A Mini Project Report

on

# “Hotel Management System”

Submitted by

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# Abstract

This project aims at creating a Hotel Management System which can be used by Admin and Receptionist. The admin has the authority to add employees,rooms.Admin has all the facilities that receptionist has.Receptionist can see employees,rooms,customers also can add customer.Receptionist has authority related to check-in and check-out of customer.The hotel department maintains all the information related customers,rooms,employees in certain database. This project provides high security to Customer information.

# Acknowledgement

Apart from our efforts, the success of any project depends largely on the encouragement and guidelines of many others. We take this opportunity to express our gratitude to the people who have been instrumental in the successful completion of this project. We would like to show our greatest appreciation to Mr. S. S. Mane sir from where we learnt the basics of MySQL and whose informal discussions and able guidance became light for us in the entire duration of work. The guidance received from the members who contributed and who are contributing to this project are vital for the success of the project.

# List of Tables & Figures

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# 1. Introduction

## 1.1 Purpose

The purpose of this app is to enable and manage the smooth working of the hotel without any issues and the easy retrieval of information of customers and their stay at the hotel.

## 1.2 Scope

This system can be used by the receptionists to keep a record of their customers and their stay as well by the manager to keep a record on the customers as well as on the staff hired in the hotel.

## 1.3 Definition

This app aims at providing an easy way to admit the new customers to the hotel and to maintain a record of their stay, their bill and moreover it keeps the whole process as simple as possible.

## 1.4 References


1. www.google.com
2. www.nevonprojects.com
3. www.W3Schools.com (mysql)
4. docs.oracle.com (for java)
5. https://online.visual-paradigm.com/diagrams/features/erd-tool/


## 1.5 Developers' Responsibilities: An Overview

The main responsibility of the developer is to make the User interface more friendly so that the new user can easily use it without much difficulty. Moreover secure connection with the backend is also required.

# 2.General Description

It is the system that facilitates the management of hotel operations and functions; main operations related to reception and operations handled by manager/admin of the hotel. Functionality such as allocating a room, check in or check out of customers, retrieval of data/information of customers and employees, updation of room and room status, payment method is provided making the system efficient and dynamic.

## 2.1 Product Function Perspective

1. Easy data retrieval
2. Updation of information
3. Automation

## 2.2 User Characteristics

The user must be an employee of the hotel who is either a receptionist or the manager of the hotel.

## 2.3 General Constraints

The user must input all the required fields before inserting the concerned information of the customer.

## 2.4 Assumptions and Dependencies

We are assuming that the customer's entered information is correct. The dependencies include java and MySQL.

# 3. Specific Requirements

- Add new employee
- Add room
- Check-in
- Check-out
- Update check-in status
- Update room status
- Search room

## 3.1 Inputs and Outputs

### Inputs

1. Login
    - Username
    - Password
2. Add employee
    - Name
    - Age
    - Gender
    - Job
    - Phone number
    - Aadhar number
    - Email

3. Add room
    - Room number
    - Availability status
    - Cleaning status

- Price
- Bed type

4. New customer
    - Aadhar number
    - Name
    - Gender
    - Country
    - Days
    - Deposit
    - No. of rooms required
5. Update Check-in status
    - Aadhar number
6. Update Room status
    - Room number
7. Checkout
    - Aadhar number
    - Room number

## Outputs

1. Customer Info
    - Aadhar number
    - Name
    - Gender
    - Room number
    - Check-in status
    - Deposit
2. Employee Info
    - Name
    - Age
    - Gender
    - Job
    - Salary
    - Phone number

- Aadhar number
- Email

3. Room Info
    - Room number
    - Cleaning status
    - Availability status
    - Price
    - Bed type
4. Update check-in status
    - Name
    - Checked-in status
    - Amount paid
    - Pending amount

## 3.2 Functional Requirements

- Admin should be able to add new employee
- Admin should be able to add new room
- Admin and Receptionist should be able to add new customer
- Admin and Receptionist should be able update check-in status of a customer
- Admin and Receptionist should be able update check-out status of customer
- Admin and Receptionist should be able see all the customers
- Admin and Receptionist should be able see all the rooms
- Admin and Receptionist should be able see all the employees
- Admin and Receptionist should be able search room
- Admin and Receptionist should be able update room status

## 3.3 Functional Interface Requirements

- Employee form

- Room form
- Customer form
- Form to update check-in status
- Tables to display customer info, room info and employee info.
- Login form
- Search bar to search room
- Buttons to load data, insert data and update data.

