



## FINAL TERM PROJECT REPORT

(Group No.03)

### PROJECT MANAGEMENT PLAN

<PROJECT NAME : HOTEL KHUJI MANAGEMENT SYSTEM>

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## **TABLE OF CONTENTS :**

- 1. INTRODUCTION**
- 2. PROJECT MANAGEMENT APPROACH**
- 3. PROJECT TITLE**
- 4. JUSTIFICATION**
- 5. OBJECTIVES AND PROJECT SCOPES**
- 6. OVERVIEW OF THE PROJECT**
- 7. STAKEHOLDER ANALYSIS**
- 8. MILESTONE LIST**
- 9. PROCESS MODEL**
- 10.WORK BREAKDOWN STRUCTURE**
- 11.ESTIMATION**
- 12.RESOURCE REQUIREMENTS**
- 13.PROJECT SCHEDULE**
- 14.DELIVERY PLAN**
- 15.RISK ANALYSIS**
- 16.QUALITY CONTROL PLAN**
- 17.BUDGET**
- 18.CONCLUSION**





## 1. INTRODUCTION:

Introducing the [Hotel Khuji] Hotel Management System, a comprehensive software solution designed to revolutionize hotel operations in the competitive hospitality industry. Our innovative technology, crafted by our team of skilled software developers, seamlessly combines robust functionality with an intuitive user interface. This system equips hoteliers with the essential tools to elevate guest experiences, optimize operations, and drive profitability. Recognizing the multifaceted nature of hotel management, our software addresses a range of complex responsibilities, from booking and room allocation to inventory control and billing.

Our project management plan document serves as a roadmap, outlining goals, strategies, tasks, timelines, and resources needed for project success. It caters to diverse audiences: project team members, managers for oversight, executives for strategic alignment, stakeholders for impact understanding, cross-functional teams for collaboration, resource managers for allocation, quality and compliance teams for standards, risk management for mitigation, communication teams for updates, training teams for education plans, support teams for maintenance, and vendors for service awareness. This comprehensive document ensures effective project execution and stakeholder coordination.

## 2. PROJECT MANAGEMENT APPROACH

**Executive Summary:** This outlines the project management approach for the implementation of a Hotel Khuji Management System. This project will be executed by a cross-functional team, with clear roles, responsibilities, and resource allocation.

### **Project Team:**

**Project Sponsor:** Responsible for overall project vision, strategic decisions, and resource allocation. Holds authority for major project changes and approving additional funding if required.

**Project Manager:** Oversees project planning, execution, and monitoring. Manages the project team and ensures alignment with project goals.

**Technical Lead:** Leads the technical aspects of the project, including software development, integration, and quality assurance.

**Functional Experts:** Subject matter experts from various hotel departments (front desk, housekeeping, reservations, etc.) providing domain-specific insights to ensure system alignment with operational needs.



**Development Team:** Comprising software developers, database administrators, and UI/UX designers responsible for system development and user interface.

**Testing Team:** Conducts thorough testing of the system to identify and rectify any defects or inconsistencies before deployment.

**Implementation Team:** Manages the deployment of the system across hotel locations, ensuring a smooth transition from existing processes.

**Resource Allocation:**

The necessary resources for this project include human resources, technology infrastructure, and financial backing. The project team members will dedicate a specified percentage of their work time to the project. Technical infrastructure will include development environments, servers, and networking equipment. Financial resources will cover software licenses, hardware procurement, training, and contingency funding.

**Resource Constraints:**

**Time:** The project timeline is set at [duration] months. Delays could impact the system's relevance and potential financial benefits.

**Budget:** The project budget is [amount], with periodic reviews to track spending. Additional funding may require authorization from the Project Sponsor.

### **3. PROJECT TITLE: HOTEL KHUJI MANAGEMENT SYSTEM**

#### **4. JUSTIFICATION:**

The Hotel Khuji Management System is a game-changing innovation in the hotel industry. By automating procedures, reducing mistakes, and ensuring seamless check-ins, fast services, and effective maintenance, it reshapes guest experiences to meet the expectations of visitors. This results in enjoyable stays, glowing evaluations, and increased satisfaction. The solution simultaneously redefines hotel operations for secondary stakeholders, improving worker productivity, cutting expenses, and generating more income. Its advanced statistics support strategic decision-making and enable targeted marketing and dynamic pricing. Additionally, the focus on effective teamwork and communication promotes a healthy work environment, increasing employee happiness and retention. The Hotel Khuji Management System consequently becomes a key tool that boosts a hotel's profitability, reputation, and competitiveness while providing significant advantages to both users and secondary stakeholders.



