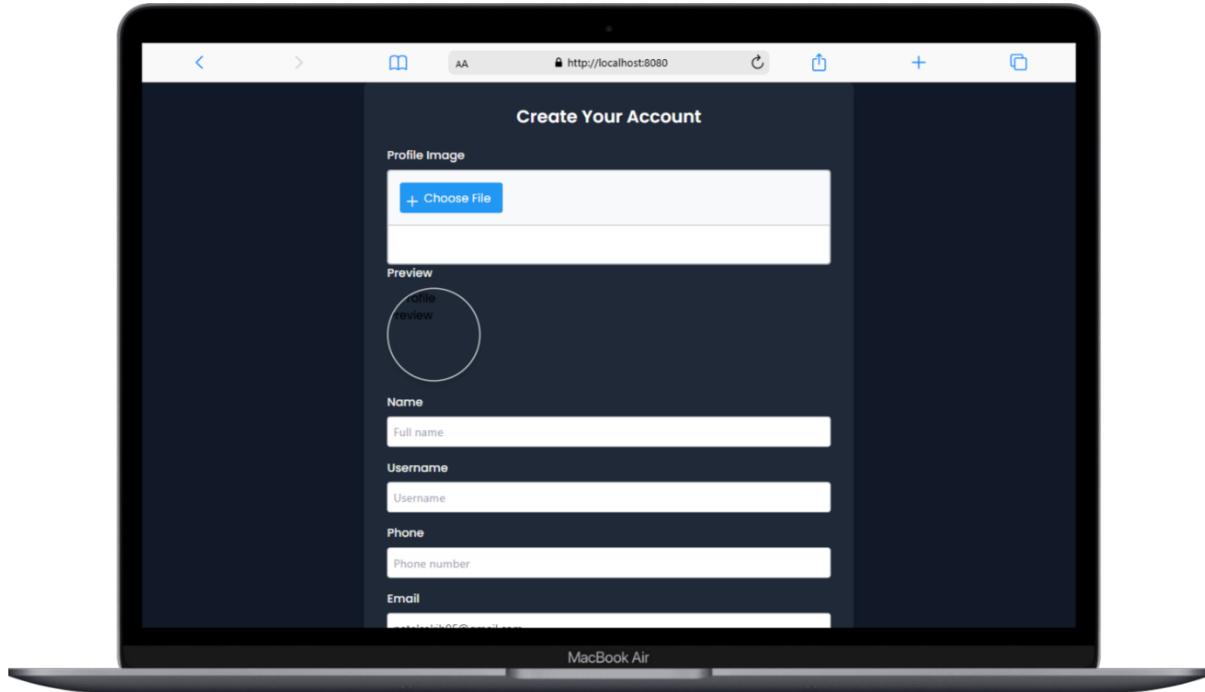
4. Interface Design

4.1 Screenshots

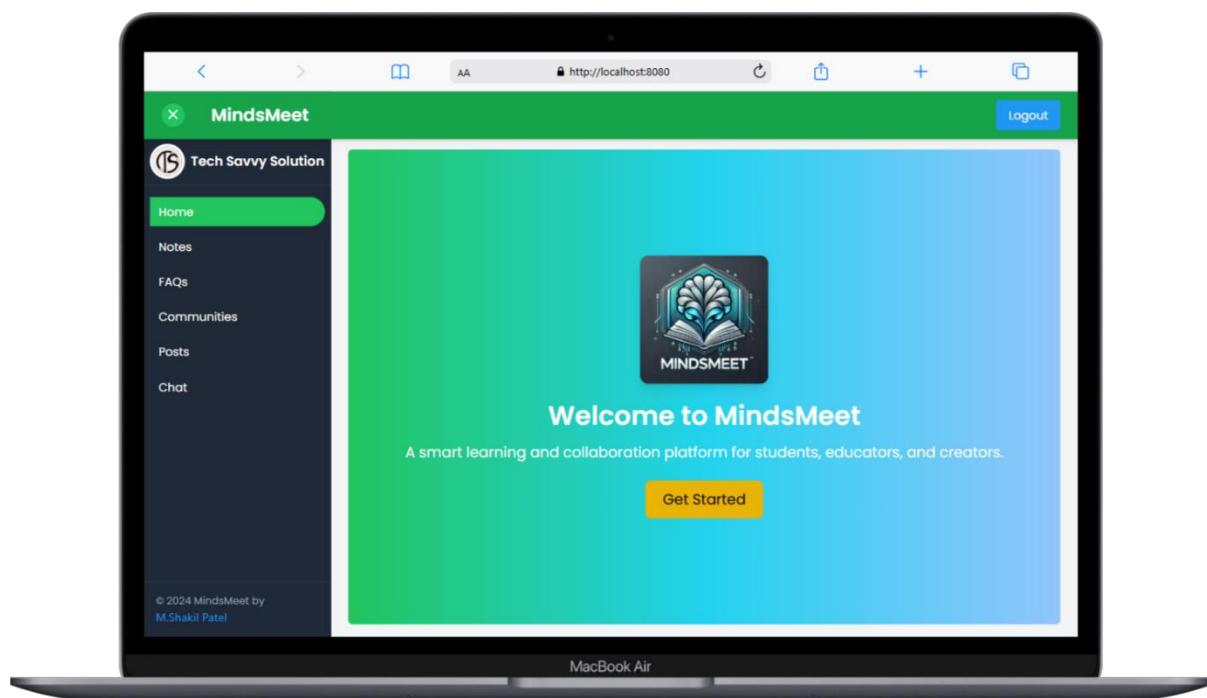
1 - Login



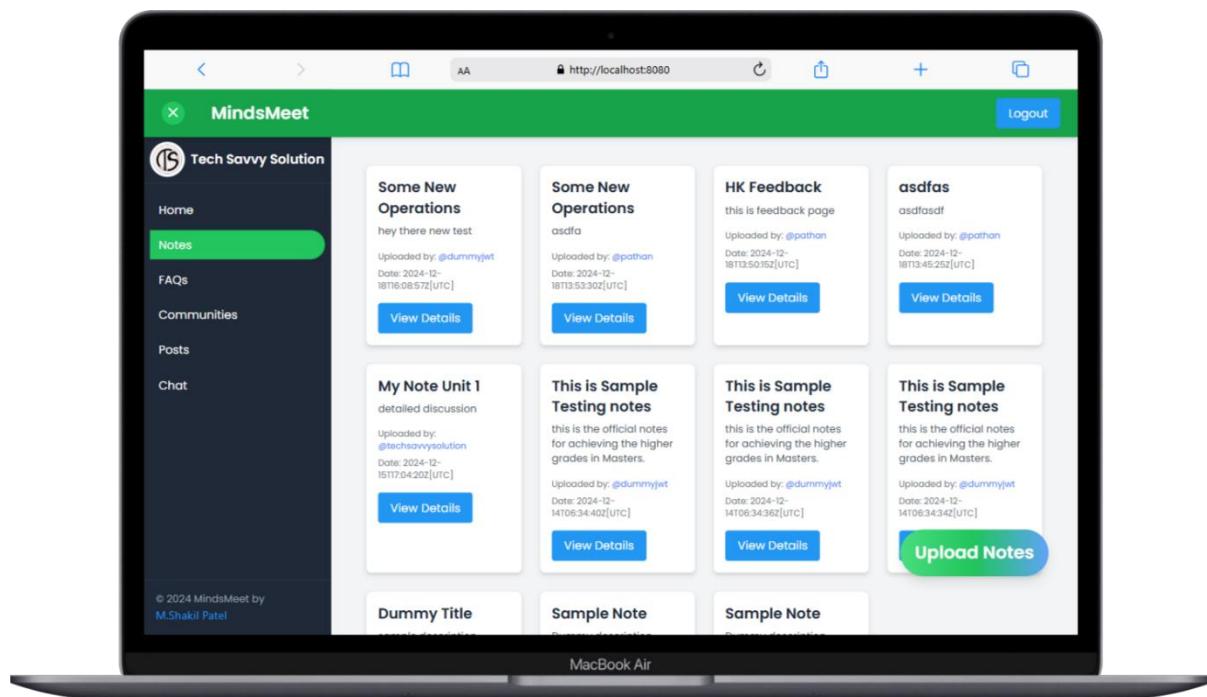
2 – Signup



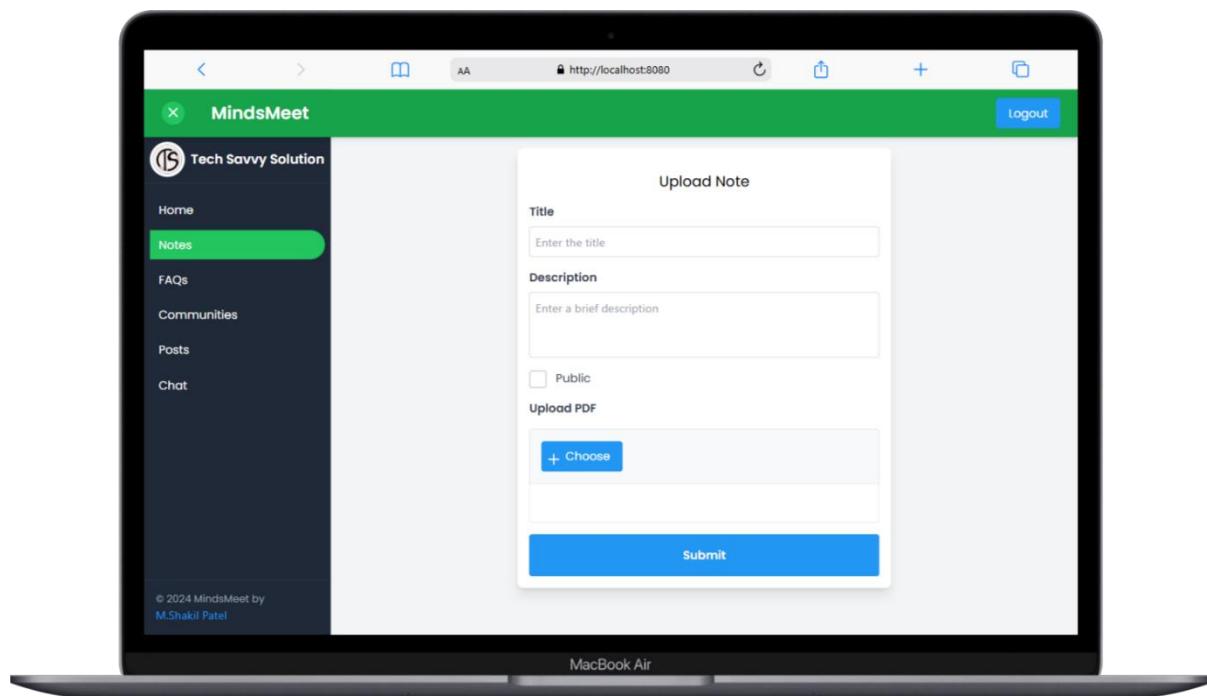
3 – User Home



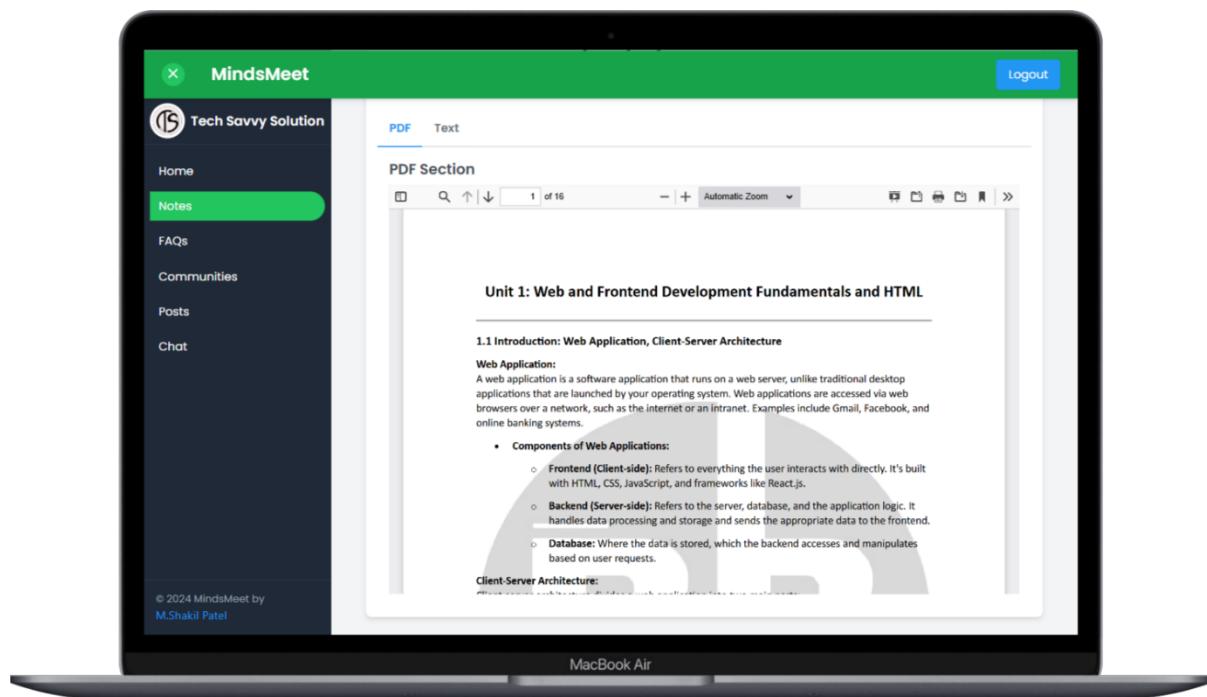
4 – Notes



