

HOTEL MANAGEMENT SYSTEM

EXPERIMENT-3

Data Dictionary for Hotel Management System

1. Introduction

A Data Dictionary is a structured document that defines the schema of a database, including tables, columns, data types, and relationships. It ensures consistency, integrity, and clarity in database management. This document provides the data dictionary for the Hotel Management System, outlining its key tables and their structures, which facilitate efficient handling of users, room bookings, payments, and services.

2. List of Tables

The Hotel Management System consists of the following tables:

1. Users
2. Rooms
3. Reservations
4. Payments
5. Services

3. Table Structures

3.1 Users Table

Name	Data Type	Column	Constraints	Description
user_id	INT		PRIMARY KEY, AUTO_INCREMENT	Unique user identifier
name	VARCHAR(100)		NOT NULL	Full name of the user
email	VARCHAR(255)		UNIQUE, NOT NULL	User's email address
password	VARCHAR(255)		NOT NULL	Hashed password
phone	VARCHAR(15)			Contact number of the user

3.2 Rooms Table

Column Name	Data Type	Constraints	Description
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room_id	INT	PRIMARY KEY, AUTO_INCREMENT	Unique room identifier
room_type	VARCHAR(50)	NOT NULL	Type of room (Single, Double, Suite)
price	DECIMAL(10,2)	NOT NULL	Price per night
status	VARCHAR(20)	DEFAULT 'Available'	Room availability status

3.3 Reservations Table

Column Name	Data Type	Constraints	Description
reservation_id	INT	PRIMARY KEY, AUTO_INCREMENT	Unique reservation ID
user_id	INT	FOREIGN KEY REFERENCES Users(user_id)	User who made the booking
room_id	INT	FOREIGN KEY REFERENCES Rooms(room_id)	Room booked by the user
check_in	DATE	NOT NULL	Check-in date
check_out	DATE	NOT NULL	Check-out date

3.4 Payments Table

Column Name	Data Type	Constraints	Description
payment_id	INT	PRIMARY KEY, AUTO_INCREMENT	Unique payment ID
reservation_id	INT	FOREIGN KEY REFERENCES Reservations(reservation_id)	Reservation for which payment is made
amount	DECIMAL(10,2)	NOT NULL	Total amount paid
payment_status	VARCHAR(20)	DEFAULT 'Pending'	Payment status

3.5 Services Table

Column Name	Data Type	Constraints	Description
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service_id	INT	PRIMARY KEY, AUTO_INCREMENT	Unique service ID
reservation_id	INT	FOREIGN KEY REFERENCES Reservations(reservation_id)	Reservation associated with the service
service_name	VARCHAR(100)	NOT NULL	Name of the service
service_price	DECIMAL(10,2)	NOT NULL	Price of the service

4. Relationships & Constraints

1. `Users (user_id)` → `Reservations (user_id)` (One user can make multiple reservations).
2. `Rooms (room_id)` → `Reservations (room_id)` (One room can have multiple reservations over time).
3. `Reservations (reservation_id)` → `Payments (reservation_id)` (One reservation can have one payment).
4. `Reservations (reservation_id)` → `Services (reservation_id)` (One reservation can have multiple services).