## **5. OBJECTIVES AND PROJECT SCOPES:**

### **Objectives :**

1. The primary objective is to provide excellent customer service and ensure customer satisfaction.
2. Hotels must create a positive work environment, provide training, development opportunities, benefits for employees' satisfaction & retention.
3. Facilitate secure payment processing and invoicing for smooth transactions.
4. Must ensure that hotel is profitable by monitoring financial performance regularly, and making strategic decisions to increase revenue and reduce costs.
5. Must implement robust security measures to protect guest and hotel data.
6. Monitor and control the inventory of various resources required for hotel operations, such as food and beverages, linens, toiletries, cleaning supplies, and other consumables.

### **Scope :**

1. Reservation and Booking Management: The system should enable guests to make reservations online, while also providing hotel staff with tools to manage room availability, allocate rooms, and modify reservations.
2. Guest Check-In and Check-Out: The system should facilitate smooth and efficient guest check-in and check-out processes, including room assignments, key card issuance, and payment handling.
3. Room and Inventory Management: The system should help manage room types, availability, rates, and inventory of supplies like linens, toiletries, and amenities.
4. Billing and Invoicing: The system should generate accurate invoices, track payments, and handle financial transactions related to room charges and services.
5. Housekeeping and Maintenance: Tools to manage housekeeping schedules, room statuses, and maintenance requests for ensuring rooms are clean and well-maintained.
6. Security and User Access: Managing user access and permissions to ensure data security and confidentiality.
7. Management of feedback and reviews: Gathering and managing customer feedback and reviews to track satisfaction and enhance services.
8. Service and Training: Providing customer service as well as system training for hotel workers.