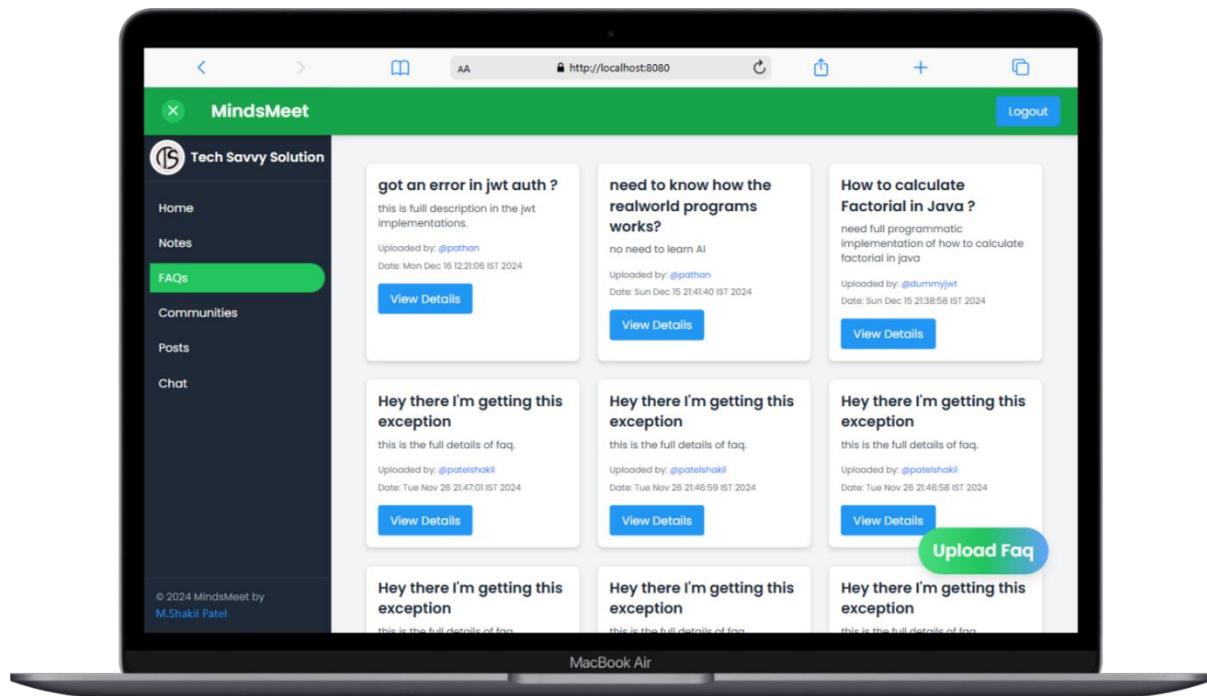
5 – Upload Notes



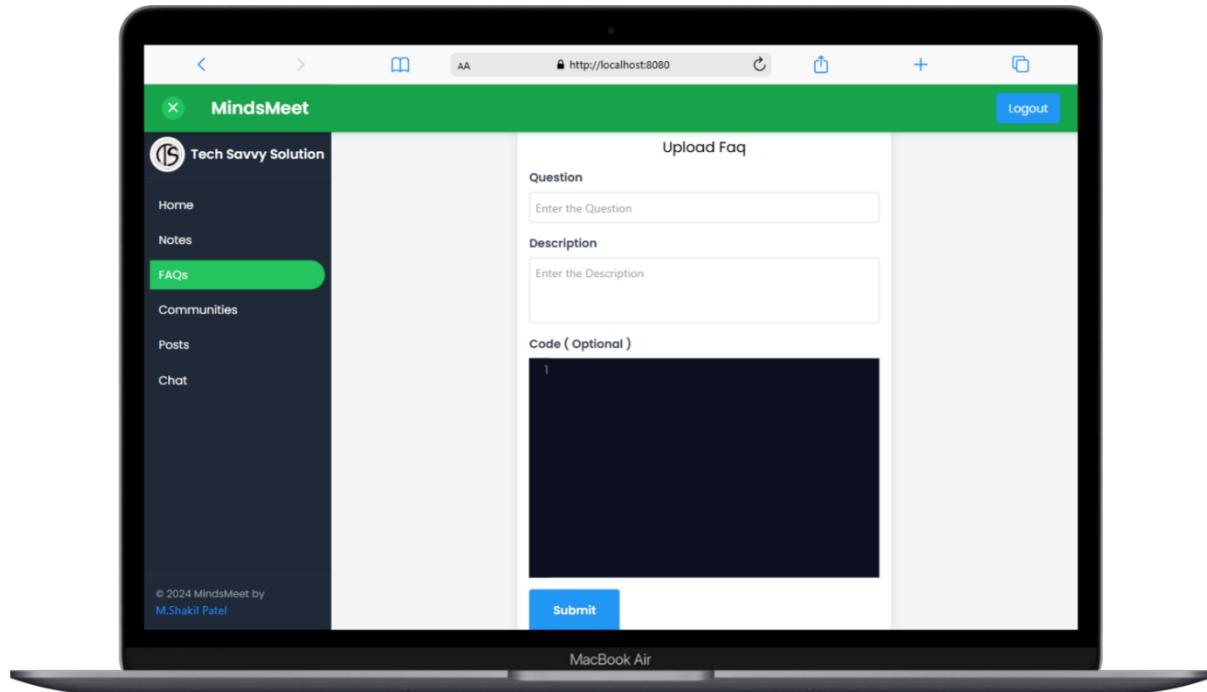
6 – View Notes PDF



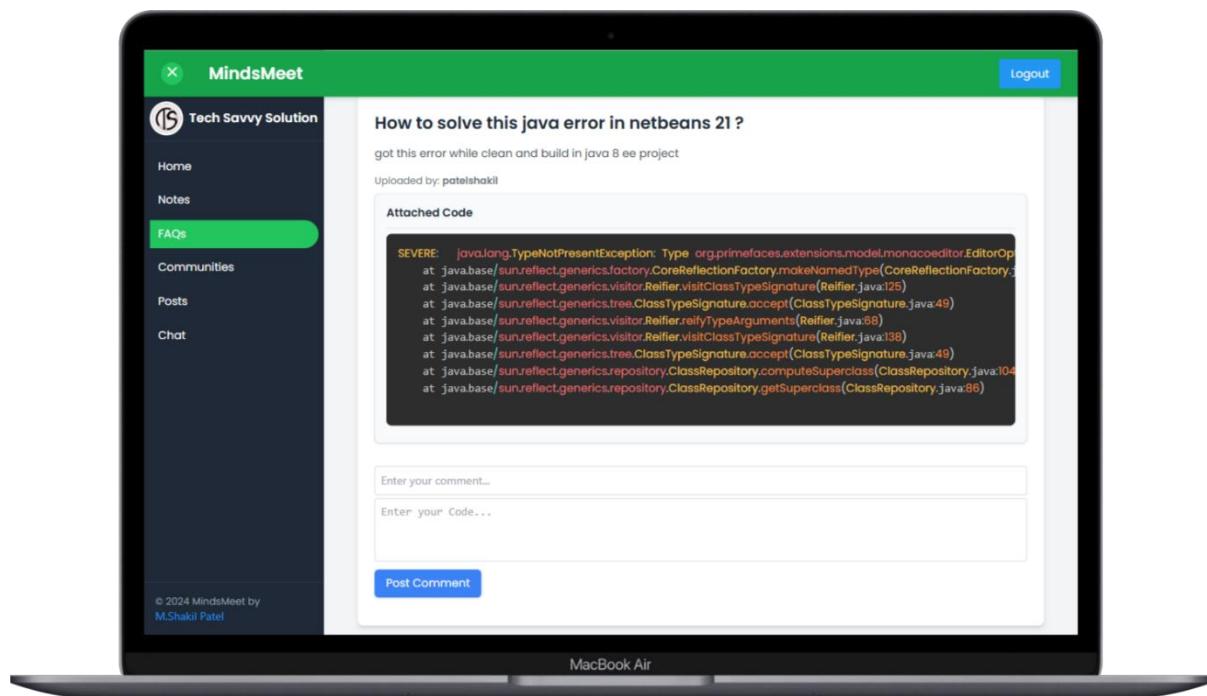
7 – FAQs



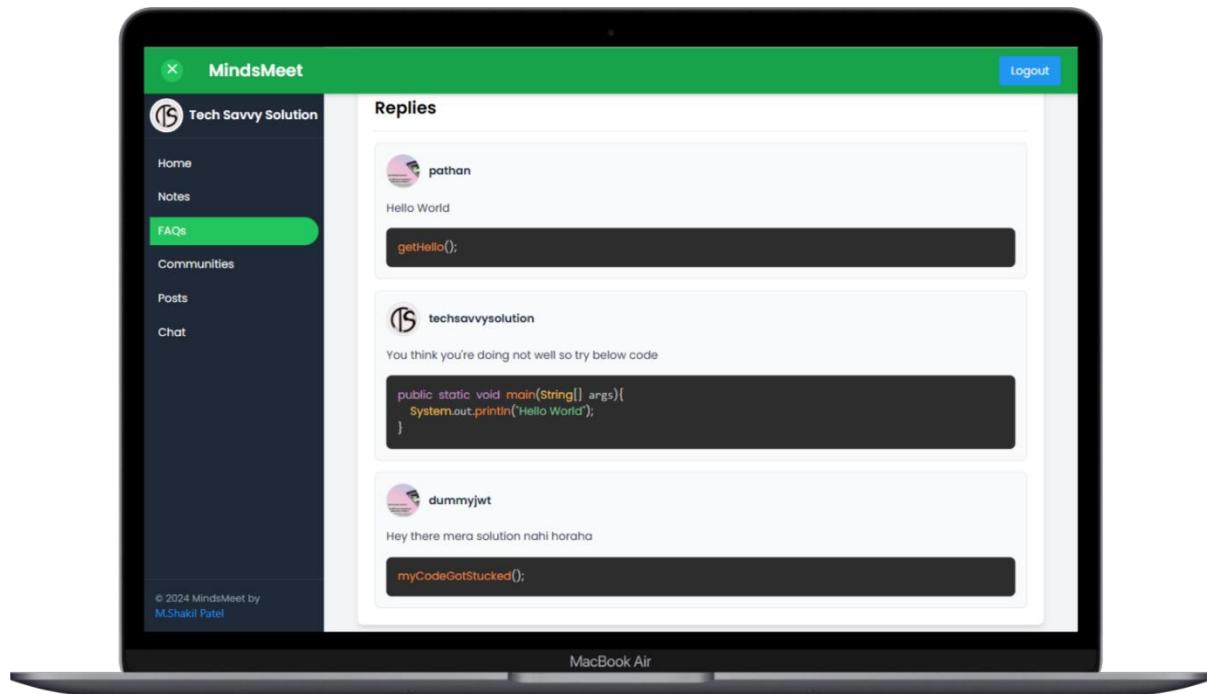
8 – Upload FAQs



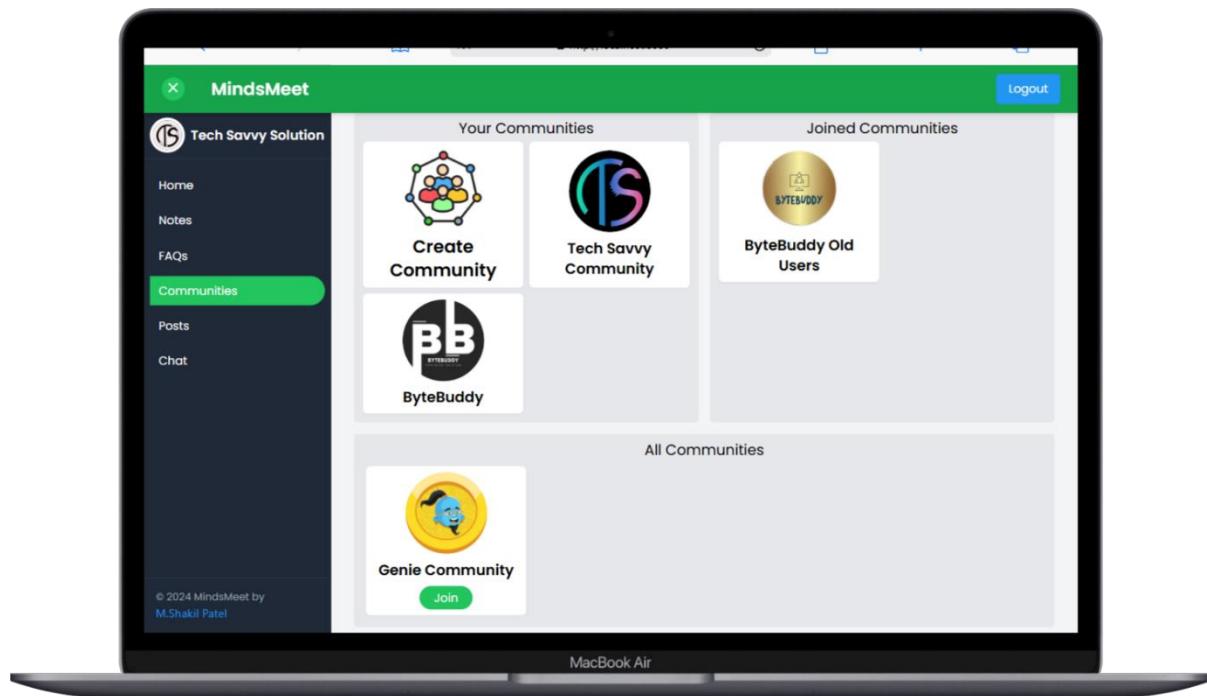
9 – FAQs Details



