In-Scope Document for StudyMate

Project Title:

StudyMate - Collaborative Learning Platform for Students

Project Overview:

StudyMate is a web application designed to enhance academic collaboration among students by providing essential tools for peer tutoring, study group formation, and class notes sharing. The application aims to simplify the process of finding peer support, organizing study groups, and accessing quality study materials, ultimately improving students' academic performance and reducing stress.

Objectives:

- To create a platform where students can easily find and connect with peer tutors.

- To facilitate the formation and management of study groups.

- To provide a repository for sharing and accessing class notes.

Key Features and Functionalities:

1. User Authentication:

- Simple registration and login system using email/password authentication.

2. User Profiles:

- Students can create profiles indicating subjects they can tutor and subjects they need help with.

3. Peer Tutoring Platform:

-Matching System: Basic algorithm to match students needing help with available tutors based on subjects.

- Scheduling: Calendar view to arrange and manage tutoring sessions with email notifications and reminders.

4. Study Group Finder:

- Group Creation: Students can create study groups for specific subjects or exams.

- Join Groups: Students can search for and join existing study groups.

- Message Board: Each study group has a message board for asynchronous communication and coordination.

- Event Scheduling: Tools to schedule group study sessions, with calendar integration and notifications.

5. Class Notes Sharing:

- Upload and Share Notes: Students can upload notes organized by subject.

- Search and Filter: Basic search functionality to find specific notes or filter by subject.

Implementation Plan:

1. Database Design:

- Store user profiles, study groups, notes, messages, and scheduled events using a relational database like SQLite.

2. User Interface:

- Develop a user-friendly interface using HTML, CSS, and basic JavaScript.

- Separate views for user profiles, study groups, and notes sharing.

3. Backend Development:

- Use Python with Flask to handle user requests, manage the database, and implement business logic.

- Develop APIs for basic CRUD operations.

4. Feature Development:

- Peer Tutoring: Implement forms, matching algorithm, and scheduling calendar.

- Study Groups: Design interfaces for creating and joining groups, implement message boards and scheduling.

- Notes Sharing: Implement file upload functionality and basic search.

5. Notifications:

- Set up basic email notifications for tutoring sessions and study group meetings.

6. Testing and Deployment:

- Test all features to ensure they function correctly.

- Deploy the application on a hosting service like Heroku or Netlify.

Out of Scope:

- Real-time chat functionality.

- Advanced matching algorithms for peer tutoring.

- Detailed analytics or performance tracking.

- Mobile application development.

Summary:

StudyMate aims to provide essential tools for academic collaboration in a simple and user-friendly web application. By focusing on core features like peer tutoring, study groups, and notes sharing, the project remains manageable and achievable within the defined timeline and scope.

Steps and Flow of StudyMate Program

1. User Registration/Log In:

- User registers: Enters personal details (name, email, password).

- System validates: Checks for existing account and validates inputs.

- Account creation:Stores user details in the database.

- User logs in: Enters email and password.

- System authenticates: Verifies credentials and grants access.

2. User Dashboard:

- Profile setup: User completes profile with subjects for tutoring and help.

- Dashboard overview: User sees options for peer tutoring, study groups, and notes sharing.

3. Peer Tutoring:

- Search for tutors: User searches for available tutors by subject.

- Matching: System matches user with available tutors based on profile.

- Schedule session: User and tutor agree on a time and schedule it through the calendar.

- Session confirmation: System sends confirmation and reminders.

4. Study Groups:

- Create/Join group: User creates a new group or joins an existing one.

- Group management: User manages group members and schedules study sessions.

- Message board: Group members communicate asynchronously via a message board.

5. Class Notes Sharing:

- Upload notes: User uploads notes categorized by subject.

- Search notes: User searches for notes by subject or keywords.

- Access notes: User downloads or views notes online.