Dr. Kedar Nath Modi Institute Of Engineering & Technology

Project Proposal

Guided By-:

Mr. Anuj Kumar

Created By-:

Devanshi

AF04991260

D-2405

ITPR

Title of the Project

Hotel Management System

Introduction

- The Hotel Management System is a software application developed to automate the daily operations of a hotel, including room booking, customer check-in/check-out, billing, and staff management. The system reduces manual workload, eliminates errors, and ensures efficient service through a centralized digital platform built using Java and MySQL.

Objective

- To automate room booking and reservation processes.
- To maintain accurate customer and room availability records.
- To simplify billing and payment management.
- To improve operational efficiency and service accuracy.
- To provide secure access for admin and hotel staff.

Project Category

- **Application Software / Database Management System (DBMS)**
  Technology used: Java (Eclipse IDE), JDBC, MySQL.

Analysis

- **Modules and Description**
- **Authentication Module**

- Handles login for admin and staff.
  - **Room Management Module**
- Add/update/delete rooms, room types, and prices.
  - **Customer Management Module**
- Stores customer information and booking history.
  - **Booking & Reservation Module**
- Books rooms, checks availability, assigns rooms.
  - **Check-In/Check-Out Module**

- Handles guest arrival and departure processes.
    - **Billing & Payment Module**
- Generates bills and maintains transaction records.
    - **Staff Management Module**
- Maintains staff details, roles, and schedules.
    - **Database Design**
    - Tables include:
    - Room Type

Field Name	Data Type	Description	Key
Type_id	int	Unique room type id	Primary Key
Type Name	Varchar(50)	Room type name(AC,	Not Null

		Deluxe, Suite)	
Price per day	Decimal(10, 2)	Daily price for the type	Not Null

- Rooms

Field Name	Data Type	Description	Key
Room Id	int	Unique room id	Primary Key
Room Number	Varchar(20)	Physical room number	Not Null
Type Id	int	Room type(FK)	Foreign Key= room type(type_id)
Status	Varchar(20)	Available / Booked / Maintenance	Not Null

- Customers

Field Name	Data Type	Description	Key
Customer Id	int	Unique Customer ID	Primary Key
Name	Varchar(100)	Customer full name	Not Null
Phone	Varchar(15)	Contact number	Not Null
Email	Varchar(100)	Email address	Not Null
Address	Varchar(150)	Residential address	Not Null
Id Proof	Varchar(50)	ID used for verification	Not Null

- Booking

Field Name	Data Type	Description	Key
Booking ID	int	Unique booking entry	Primary Key
Customer ID	int	Linked customer	Foreign key=customer(customer_id)
Room ID	int	Assigned room	Foreign key=room(room_id)
Check in date	timestamp	Check in date	Not Null
Check out date	timestamp	Check out date	Not Null
Total amount	Decimal(10,2)	Calculated price	Not Null
Booking status	Varchar(20)	Confirmed/ Cancelled/	Not Null