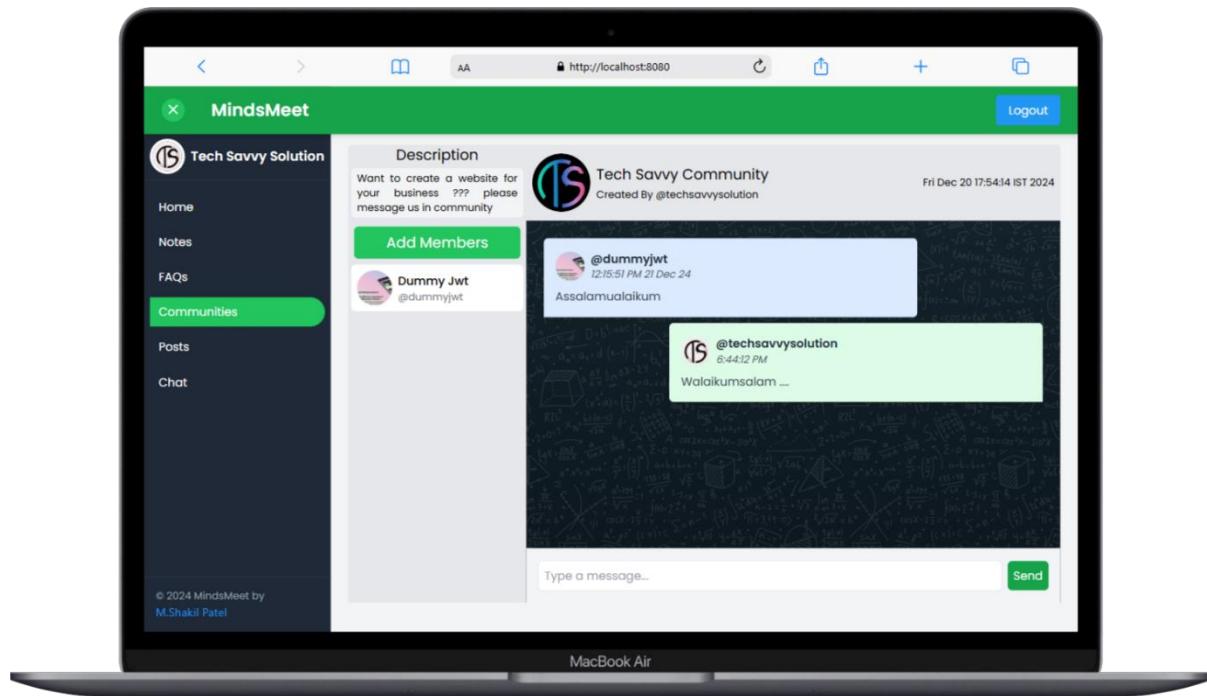
10 – FAQs Replies



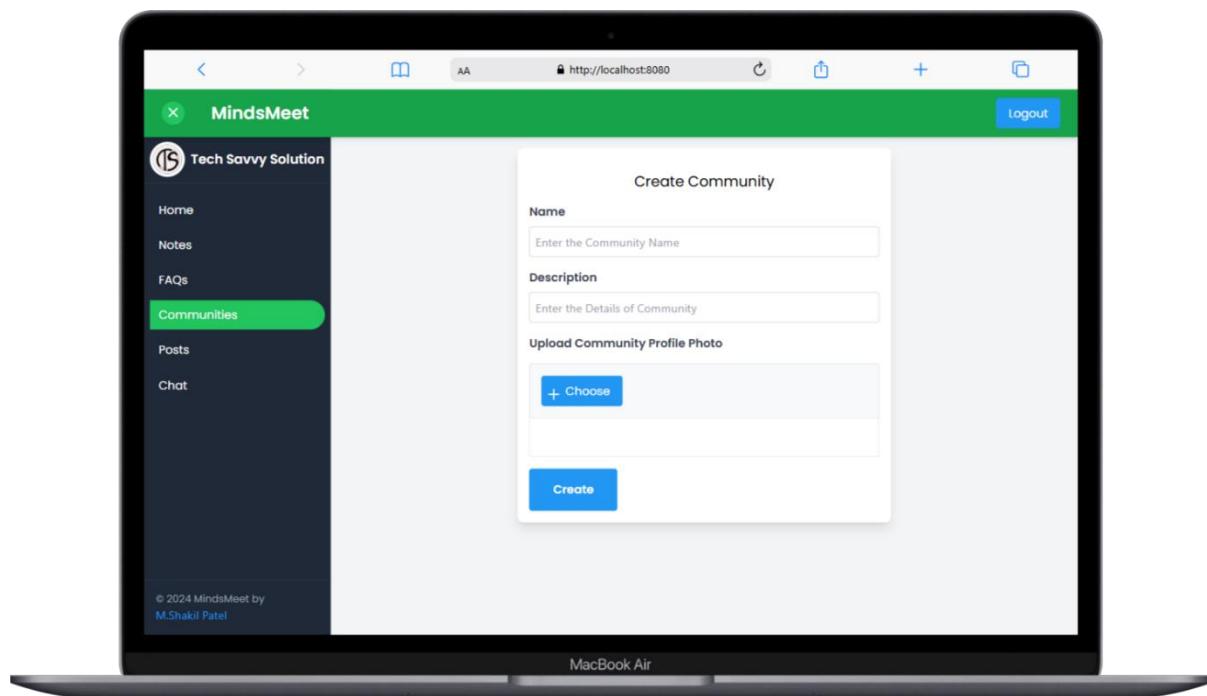
11 – Communities



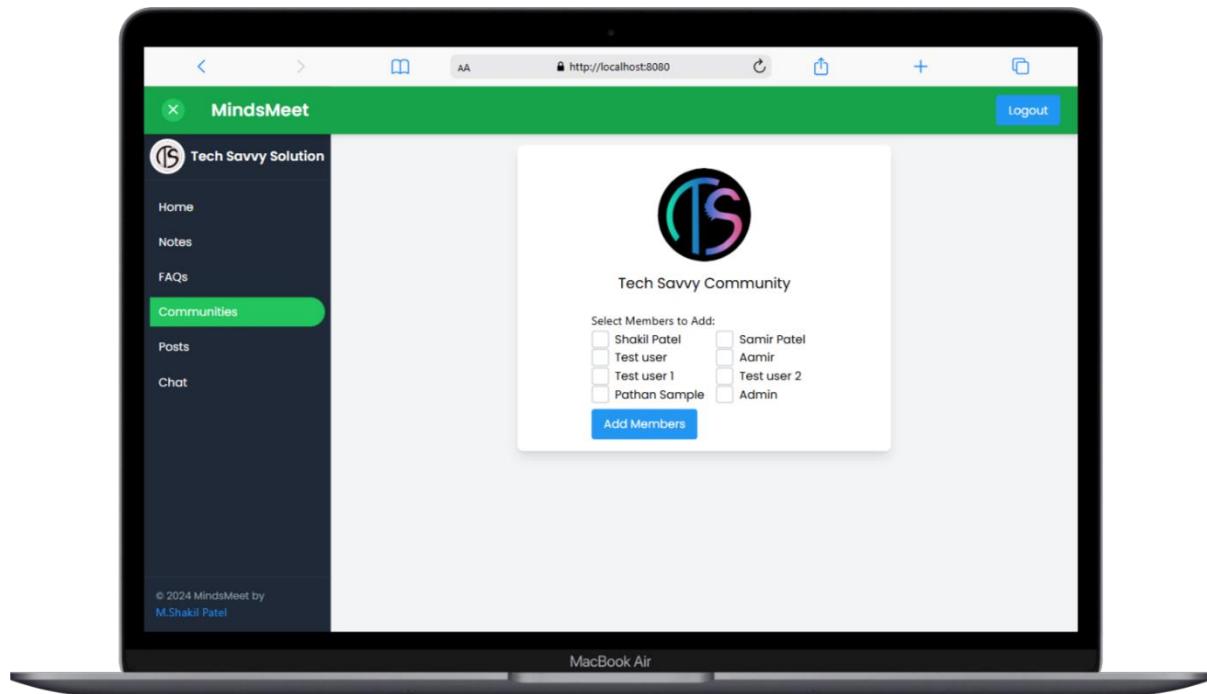
12 – Communities Messages



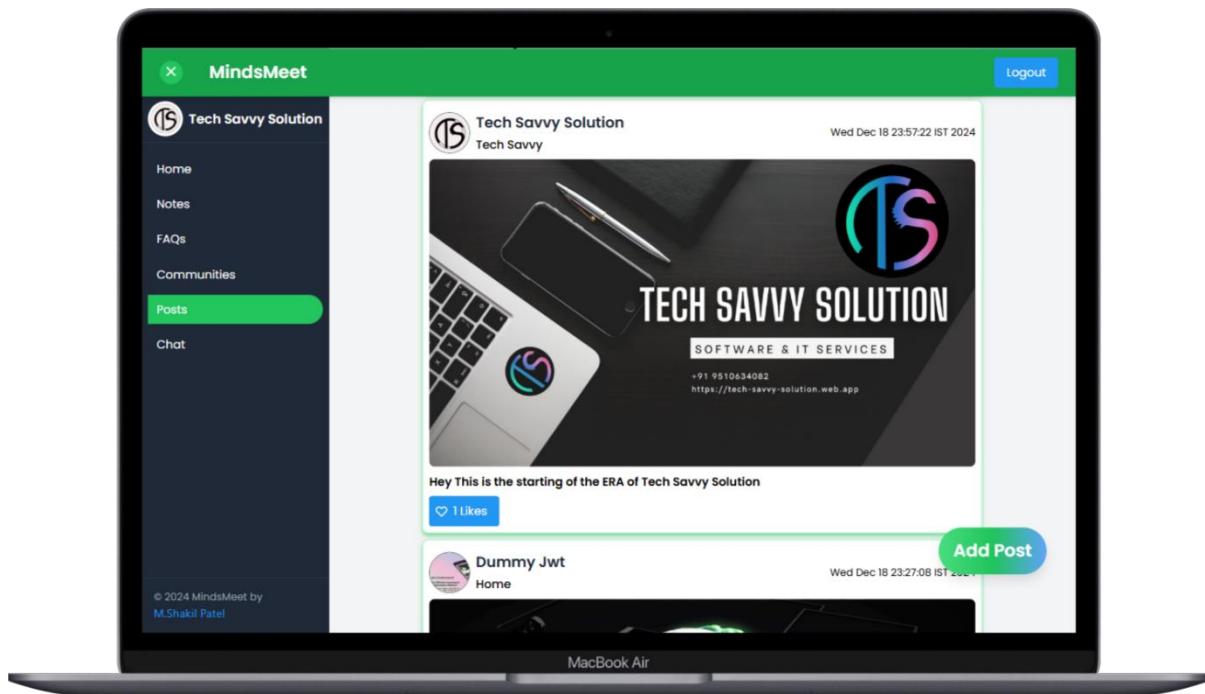
13 – Create Community



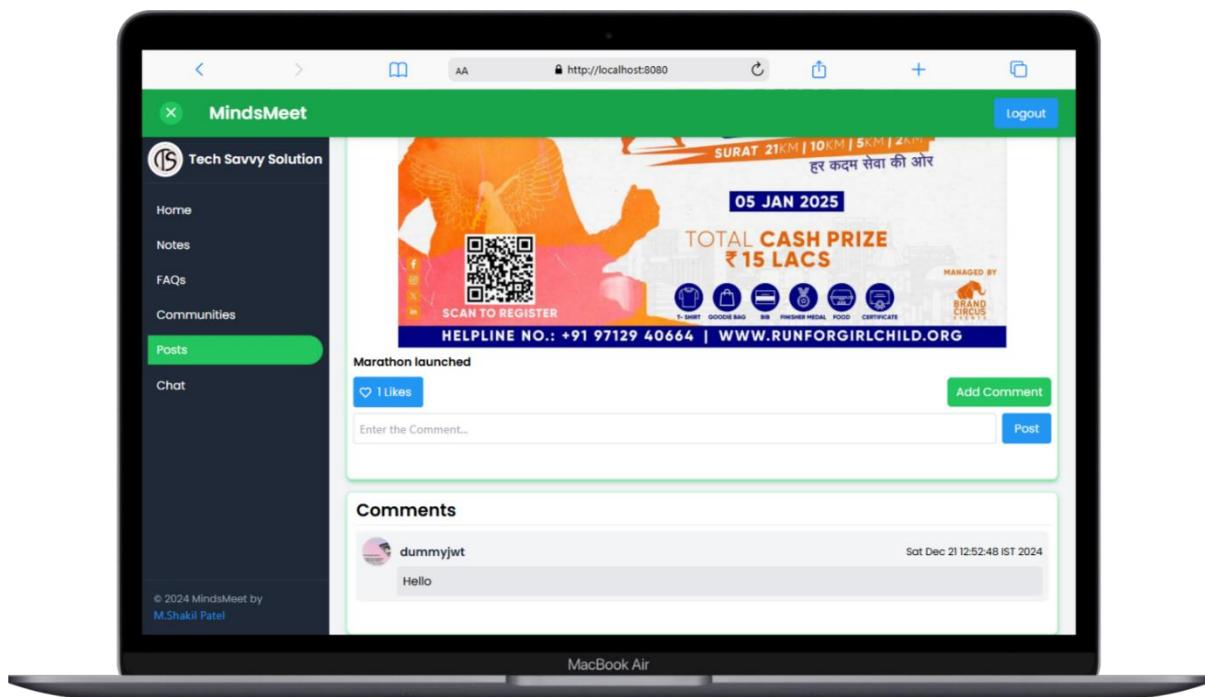