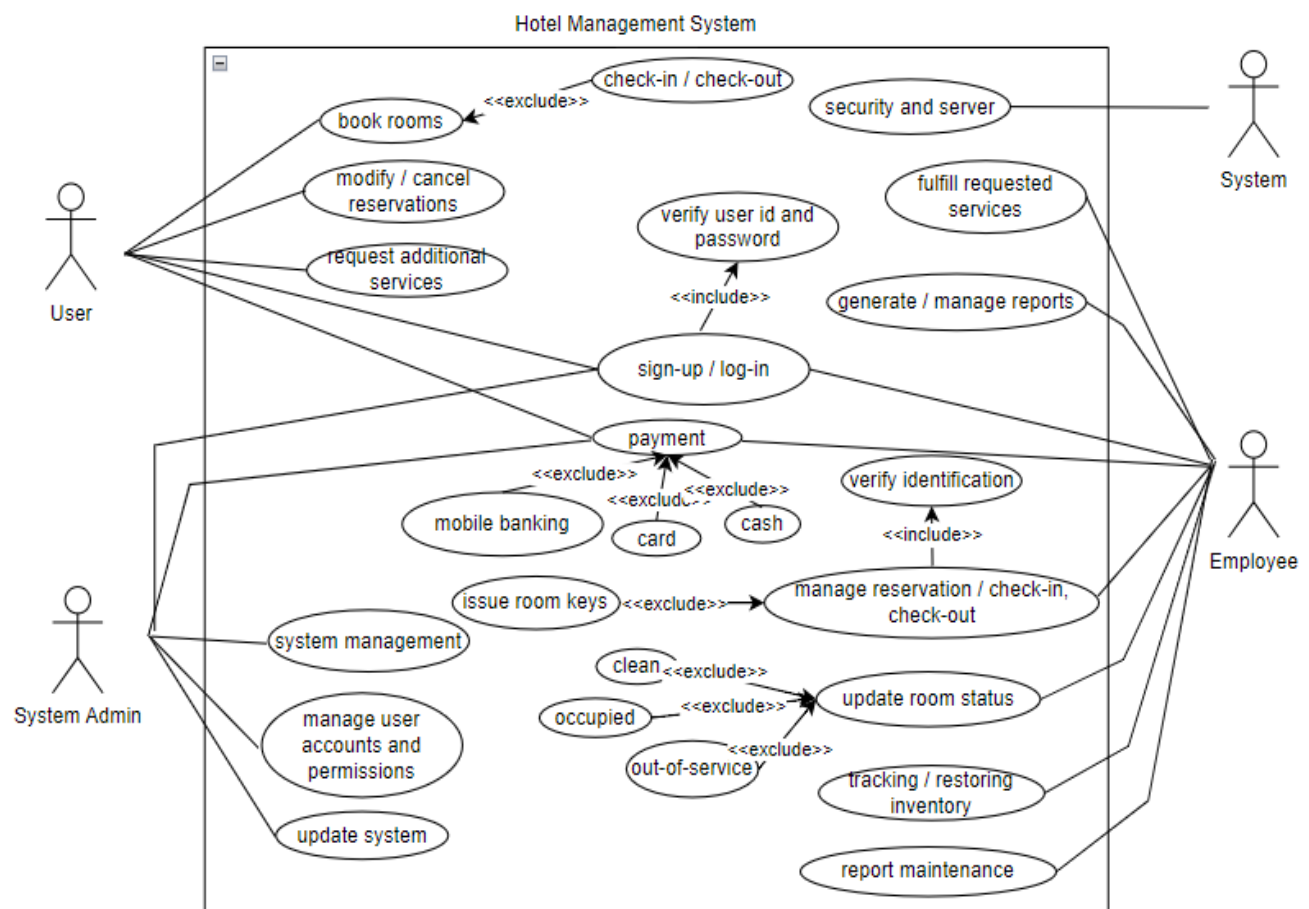
## **6. OVERVIEW OF THE PROJECT:**

The Hotel Management System is an advanced software program created to optimize and streamline hotel operations. This comprehensive system includes functionality for managing



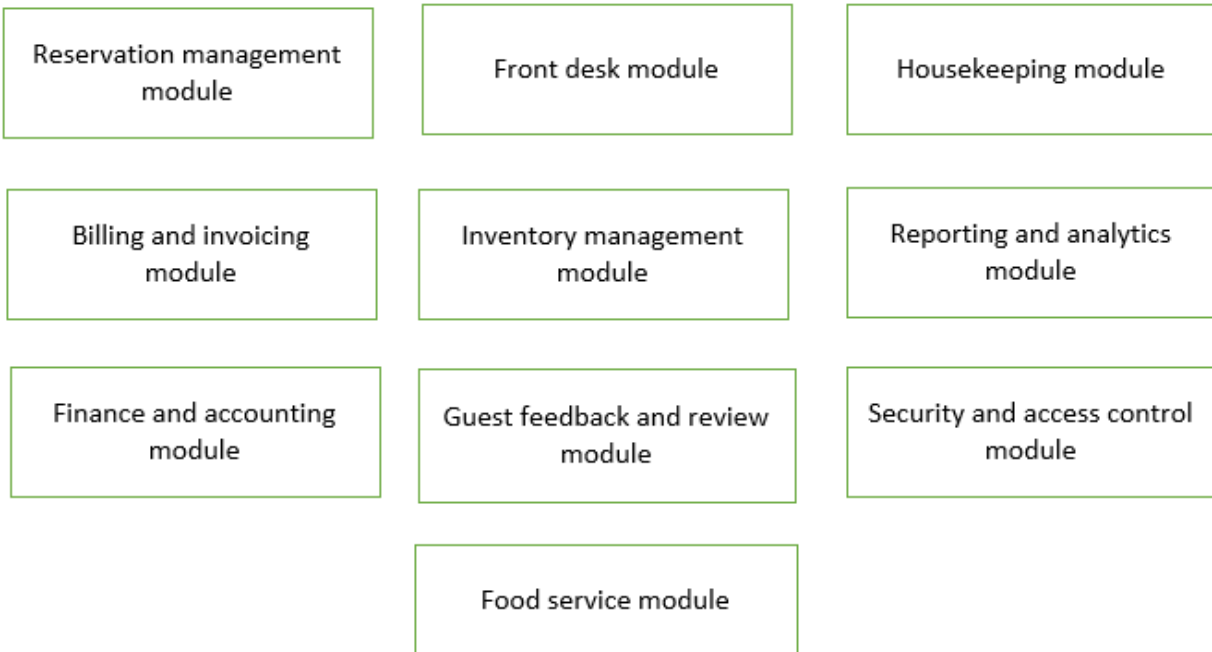
reservations, checking in/out guests, allocating rooms, housekeeping, billing, and reporting. This system is used by customers (main users), employees and administrator. All three of them can log in to the system by verifying their user ID and password. A customer can book rooms, modify or cancel room reservations and request for additional services, such as – room service, cleaning etc. Employees perform various activities for example, cleaning rooms, repairing items, track and restore inventories, manage reservations, update on check-ins/check-outs, and generating reports etc. Three ways of payment is available – through mobile banking, cash and credit cards. An admin usually manages the whole system. He updates the system and manages user accounts and permissions of the system. The system keeps track of the security and the server. Overall, the Hotel Management System transforms hotel operations by streamlining procedures, improving visitor experiences, and offering insightful data for smart management.