		Completed	

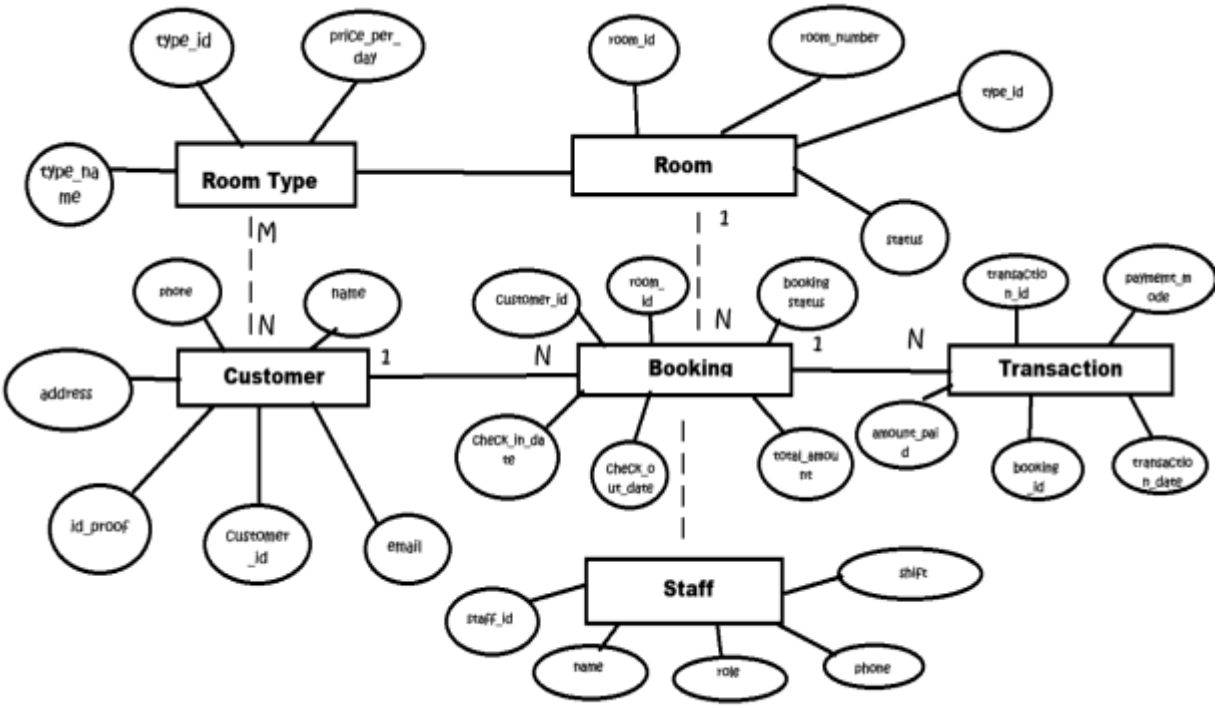
- Transactions

Field Name	Data type	Description	Key
Transaction ID	int	Unique transaction id	Primary key
Booking Id	int	Related booking	Foreign key= booking(booking_id)
Payment mode	Varchar(50)	Cash/ Card/ UPI	Not Null
Amount paid	Decimal(10,2)	Paid amount	Not Null
Transaction date	timestamp	Date & time of payment	Not null

- Staff

Field Name	Data Type	Description	Key
Staff ID	int	Unique staff id	Primary key
Name	Varchar(100)	Staff name	Not null
Role	Varchar(50)	Manager , Receptionist, Cleaner etc.	Not null
Phone	Varchar(15)	Contact number	Not null
Shift time	Varchar(20)	Morning / Evening / Night	Not null

