

1. Project Statement:

Annexure I (For Project Proposal for BEE)

The current manual management of hostels is inefficient, time-consuming, and prone to errors. It involves paper-based records, manual calculations, and limited tracking capabilities. This leads to challenges in managing tasks such as:

* Occupancy tracking: Accurately monitoring available rooms and occupancy rates.
* Payment management: Efficiently handling and tracking payments from residents.
* Maintenance scheduling: Effectively scheduling and tracking maintenance tasks.
* Communication: Maintaining effective communication with residents and staff.
* Security: Ensuring the safety and security of residents and property.

1. Approximate duration (in hours) to complete the project:

Approximately 120 hours, broken down into the following phases:

* + **Research and Planning**: 25 hours
  + **Design and Prototyping**: 30 hours
  + **Development**: 40 hours
  + **Testing and Feedback**: 15 hours
  + **Final Adjustments and Presentation**: 10 hours

1. Proposed Project In charge: Mr. Reshab Kumar
2. Team Members along with roll no’s:

|  |  |
| --- | --- |
| a. Akashdeep | (2210991215) |
| b. Akshit | (2210991234) |
| c. Ananya | (2210991258) |
| d. Aryan | (2210991393) |

1. Check Points:

# Does the project statement result in a product?

Yes, the product is a mobile and web application offering personalized in hostel booking and its management.

# If it is a product, can a prototype be made?

# No, it is not a product.

# Does the project statement use multiple concepts to achieve the outcome?

Yes, it integrates concepts from hotel management and hostel app of our university.

# Does it have enough for our team members to do sufficient amount of work?

# Yes.

1. Technical Nodes

|  |  |
| --- | --- |
| **Subject / Area / Topic** | **Technical Nodes** |
| Mobile and Web App Development | Frontend (React, HTML, CSS), Backend (Node.js, Express, Mongo DB) |
| Personalized Booking Algorithms | Customize room selection. |
| Database Management | Relational (MySQL) or NoSQL (MongoDB) for storing user data |
| User Experience Design | UI/UX Design Principles, Wireframing, Prototyping |
| Data Analytics | User profile management, room records. |
| App Integration | APIs for payment and qr code. |

1. Prerequisites (in terms of knowledge, concepts and material) for doing the Project:

## Knowledge:

* + Basic to intermediate knowledge of mobile and web development (React Native, HTML, CSS, Node.js).
  + Familiarity with database management systems
  + Basic proficiency in UI/UX design and prototyping tools

## Concepts:

* + Algorithms for mess card integration.
  + User-centered design principles
  + Data tracking and analytics

## Material:

* + Access to development and design tools.

1. Material that may be required to make the project and where it might be available

## Development Tools:

* + IDEs: Visual Studio Code (free)
  + Backend: Node.js, Express (free)
  + Mobile Development: React (free)

## Design Tools:

* + Figma (free tier available)

## Database Management:

* + MySQL or MongoDB (free tiers available or educational licenses)

## Hosting and Deployment:

* + Web Hosting Services: DigitalOcean, AWS (educational credits available)

1. Resources available to us:

## Physical Resources:

* + **Access to computer labs equipped with necessary software**

## Meeting rooms for team discussions and presentations Human Resources:

* + **Support from faculty advisors for guidance and mentorship**

## Peer feedback from fellow students during testing phases Online Resources:

* + **Access to online courses and tutorials for skill enhancement (e.g., Coursera, Udemy)**

## Open-source libraries and frameworks for development (e.g., React Native, Bootstrap)