14 – Add Community Member



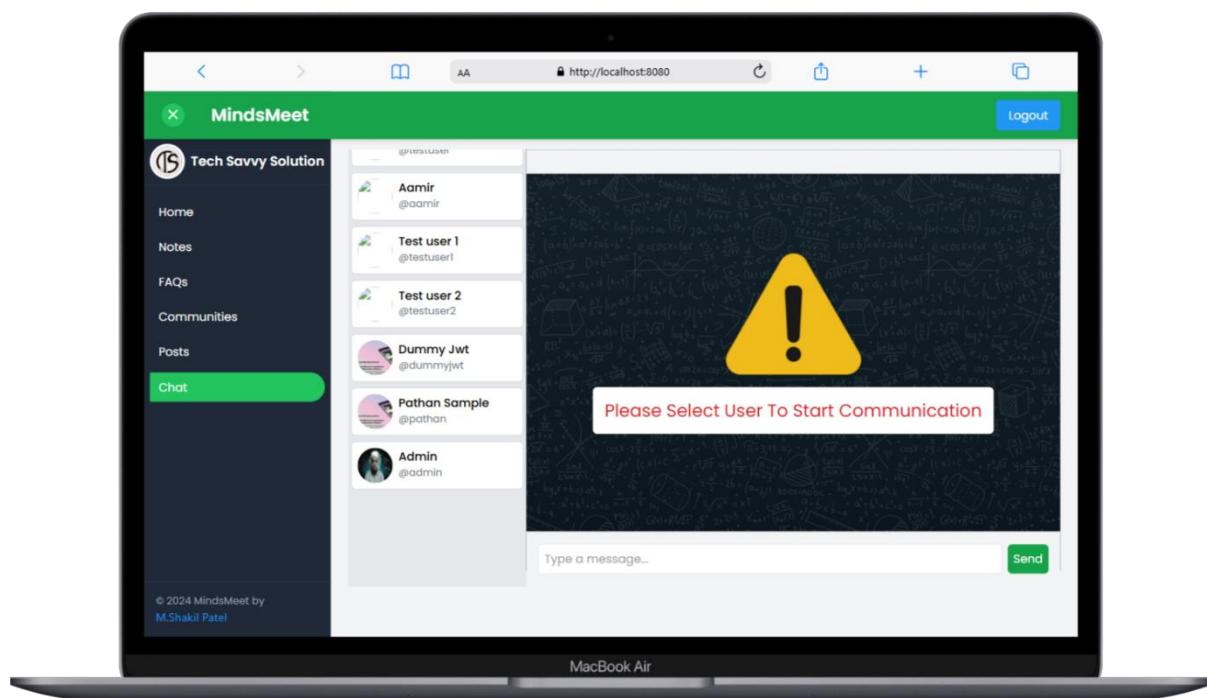
15 – Posts



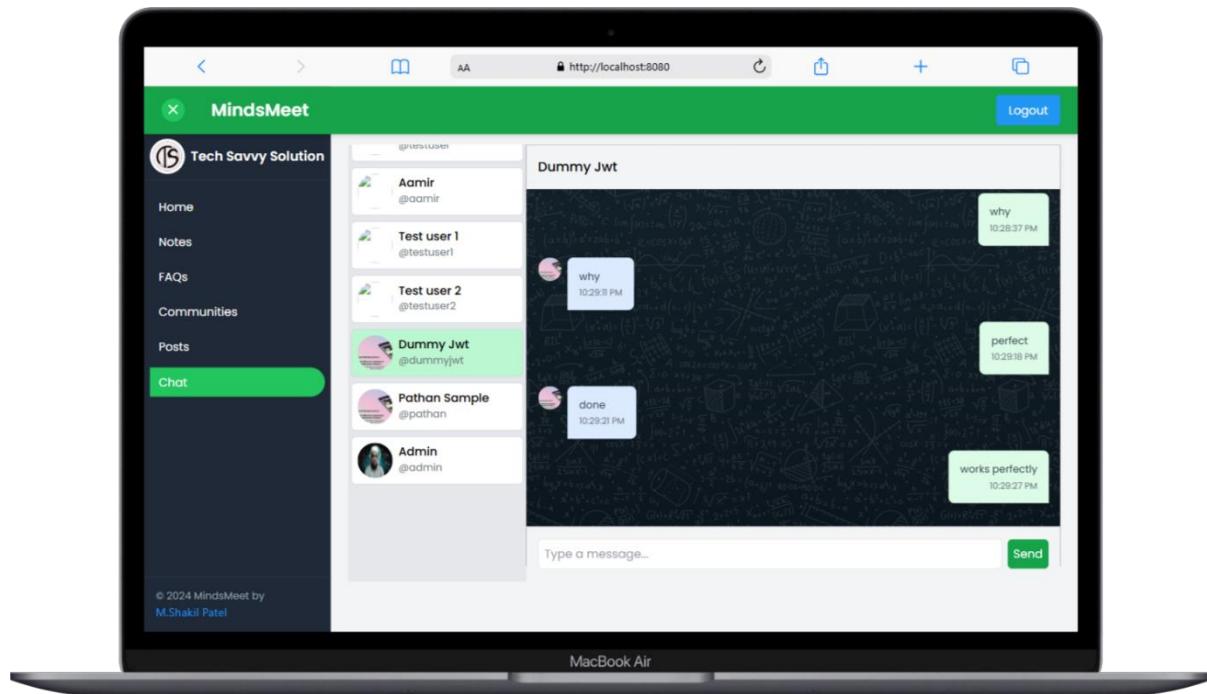
16 – Posts Comments



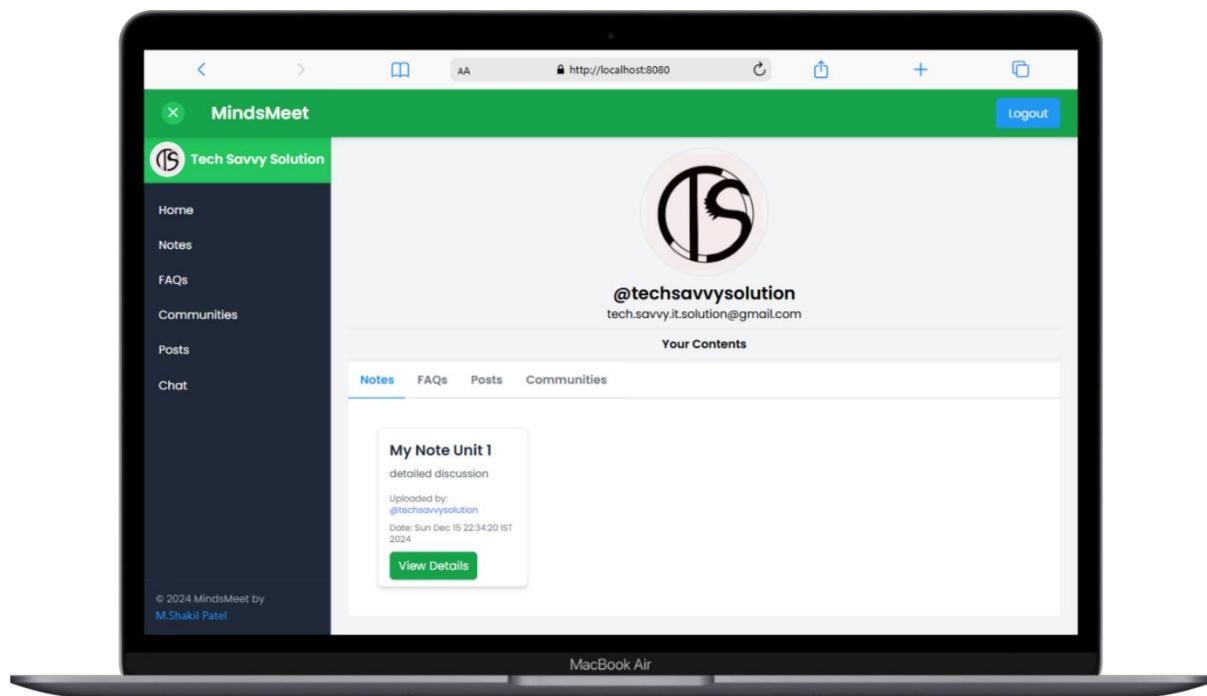
17 – Chats Home



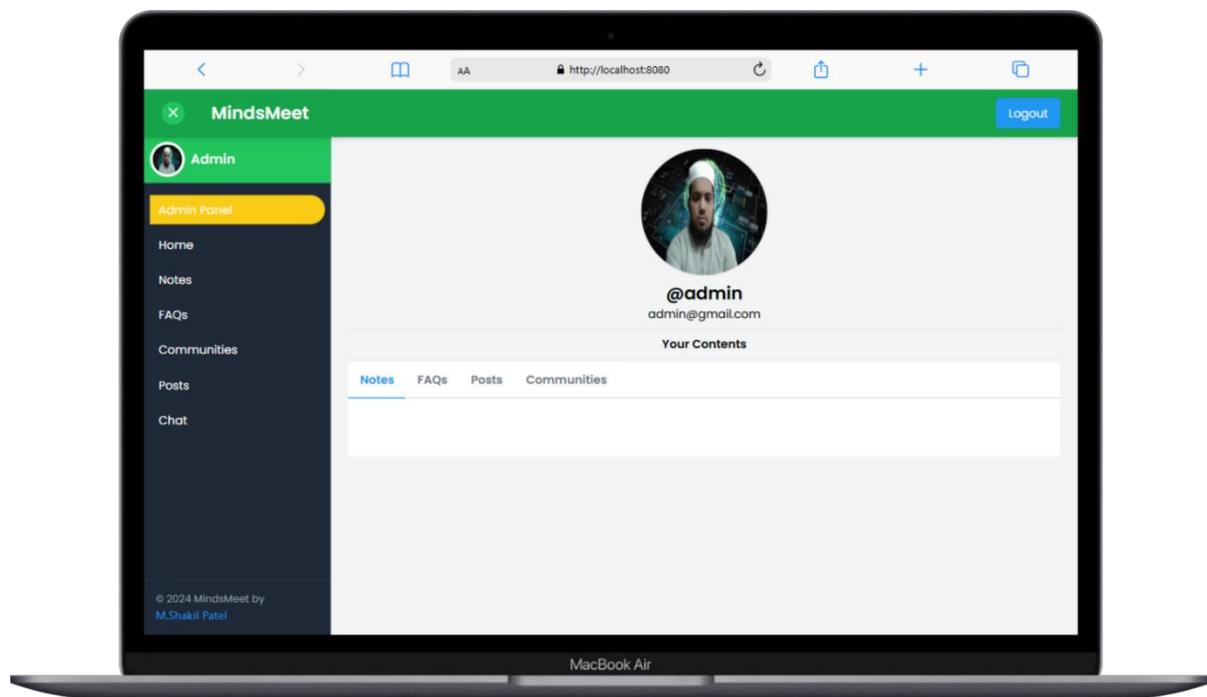
18 – Chats Details



19 – My Profile



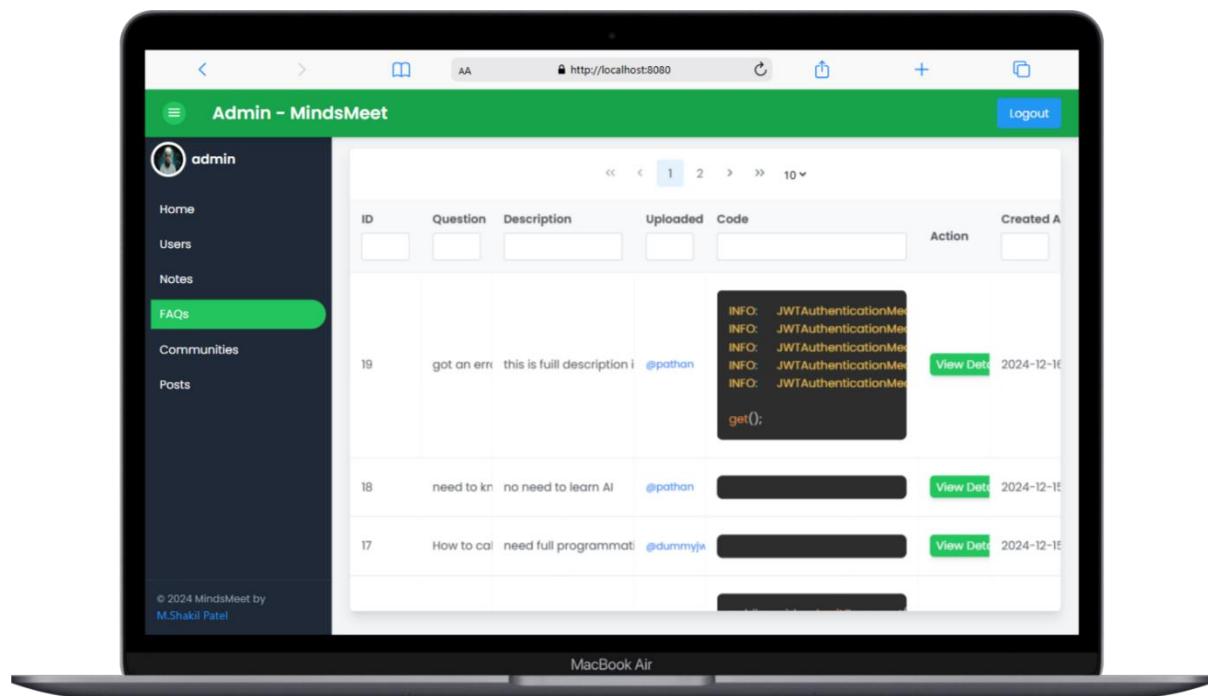