Entity Relationship Diagram

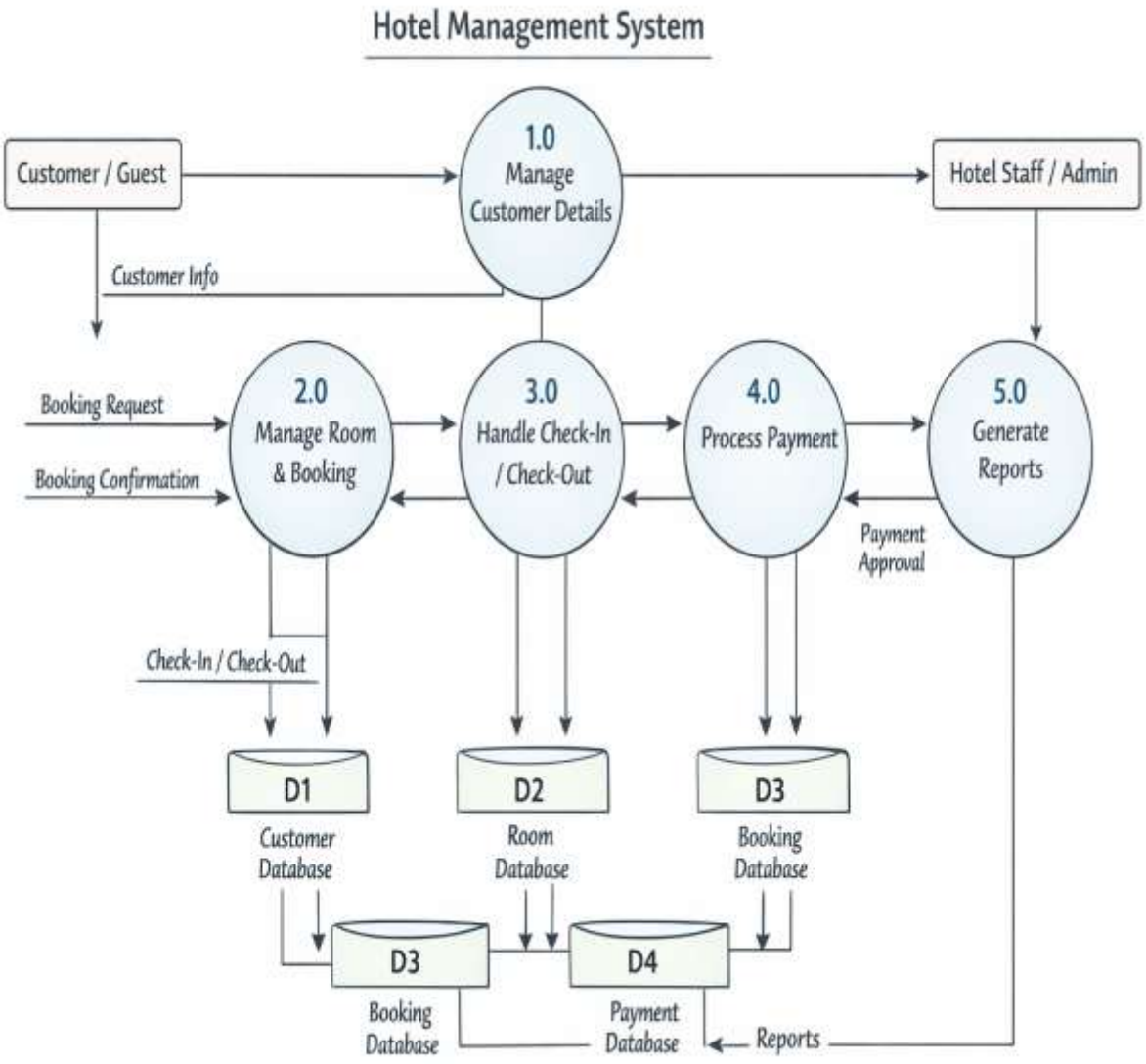


- Customer -> Room Type [many to many(M:N)]
- Customer-> Booking [one to many(1:N)]
- Booking-> Room [many to one(N:1)]
- Booking-> Transactions [one to many(1:N)]

