



# ROOMIIZE

Visualize,  
Personalize, and  
Collaborate —

Don't Just Move In —  
ROOMIIZE It.

## What is ROOMIIZE?

ROOMIIZE is an interactive 3D room planning web app built for university students to personalize, visualize, and collaborate on dorm room setups—before move-in day.

## Problem

Dorm rooms are often small and come with pre-set furniture that can't be moved. New students might struggle with making the space functional, comfortable, and personal, while adhering to dorm rules.

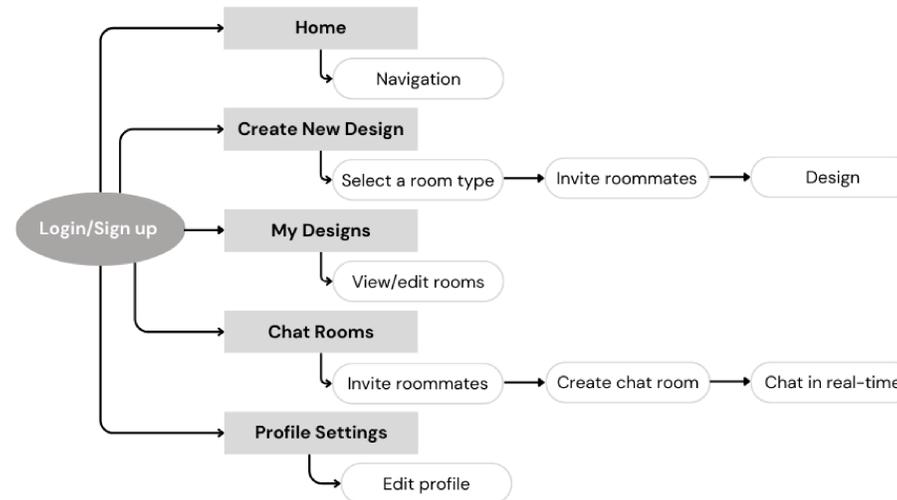
## Solution

We aim to create a seamless experience making it easy for students to create a personalized and functional living space that follows school regulations .

## Features

- Account creation and authentication
  - Google auth/sign up
  - Profile editing
- 3D Room Design
  - Interactive tools
    - Drag-and-drop, rotate, and place 3D objects
  - Save/load full room state (objects, camera position)
- Real-time chat room
  - Invite-only room access with approval flow

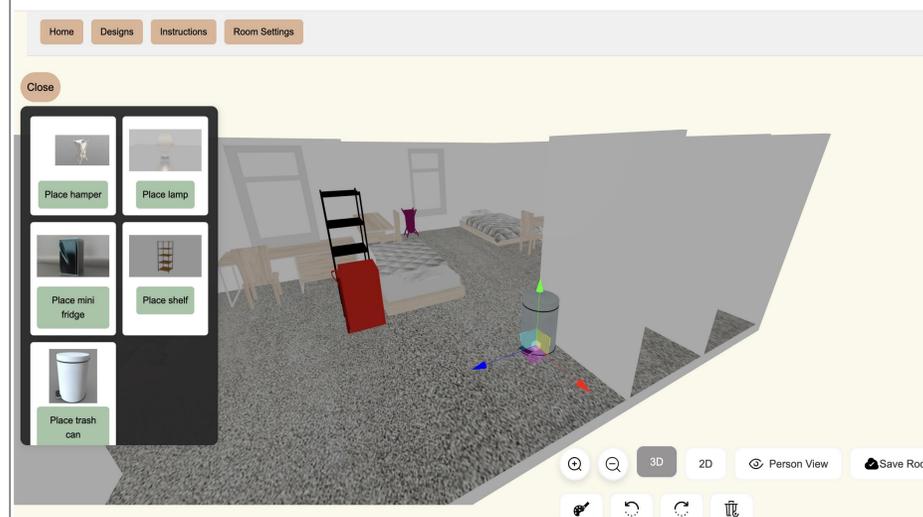
## Workflow of app



## App UI



## Dorm Options



## 3D Room Design Canvas

## Timeline

| August - September  | October - December  | January - March   | March  | April  |
|---|---|---|--|--|
| Research  | Planning / Design   | Development   | Testing  | Deployment   |
| <ul style="list-style-type: none"> <li>• Explore 3d design</li> <li>• Defined core purpose of app</li> <li>• Researched technologies</li> </ul> | <ul style="list-style-type: none"> <li>• Finalized tech stack</li> <li>• Finalized team roles</li> <li>• Created wireframes for pages</li> <li>• Planned user flow</li> <li>• Designed UX for 3D controls</li> <li>• Set up GitHub with project foundation</li> <li>• Set milestones</li> </ul> | <ul style="list-style-type: none"> <li>• Implemented Firebase Auth and Firestore storage structure</li> <li>• Developed room selection and creation</li> <li>• Synced camera position, object state, and room metadata to Firestore</li> <li>• Chat Room integration</li> <li>• Firebase App check integration and security settings</li> </ul> | <ul style="list-style-type: none"> <li>• Tested user authentication and Firestore rules</li> <li>• Verified room controls and object movement</li> </ul> | <ul style="list-style-type: none"> <li>• Cleaned up code and removed development only console logs</li> <li>• Deployed to Firebase Hosting with public access</li> </ul> |

## Development Tools

- **Frontend:**
  - React Native
  - React Three Fiber, Drei
  - Bootstrap
- **Backend:**
  - Node.js
  - Firebase: Auth + Firestore + Storage + App Check
- **3D Assets:** Blender, three.js
- **Version Control:** GitHub



## Development Team

|                |   |
|----------------|---|
| Andrea Serrano | Backend: Firebase Management, Integration btw front + back, User Auth |
| Ana Rivera     | Backend: Firebase Management, Chat Room development, UI               |
| Eliana Gamino  | Frontend: 3D Models, Interactive Features                             |
| Bryan Barrios  | Frontend: 3D Models, App UI   |