The use case diagram for the proposed system is given below-





Also the modules for the proposed system are given below –



## 7. STAKEHODERS ANALYSIS: Two types of Stakeholders-

### Primary stakeholders of hotel management system :

- **Hotel owners** : Hotel owners are responsible for making any important decisions& overseeing all issues related to a hotel . This can include obtaining the necessary business licenses, ensuring the property is well-maintained, investing in improvements or expansions, and all core hotel operations.
- **Hotel management** : Hotel management is an area of the hospitality industry that involves overseeing the operations of a hotel location. The team responsible for running the hotel smoothly and ensuring guests have a good experience. The departments may include front desk, housekeeping, guest services, engineering, food and beverage, accounts and sales and marketing.
- **Guests** : People who stay at the hotel, pay for rooms, and expect a comfortable and pleasant stay with proper security.



- **Staffs** : Employees working in the hotel, such as receptionists, housekeepers, and restaurant servers. They do whatever makes guests comfortable, including taking reservations, cleaning guest rooms, planning parties and maintaining the building.
- **Suppliers** : Suppliers are Companies or individuals who provide goods and services to the hotel. Example: food, furniture, linens , and other necessary items.
- **Booking agents** : Booking agents also known as travel clerks . They helps customers make reservations and book rooms at the hotel.
- **Maintenance personnel** : Workers take care of repairs and upkeep, ensuring everything functions properly. Their duties include inspecting and maintaining the heating, ventilation, and air conditioning systems, as well as plumbing, electrical, and mechanical systems.
- **IT department** : This department oversees all the systems and software used across the hotel. Whether it's reservations and guest service software, maintenance scheduling systems, internal phone lines or guest wifi connections, all digital solutions are the responsibility of the IT department.
- **Accounting department** : Accounting department responsible for managing the hotel's financial transactions such as- budgeting and payroll. This department record and maintain the financial records and performance of a hotel business. Good accounting makes the finances of a hotel easy to understand for management and other stakeholders – so they can make informed decisions.

#### Secondary stakeholders of hotel management system :

- **Local community** : People who are living around the hotel are known as local community. They are affected by hotel's activities like traffic & noise. But, the local community will become even more important to define and differentiate a hotel's brand. As more travellers seek to have unique and local experiences, it will be important that your accommodation is at the heart of these efforts. Highlighting the best region has to offer, will create an authentic experience for guest, and by partnering with the local community it benefits tourism for region as a whole.
- **Government authorities** : Officials who ensure the hotel follows regulations and laws, like building codes and safety standards.
- **Investors** : Individuals or groups who financially support the hotel's development and growth. They invested money in the hotel and want to see a return on their investment.
- **Competitors** : Other hotels in the area that the hotel competes with for guests and business by providing proper service and safety.





- **Travel agencies** : Travel agency company helps travelers plan their trips, book travel and may recommend the hotel to their clients.
- **Tour Operators** : A tour operator controls, books and devises the whole trip. They create a package holiday by combining all elements such as hotel, airport transfers, activities, restaurants, tours and such like.

## 8. MILESTONE LIST

Changes to milestones or delivery dates for a hotel management system project are addressed using key events and collaborative processes in the Scrum model. These gatherings, which include Backlog Refinement, Sprint Planning, Daily Standups, and Sprint Review and Retrospective sessions, offer forums for open debate, adaptation, and reprioritization. In order to maintain open communication with stakeholders, the Product Owner and Development Team collaborate to modify plans as necessary. The continuous improvement emphasis of the framework helps the team to address problems and make appropriate adjustments, ensuring that the project is in line with objectives and providing value to stakeholders.

