Project Proposal

Home Harmony - Roommate Finder & Management System

Section - 8
Group Number - 3

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Home Harmony - Roommate Finder & Management System

Our project aims to develop a web application that helps bachelors find suitable rooms and compatible roommates based on their preferences. In addition, the application will function as a roommate management system, enabling users living under the same roof to efficiently manage shared responsibilities such as daily expenses and household chores.

Project Rationale

Background

- In a densely populated city like Dhaka, it is often challenging for bachelors to find rooms or roommates that match their preferences, as well as to manage the day-to-day expenses of shared households.

- The project aims to address a clear gap in the market for bachelors seeking suitable rooms and compatible roommates.

- It will provide a platform for finding rooms and managing shared household responsibilities, which is currently lacking.

- It addresses the challenges bachelors face in finding suitable accommodations and managing daily expenses efficiently.

Scope

- The project seeks to address the challenge of finding suitable rooms and compatible roommates for bachelors.

- It provides a platform for locating rooms and managing shared household responsibilities, which is currently lacking.

- It helps bachelors overcome difficulties in finding accommodations and managing daily expenses efficiently.

Project Objectives

The objectives of this project is to simplify the way to find rooms and roommates for potential tenants, easier roommate compatibility, simple way to post room listings for home owners and easier way to manage and divide room utility bills and chores division for roommates.

Project Approach

- We are using the MERN stack for the project.

- The MERN stack and building a project using the MVC architecture is relatively new for our team and thus may cause time management challenges.

Requirements

Requirement No.	Requirement
1	As a User, I want to be able to create and manage my personal profile so that others can understand my lifestyle and preferences.
	Feature 1: The system will provide a "Create Profile" interface where users input personal details and lifestyle habits.
	Feature 2: The system will allow users to upload a profile picture which is displayed on their cards and the navigation bar.
	Feature 3: The system will provide a "View Profile" page where other users can see a specific user's traits and dealbreakers.
	Feature 4: The system will allow users to Edit and Update their profile information, including personal details, hobbies, and lifestyle habits.
2	As a Room Seeker, I want to be able to search and filter available rooms so that I can find a living space that matches my budget and needs.
	Feature 1: The system will allow the Room Seeker to browse a grid of all available rooms with preview images and rent prices.
	Feature 2: The system will provide a filtering bar to search by Location, Rent Range, and specific amenities.
	Feature 3: The system will allow the user to click "View Details" to open a modal showing comprehensive apartment data and current roommates.
	Feature 4: The system will provide buttons for sending requests, check compatibility score and add to favorites in the room's card.
	Feature 5: The system will provide contact links in the model that is opened by "View Details" to contact room owners.
3	As a Room Owner, I want to be able to post and manage my apartment listing so that I can find suitable tenants.
	Feature 1: The system will allow the Room Owner to create a room post

	by inputting room details and preferences.
	Feature 2: The system will provide a "My Posts" dashboard where the owner can view their active listings and their visibility status.
	Feature 3: The system will allow the owner to Edit existing room details via a modal or delete the room post to remove it from the public feed.
	Feature 4: The system will provide buttons for sending requests, check compatibility score and add to favorites in the roommate's card.
	Feature 5: The system will allow users to upload photos of the room when creating a post.
	Feature 6: The system will allow the owner to contact potential roommates through contact links provided in view profile.
4	As a User, I want to be able to assess compatibility with rooms and people so that I can ensure a harmonious living environment.
	Feature 1: The system will allow the User to click a "Check Compatibility" button for any room.
	Feature 2: The system will allow the User to click a "Check Compatibility" button for any room seeker.
	Feature 3: The system will provide a calculation algorithm that compares the user's preferences with the room's data and displays a compatibility score in a modal.
	Feature 4: The system will provide a calculation algorithm that compares the room's preferences with the user's data and displays a compatibility score in a modal.
5	As a User, I want to be able to send requests and receive notifications so that I can finalize living arrangements.
	Feature 1: The system will allow a Room Seeker to send a request to ask to join a specific room.
	Feature 2: The system will allow a Room Owner to send a request on a Roommate's card to ask them to join their room.
	Feature 3: The system will provide a Notification Bell in the Navbar that alerts the user when they receive a new request.
	Feature 4: The system will allow the recipient to accept or decline the request directly from the notification dropdown.
6	As a Room owner or confirmed Roommate, I want to be able to access a shared Room Dashboard so that I can manage household responsibilities and finances with my roommates.

	Feature 1: The system will provide a shared room dashboard where roommates can join and leave.
	Feature 2: The system will provide an Expense Tracker where roommates can log shared bills, specify amounts, and track who has paid.
	Feature 3: The system will provide a Chore Scheduler that allows the household to assign tasks to specific members.
	Feature 4: The system will provide a private Group Chat interface for the room, allowing real-time text communication between roommates
	Feature 5: The system will provide a shared room dashboard where room owners can edit room details, kick members and delete the room.
7	As a User, I want to be able to access a centralized Favorites dashboard so that I can manage and revisit my shortlisted rooms and roommates.
	Feature 1: The system will provide a "My Favorites" dropdown menu in the navigation bar with dedicated links for "Favorite Rooms" and "Favorite Roommates."
	Feature 2: The system will display all saved items in a grid layout similar to the main browsing pages.
	Feature 3: The system will allow users to remove items from their favorites list directly from the card via a "Heart" button.
	Feature 4: The system will allow users to perform key actions directly from the Favorites page without needing to search for the item again.

Conclusion

In conclusion, our project aims to make a Roommate Finder and Management System that makes it easier for potential tenants to find rooms and compatible roommates based on their lifestyle choices and habits, profession, medical issues and budget. Compatibility score and filtering mechanism also makes it much more efficient to find suitable rooms and roommates. Moreover, property owners can also post room listings and manage those posts effectively.