

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:**
   * **Research and Planning**: 25 hours
   * **Design and Prototyping**: 30 hours
   * **Development**: 40 hours
   * **Testing and Feedback**: 15 hours
   * **Final Adjustments and Presentation**: 10 hours
   * **Estimated time :** 120 hours.
2. **Proposed Project In charge:** Mr. Reshab Kumar
3. **Team Members along with roll no’s:**

|  |  |
| --- | --- |
| a. Akashdeep | (2210991215) |
| b. Akshit | (2210991234) |
| c. Ananya | (2210991258) |
| d. Akriti | (2210991220) |

1. **Check Points:**

# Does the project statement result in a product?

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

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

# No, it is not a product. It is a web application.

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

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

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

# Yes.

1. **Technical Nodes**

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| --- | --- |
| **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

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)

## <https://www.mongodb.com/products/platform/atlas-database>

## <https://expressjs.com/>

## <https://legacy.reactjs.org/docs/getting-started.html>

## <https://nodejs.org/docs/latest/api/>