20 – Admin Home



21 – Admin Users

22 – Admin Notes

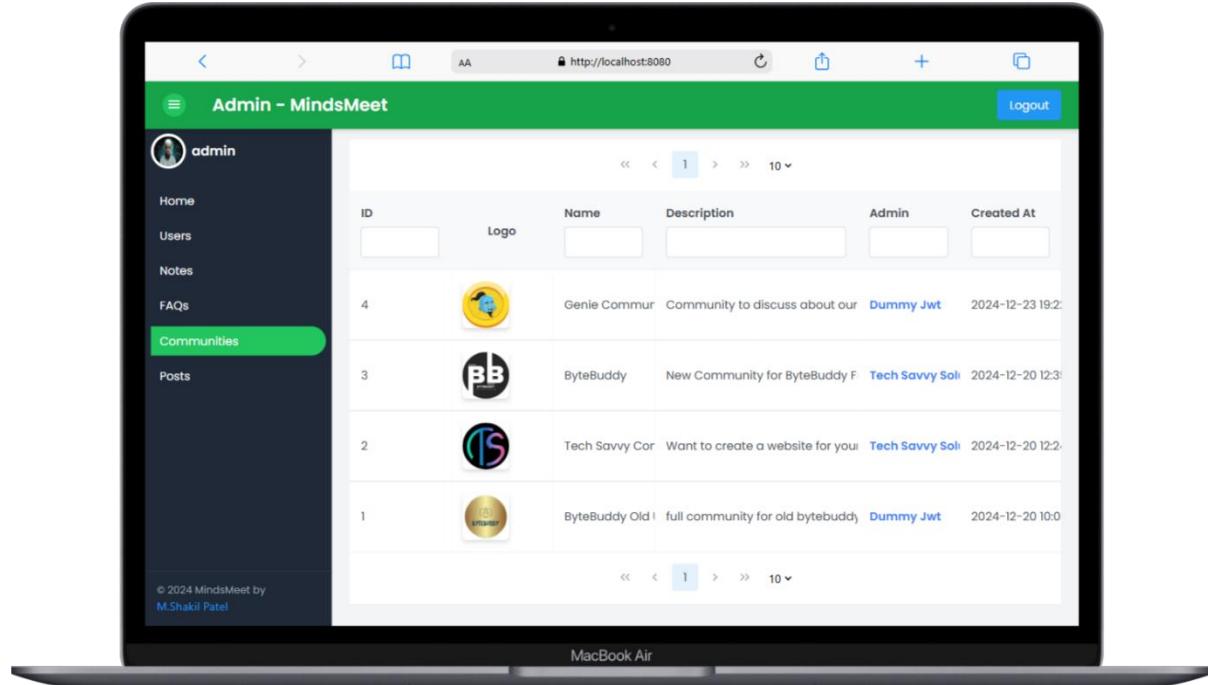
23 – Admin FAQs



The screenshot shows the MindsMeet Admin interface on a MacBook Air. The left sidebar has a dark theme with white text and icons. The 'FAQs' option is selected and highlighted in green. The main content area displays a table of frequently asked questions. The columns are labeled: ID, Question, Description, Uploaded, Code, and Action. There are three rows of data:

ID	Question	Description	Uploaded	Code	Action	Created At
19	got an error this is full description i	@pathan		INFO: JWTAuthenticationMe... INFO: JWTAuthenticationMe... INFO: JWTAuthenticationMe... INFO: JWTAuthenticationMe... INFO: JWTAuthenticationMe...	View Det	2024-12-16
18	need to kn no need to learn AI	@pathan			View Det	2024-12-16
17	How to call need full programmati	@dummyjs			View Det	2024-12-16