Milestone	Description	Date
Complete SRS		
Design		
Complete Coding		
Complete Testing and Debugging		
Documents – User Guides and Installation		

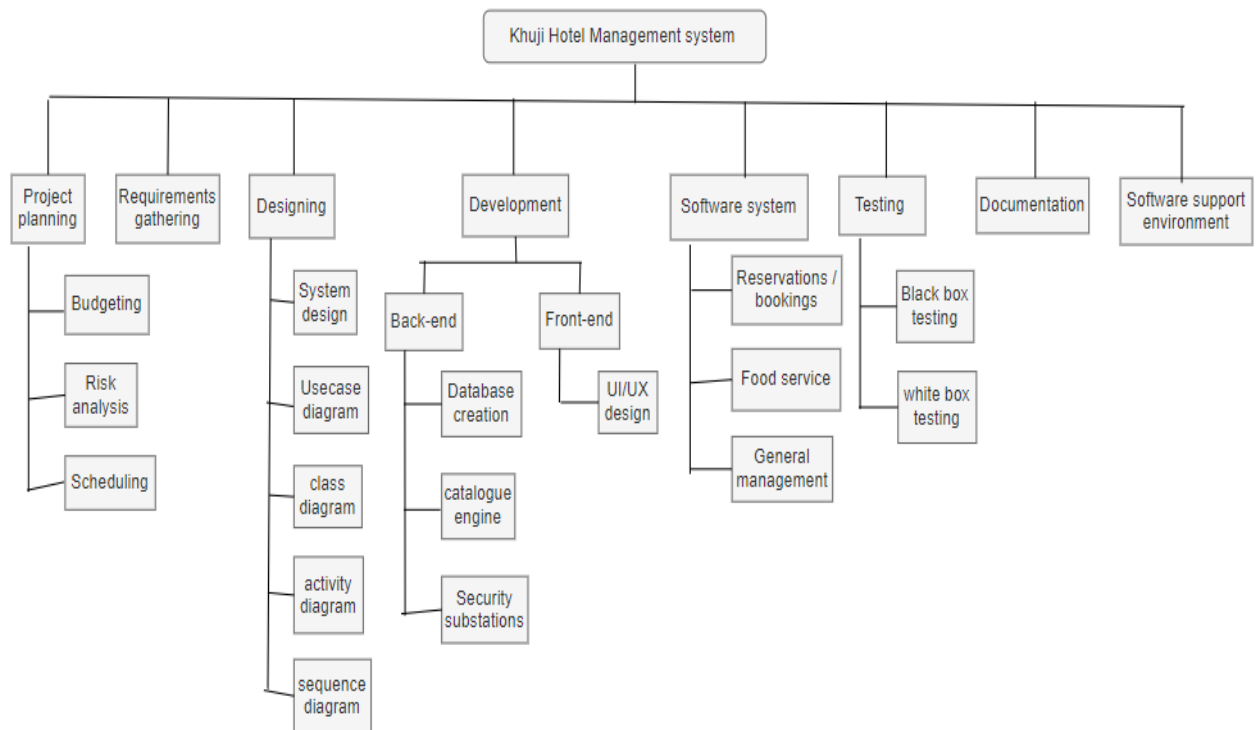
## 9. Process Model to be followed:

The selected process model for this project is “SCRUM”. Scrum is a type of Agile framework. It is light-weighted, easy to understand also Scrum framework help the team to work together. Scrum uses Iterative process. The Scrum model for a hotel management system involves iterative development cycles called "sprints." During each sprint, a cross-functional team of developers, designers, and testers work collaboratively to deliver incremental improvements to the system. The process includes tasks like backlog creation, sprint planning, daily stand-up meetings, development, testing, and sprint review. This iterative approach allows the hotel management system to evolve gradually, ensuring that features are implemented, tested, and refined in a structured and efficient manner.



As in Scrum, customer satisfaction is more important which helps to develop hotel management system in a proper way. By that, the hotel can give service to the customer properly and can ensure customers satisfaction. Also, Scrum framework is fast moving, money efficient and adaptive in nature because it has short sprint. For all of this advantages Scrum model is chosen for this project.

