1) Hotel Management System

Problem Statement

Manual hotel operations lead to inefficiencies in reservations, billing, and customer service, often resulting in errors and customer dissatisfaction. There is a need for an automated system that centralizes booking, staff allocation, and financial management that ensures accuracy, scalability, and real-time data access. The system must provide a secure, user-friendly platform for both administrators and guests.

Software Requirement Specification

1. Introduction

1.1. Purpose of the Document
To define the requirements of an automated Hotel Management System that streamlines reservations, billing, staff allocation, and customer service

1.2. Scope of the Document
The system will automate booking, room allocation, billing, and reporting while ensuring accuracy, scalability, and user-friendly interaction.

1.3. Overview

Manual hotel operations lead to inefficiencies in reservations, billing, and customer services, often resulting in errors and customer dissatisfaction. There is a need for an automated system that centralizes booking, staff allocation, and financial management while ensuring accuracy, scalability, and real-time data access. The system must provide a secure, user-friendly platform for both administrators and guests.

2. General Description

The system will support multi-user access, integrate with online booking platforms, and maintain a secure database of customer and transaction records.

3. Functional Requirements

Manage room reservations and cancellations
Handle customer check-in/check-out
Generate bills and maintain payment records
Allocate staff and services

4. Interface Requirements.

Web and mobile interfaces for customers
Admin dashboard for hotel staff
Database integration with secure APIs

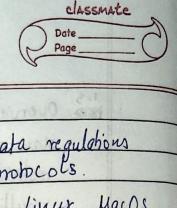## 5. Performance Requirement

Should process bookings in under 5 seconds
Should handle atleast 500 concurrent users at a time
Should ensure 99% uptime

6. Design constraints

Must comply with hotel industry data regulations

Use secure login/authentication protocols.

Must be compatible with Windows, Linux, MacOS, Android, and iOS systems

Must use standard DBMS and cloud support

Must secure transactions with encryption.

7. Non-functional Attributes

Should be scalable for hotel chains

Must be maintainable with modular design

Must be be portable accross platforms.

8. Preliminary Schedule and Budget

The system is estimated to be developed ~~is~~ within 6 ~~months, including design, implementation and testing.~~

The projected budget is around $30000 for development, $7000 for testing, $5000 for deployment and training and around $8000 for maintenance per year.

Total cost: $50000

Design and Analysis: 1 month
Core modulus: 2 months
Reports and Housekeeping: 1 month
Integration / Testing: 1 month
Deployment / Training: 1 month