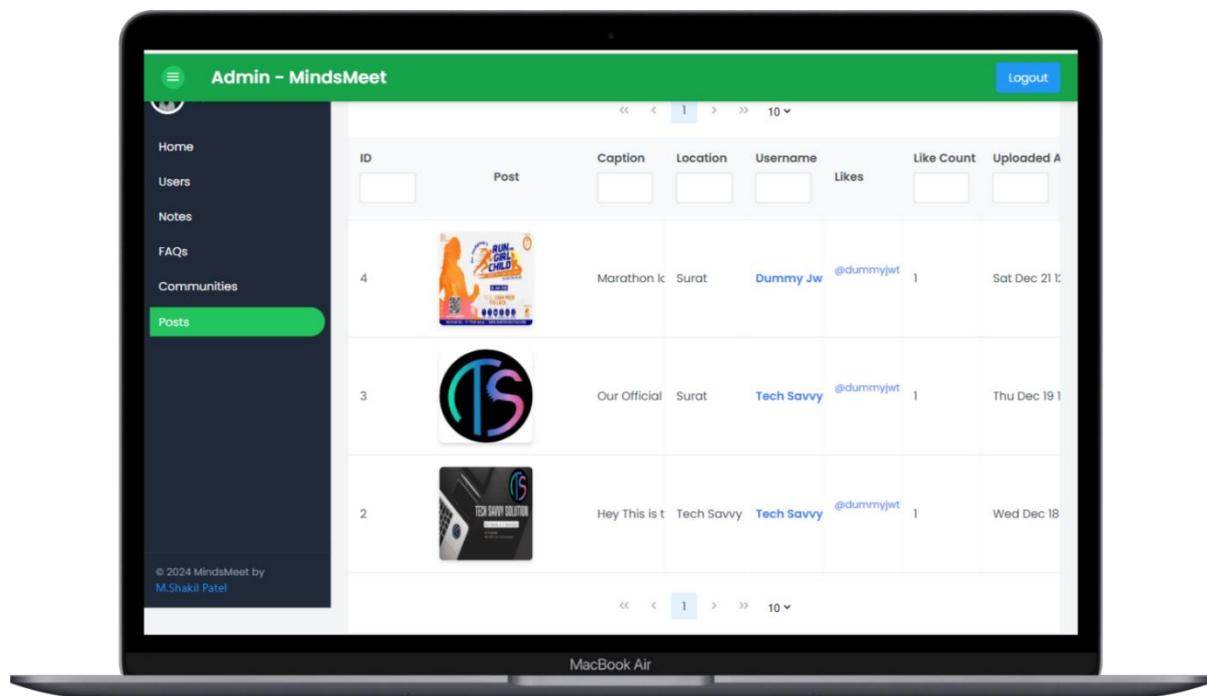
24 – Admin Communities



The screenshot shows the MindsMeet Admin interface on a MacBook Air. The left sidebar has a dark theme with white text and icons. The 'Communities' option is selected and highlighted in green. The main content area displays a table of communities. The columns are labeled: ID, Logo, Name, Description, Admin, and Created At. There are four rows of data:

ID	Logo	Name	Description	Admin	Created At
4		Genie Commu	Community to discuss about our	Dummy Jwt	2024-12-23 19:2
3		ByteBuddy	New Community for ByteBuddy F	Tech Savvy Soli	2024-12-20 12:3
2		Tech Savvy Cor	Want to create a website for you!	Tech Savvy Soli	2024-12-20 12:2
1		ByteBuddy Old	full community for old bytebuddy	Dummy Jwt	2024-12-20 10:0

25 – Admin Posts



5. Testing

5.1 Test Cases and Results

Test Case ID	Test Scenario	Steps to Execute	Expected Result	Actual Result	Status
TC001	User Registration: Successful registration with valid details	1. Open the registration page. 2. Fill in valid details. 3. Submit the form.	User account is created, and a success message is displayed.	Pass	✓
TC002	User Registration: Error for invalid email format	1. Enter an invalid email format. 2. Submit the form.	Error message: "Invalid email address."	Pass	✓
TC003	Login: Successful login with correct credentials	1. Enter valid username and password. 2. Click "Login."	User is redirected to the dashboard.	Pass	✓
TC004	Login: Blocked user cannot log in	1. Attempt to log in with a blocked user account.	Error message: "Your account is blocked."	Pass	✓
TC005	Notes Upload: Successful upload of a valid file	1. Log in as a user. 2. Navigate to "Upload Notes." 3. Select a valid file. 4. Submit.	File is uploaded successfully, and a success message appears.	Pass	✓
TC006	Notes Verification: Admin approval	1. Log in as admin. 2. Review a submitted note. 3. Approve the note.	The note's status changes to "Approved."	Pass	✓
TC007	Community Interaction: Comment on a note	1. Log in as a user. 2. Open a public note. 3. Post a comment.	The comment is added and visible.	Pass	✓

TC008	Real-Time Notification: Notify user of a reply to their comment	1. User A comments on a note. 2. User B replies to User A's comment.	User A receives a notification about the reply.	Pass	✓
TC009	Settings: User toggles privacy settings	1. Navigate to "Settings." 2. Change privacy settings. 3. Save changes.	Settings are saved, and a confirmation message appears.	Pass	✓
TC010	Chat Module: Send a message successfully	1. Log in. 2. Open a chat. 3. Type a message and send it.	The message is sent and appears in the chat.	Pass	✓

6. Conclusion

6.1 Summary of Findings

The **MindsMeet project** has been successfully developed as a comprehensive Learning Management and Student Collaboration System, incorporating features like note-sharing, a FAQ module, community engagement, and optional real-time chats. The project met all the specified requirements, as verified during the testing phase, where the system demonstrated robust functionality, seamless user interactions, and scalability.

Key accomplishments include:

- Effective user registration and authentication mechanisms.
- Secure and user-friendly note-uploading and verification processes.
- Community modules enabling meaningful interactions and discussions.
- A modular design that facilitates future enhancements and additional features.
- Real-time notifications, privacy management, and a responsive interface ensuring an optimal user experience.

6.2 Lessons Learned

The project provided several learning opportunities that contributed to professional and technical growth:

1. **Enhanced Understanding of System Design:** Working on detailed diagrams such as ERDs, use case, and class diagrams deepened knowledge of system architecture.
2. **Importance of Iterative Testing:** Conducting detailed test cases underscored the value of rigorous testing for building a reliable system.
3. **Database Optimization:** Developing a robust and scalable database structure taught key lessons in normalization and query efficiency.
4. **User-Centric Development:** Focusing on seamless user experience highlighted the importance of continuous feedback and iterative design.
5. **Team Collaboration:** Effective collaboration between team members and stakeholders ensured timely delivery and alignment with project goals.

7. Bibliography

This section provides a list of all the references, tools, technologies, frameworks, and resources that were used during the development of the ***MindsMeet*** project. Proper citation acknowledges the sources that contributed to the successful implementation of the project.

Books and Articles

1. "**Database System Concepts**" by Abraham Silberschatz, Henry F. Korth, and S. Sudarshan
 - o For database normalization and schema design techniques.
2. "**Java: The Complete Reference**" by Herbert Schildt
 - o For guidance on Java programming concepts and best practices.
3. "**Software Engineering: A Practitioner's Approach**" by Roger S. Pressman
 - o For methodologies in system design and software development lifecycle (SDLC).

Web Resources

1. **Stack Overflow:**
 - o For resolving programming challenges and enhancing functionality.
 - o URL: <https://stackoverflow.com>
2. **Oracle Java Documentation:**
 - o For detailed insights on Java development and best practices.
 - o URL: <https://docs.oracle.com/javase>
3. **MySQL Documentation:**
 - o For database schema optimization and SQL query examples.
 - o URL: <https://dev.mysql.com/doc>
4. **W3Schools and GeeksforGeeks:**
 - o For additional programming references and design ideas.
 - o URLs:
 - <https://www.w3schools.com>
 - <https://www.geeksforgeeks.org>

Tools and Technologies

1. **Java:** Primary programming language for system development.
2. **MySQL:** Database system for storing and managing project data.
3. **Apache Tomcat:** Server for deploying the web application.
4. **NetBeans IDE:** Integrated development environment used for coding and debugging.
5. **Lucidchart:** Tool for creating system diagrams such as ERDs and Use Case Diagrams.
6. **Postman:** For testing and validating APIs during development.

Other Resources

1. **Educational Videos:**
 - YouTube channels like CodeWithHarry and TechLead for tutorials on advanced concepts.
2. **Community Contributions:**
 - Feedback and suggestions from peers and mentors during project development.

--- Thank You ---