## 10. WORK BREAKDOWN STRUCTURE:



## 11. ESTIMATION: For estimation we took COCOMO MEODEL and Activity Network Diagram

### COCOMO MODEL :

In our project, we can assume that SLOC is 15000. This project is semi-detached project.

$$\begin{aligned}
 \text{Effort} &= \text{PM} = \text{Coefficient} <\text{Effort Factor}> * (\text{SLOC}/1000) ^P \\
 &= 3.0 * (15000/1000) ^{1.12} \\
 &= 62.28 \text{ persons-months}
 \end{aligned}$$

$$\begin{aligned}
 \text{Development Time} &= \text{DM} = 2.50 * (\text{PM}) ^T \\
 &= 2.50 * (62.28) ^{0.35} \\
 &= 10.61 \text{ months}
 \end{aligned}$$



Required Number of people = ST = Effort (PM)/Development Time (DM)  
 = 62.28 /10.61  
 = 5.87~ 6 persons

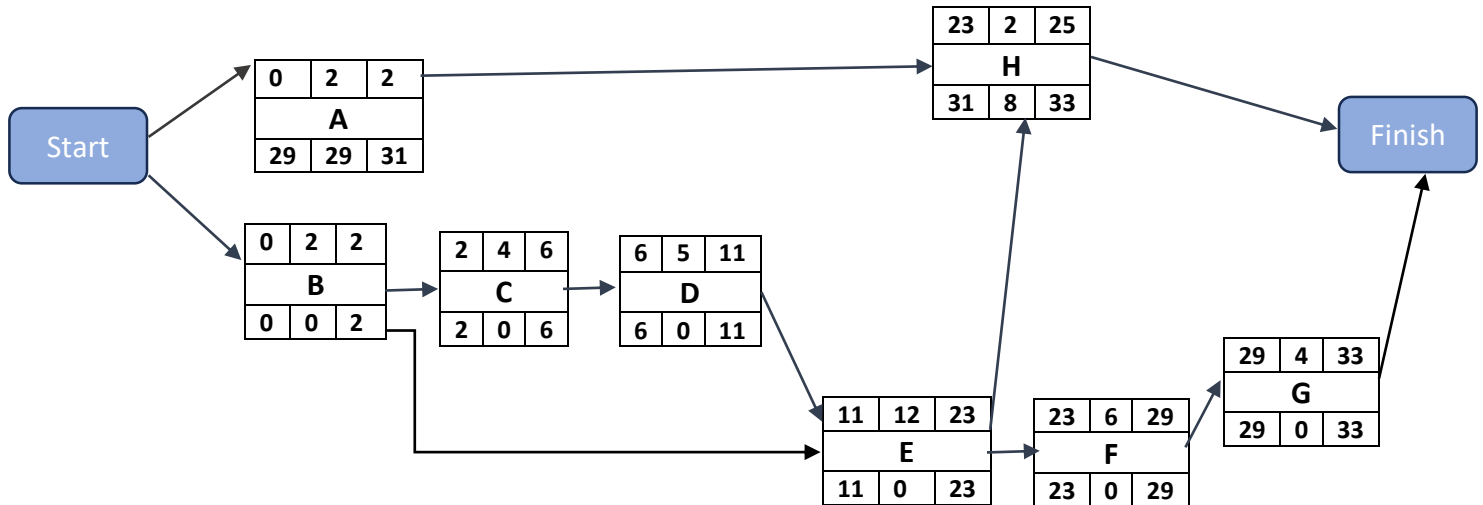
From the above estimation,

Software Project Type	Coefficient Factor	P	T
Semi-detached	3.0	1.12	0.35

**Activity network diagram :**

Label	Activity	Duration	Precedence
A	Hardware selection	2	-
B	Software selection	2	-
C	Planning	4	B
D	Design	5	C
E	Coding & Testing	12	B, D
F	File take on & Build	6	E
G	User training	4	F
H	Start-up	2	A, E

Earliest Start (ES)	Duration	Earliest Finish (EF)
Activity Label, Activity Description		
Latest Start (LS)	Float	Latest Finish (LF)



Critical path analysis :

A – H = 2+2 = 4 weeks

**B – C – D – E – F – G = 2+4+5+12+6+4 = 33 weeks**

B – E – F – G = 2+ 12+6+4 = 24 weeks

B – E – H = 2+12+2 = 16 weeks

So, Path -2 is the critical path as it has the highest number.