Data Flow Diagram

- DFD-> 0 level

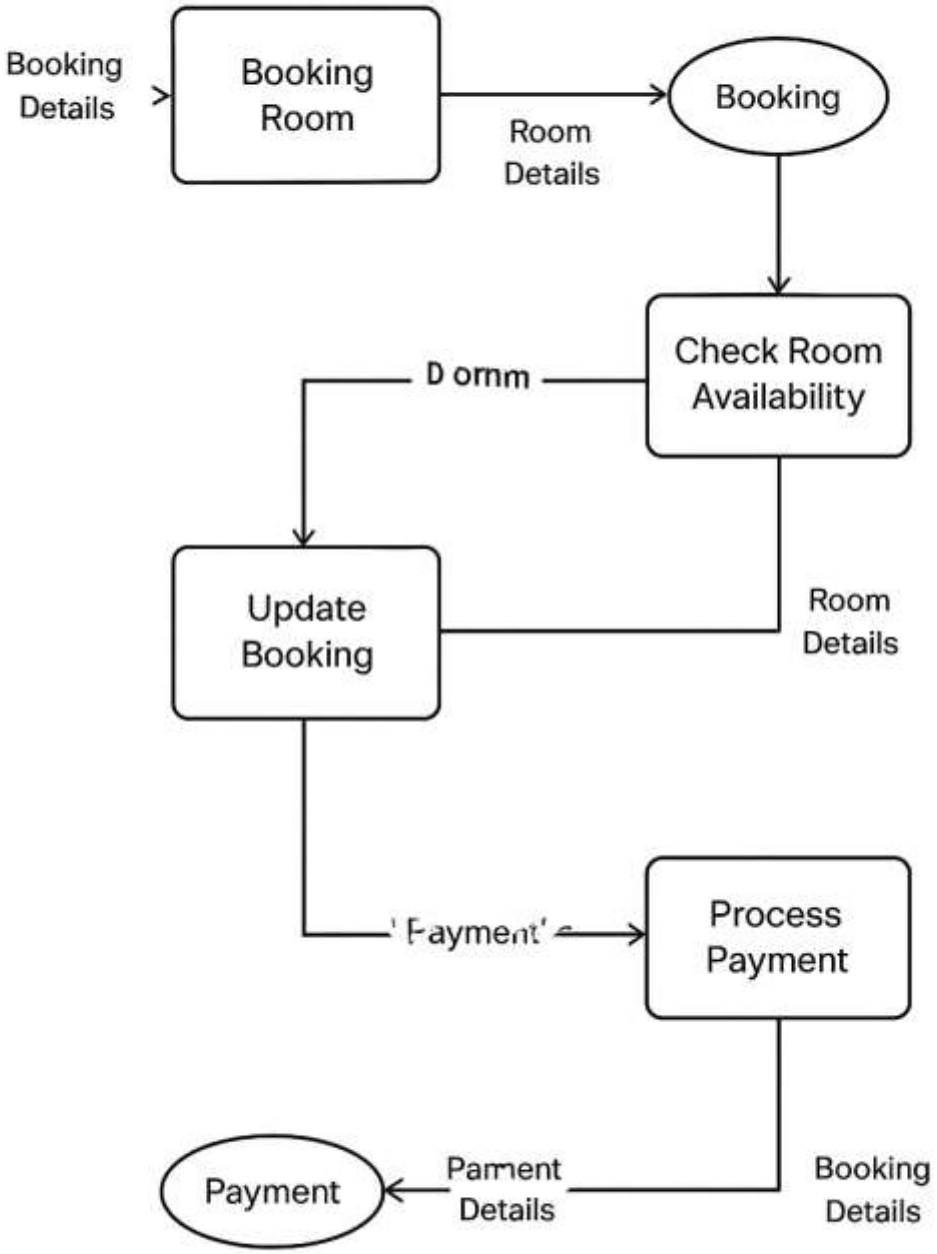
- DFD-> 1level


Hotel Management System
Customer / Guest
1.0
Manage
Customer Details
Hotel Staff / Admin
Customer Info
Booking Request
Booking Confirmation
2.0
Manage Room
& Booking
3.0
Handle Check-In
/ Check-Out
4.0
Process Payment
5.0
Generate
Reports
Payment
Approval
Check-In / Check-Out
D1
Customer
Database
D2
Room
Database
D3
Booking
Database
D3
Booking
Database
D4
Payment
Database
Reports

Complete Structure

- **Process Logical Diagram**
- This will include the logical workflow: User → Login → Room Search → Booking → Check-In → Services → Check-Out → Billing.

Hotel Management System



Platform Used

- **Hardware Requirements**
- Processor: Intel i5
- RAM: 16GB minimum
- Hard Disk: 364GB free space
- Display: 1024×768 resolution
- **Software Requirements**
- Operating System: Windows
- Programming Language: Java
- Database Server: MySQL
- Tools: Eclipse
- Libraries: JDBC

Future Scope

- Online hotel booking through web portal
- Integration with online payment gateways
- QR-based check-in/check-out
- Mobile app extension
- Inventory and housekeeping automation
- AI-based room price recommendations

Bibliography

- Java Complete Reference – Herbert Schildt
- MySQL Manual & Documentation
- Java Programming Tutorials (Oracle Docs)

Database System Concepts – Silberschatz