## 12. RESOURCE REQUIREMENTS

### 12.1 SOFTWARE REQUIREMENTS

#### i. Operating Systems:

- Mac, OS, Android, Linux, Windows

#### ii) Software Components:

- Web Server: Apache Tomcat 9.0
- Database: MongoDB 4.2
- Modeling Frameworks: spring boot (android), Asp.net (desktop).

### 12.2 HARDWARE REQUIREMENTS

- Server: Intel Xeon multi-core CPU, 16GB RAM, 1TB storage



- Client: Standard business PC (Intel i3 4<sup>th</sup> generation/ AMD Ryzen 3 2<sup>nd</sup> generation, 4 GB RAM minimum recommended)
- CC Camera
- Server

### **12.3 HUMAN RESOURCE REQUIREMENTS**

- **Management and Administrative Staff:**

General Manager  
Operations Manager  
Front Office Manager  
Housekeeping Manager  
Food and Beverage Manager  
Human Resources Manager  
Sales and Marketing Manager  
Finance Manager

- **Front Desk and Guest Services:**

Receptionists  
Concierge  
Bellhops/Porters

- **Housekeeping:**

Housekeepers  
Laundry Staff  
Janitorial Staff

- **Food and Beverage:**

Chefs (Executive Chef, Sous Chefs, Line Cooks)  
Waitstaff/Waiters  
Bartenders  
Hosts/Hostesses

- **Maintenance:**

Maintenance Technicians (for plumbing, electrical, HVAC, etc.)





- **Sales and Marketing:**

Sales Representatives

Marketing Executives

- **Human Resources:**

Recruiters

Training and Development Specialists

- **Finance:**

Accountants

Bookkeepers

- **Security:**

Security Guards

- **Event Planning and Coordination (if applicable):**

Event Planners

Event Coordinators

- **Health and Safety:**

Health and Safety Officers (ensuring compliance with safety regulations)

- **IT and Technology:**

IT Support Specialists (for managing reservation systems, tech infrastructure, etc.)

- **Entertainment (if applicable):**

Entertainers (musicians, performers, etc.)

- **Transportation (if applicable):**

Drivers



### 13. PROJECT SCHEDULE:

The project timeline is estimated to be 6 months consisting of 12 two-week sprints.

- Sprint 1 - Requirements finalization
- Sprint 2-3 - Core framework and backend development
- Sprint 4-8 - Feature development
- Sprint 9-11 - User testing and fixes
- Sprint 12 - Final validation and release

**14. DELIVERY PLAN:** The delivery plan in the Scrum model of project planning is a detailed plan that outlines the steps required to deliver a product increment. It includes a list of tasks, estimated time required to complete each task, and any dependencies between tasks. The plan is created during the Sprint Planning meeting and is used to guide the team's work during the Sprint. The delivery plan is reviewed and updated at the Daily Scrum meeting to ensure that the team is on track to meet its goals. It is flexible and can be adjusted as needed throughout Sprint to accommodate changes in priorities or new information.

### 15. RISK ANALYSIS:

- **Lack of Resource:** Resource limitations could hinder the development and quality of the project by limiting the supply of skilled workers, equipment, or infrastructure.
- **Scope creeping:** Scope creep occurs when the project's specifications alter or expand as it is being developed. Delays, higher expenses, and probable timeline problems can emerge from this.
- **Late Delivery of products:** Late product delivery can lead to missed deadlines, higher expenses, unsatisfied customers, and wasteful resource use, which could influence the project's reputation and success.
- **Budget risks:** These are risks related to the project's budget. Examples include cost overruns, unexpected expenses, and changes in funding.
- **Wrong Estimation:** Improper estimating can result in schedule delays, cost overruns, scope expansion, and lowered quality.
- **Lack of Testing:** Having fewer beta testers than anticipated can lead to limited feedback and a shortened list of potential problems. This could increase the likelihood of defects



going undetected, usability problems, and inadequate testing of the software's performance in real-world circumstances.

## **16. QUALITY CONTROL PLAN:**

### **➤ Service Standards and Guidelines:**

Clear service standards for each department, such as front desk, housekeeping, food and beverage, etc. Establish guidelines for customer interactions, cleanliness, response times, and other key aspects of guest experience.

### **➤ Staff Training and Development:**

Develop a training program for new employees, covering service etiquette, communication skills, and other relevant areas.

### **➤ Guest Feedback and Surveys:**

Set up a system for collecting guest feedback and conducting satisfaction surveys. Analyze feedback to identify areas for improvement and address any issues promptly.

### **➤ Performance Metrics and KPIs:**

Define key performance indicators (KPIs) for each department, such as occupancy rates, guest satisfaction scores, and revenue per available room (RevPAR). Regularly track and evaluate these metrics to gauge the hotel's performance.

### **➤ Maintenance and Cleanliness:**

Cleaning and maintenance schedules to ensure that rooms, facilities, and common areas are well-maintained and clean. Conduct routine inspections to verify compliance with cleanliness standards.

### **➤ Food Safety and Hygiene:**

Implementing HACCP (Hazard Analysis and Critical Control Points) guidelines for food safety in the kitchen and dining areas. Regularly audit food handling practices and kitchen hygiene.

### **➤ Compliance with Regulations:**

Ensuring that the hotel complies with local, regional, and national regulations related to hospitality, health, safety, and labor.





➤ **Technology and Systems:**

Regularly update and maintain the hotel's technology systems, including reservation systems, point-of-sale systems, and guest management software.

➤ **Emergency Preparedness:**

Develop and communicate emergency procedures for staff to follow during fire alarms, natural disasters, medical emergencies, etc.

➤ **Supplier and Vendor Management:**

Establish quality standards for suppliers and vendors providing goods and services to the hotel. Regularly review and assess their performance to ensure they meet the required standards.

➤ **Continuous Improvement:**

Encourage a culture of continuous improvement by regularly reviewing processes and identifying areas for enhancement.

➤ **Communication Channels:**

Maintaining clear communication channels between departments to ensure seamless coordination and efficient problem-solving.

➤ **Staff Recognition and Incentives:**

Implement a recognition program to reward outstanding employees who consistently exceed quality standards.

## **17. BUDGET:**

### **Development Cost:**

Total working days = Monthly working days \* DM = 22 \* 12 = 264 days

Total Working hours = Working hours per day \* Total working days = 8\*264 =2112 hours

Development cost per employee = Total Working hours \* per hour salary [per hour salary = 200]

= 2112 \* 200 = 422,400 BDT



Total development cost = ST \* Development cost per employee = 7 \* 422,400  
= 2,956,800 BDT

Project manager salary for 12 months = (12\*20,000) = 2,40,000 BDT (UI/UX)

Management and other employees' salary for 12 months =35,000BDT (Designer)

Salary for 12 months = (15,000 \* 12 \* 1) = 1,80,000BDT Database Administrator

Salary for 12 months = (15,000 \* 12 \* 1) = 1,80,000BDT

#### **Maintenance Cost:**

Monthly 12 Hours (6 months and per hour salary 1000) Cost = (12 x 6 x 1000) = 72,000 BDT

#### **Hardware Expenses:**

Server cost = 1,20,000 BDT

Desktop/Laptop cost = (7 \* 60,000) = 4,20,000 BDT

Printer cost = 20,000 BDT

Total hardware expenses = (120,000 + 420,000 + 20,000) = 5,60,000BDT

#### **Other Expenses:**

Office rent for 14 months = (12\*15,000) = 1,80,000 BDT

Utility bills = 1,50,000 BDT

Stationaries cost per month = 2,000 BDT

Total cost for 12months = (2,000 \* 12) = 24,000 BDT

Total Estimated cost = (2,956,800 + 2,40,000 + 2,40,000 + 2,10,000 + 1,80,000+ 72,000 + 4,20,000 + 1,80,000 + 24,000) = 4,522,800 BDT

25% profit of total estimated cost = (0.25\*4,522,800) = 18,091,200BDT

**Total estimated budget = (45,522,800+18,091,200) = 22,614,000 BDT**



## **18. CONCLUSION:**

HOTEL KHUJI MANAGERMENT SYSTEM is a business that specializes in offering unique solutions to small businesses. We work hard to develop answers to your unique demands so that the project is done properly initial instance. We focus particularly on usability and make use of the most recent technology. This method was created specifically with people in mind. It offers user-friendly modules with submodules that provide amenities to the user. This system is created in an approach that is simple to grasp and can be the computer layperson. This system is entirely GUI-based moreover, smart linkages.