## 3.4 Performance Constraints

- Customers cannot book rooms online.
- There is no interface for customer’s interaction with hotel.

## 3.5 Design Constraints

- Data does not get loaded automatically. We need to click on the load data button to load it.
- We need to enter aadhar number of customers everytime we want to update check-in or check-out status.

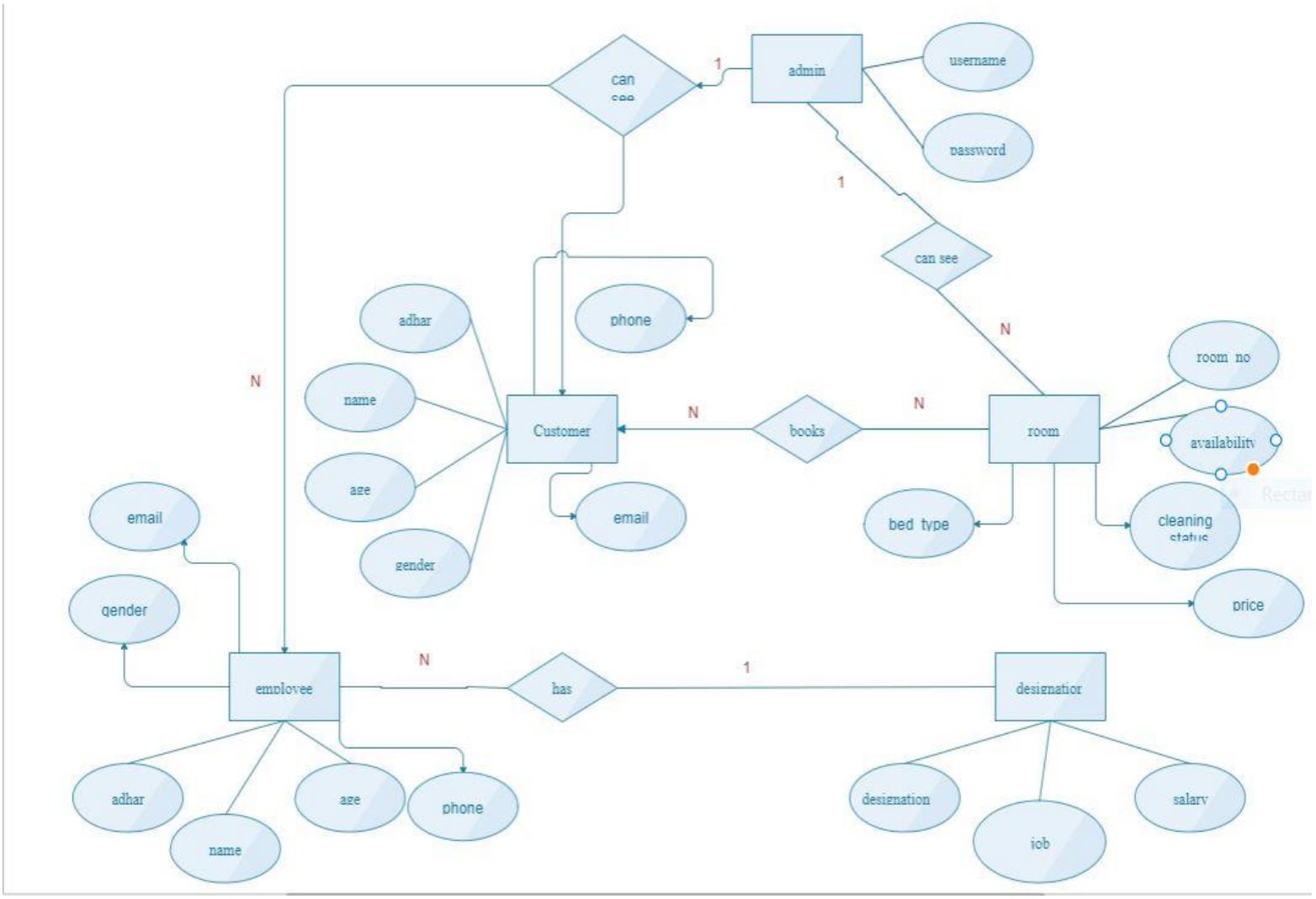
## 3.6 Acceptance criteria

- Admin or Receptionist can book single or multiple rooms for customers.
- Admin can add employees and rooms
- Admin or Receptionist can update check-in and check-out status
- Admin or Receptionist can update room status

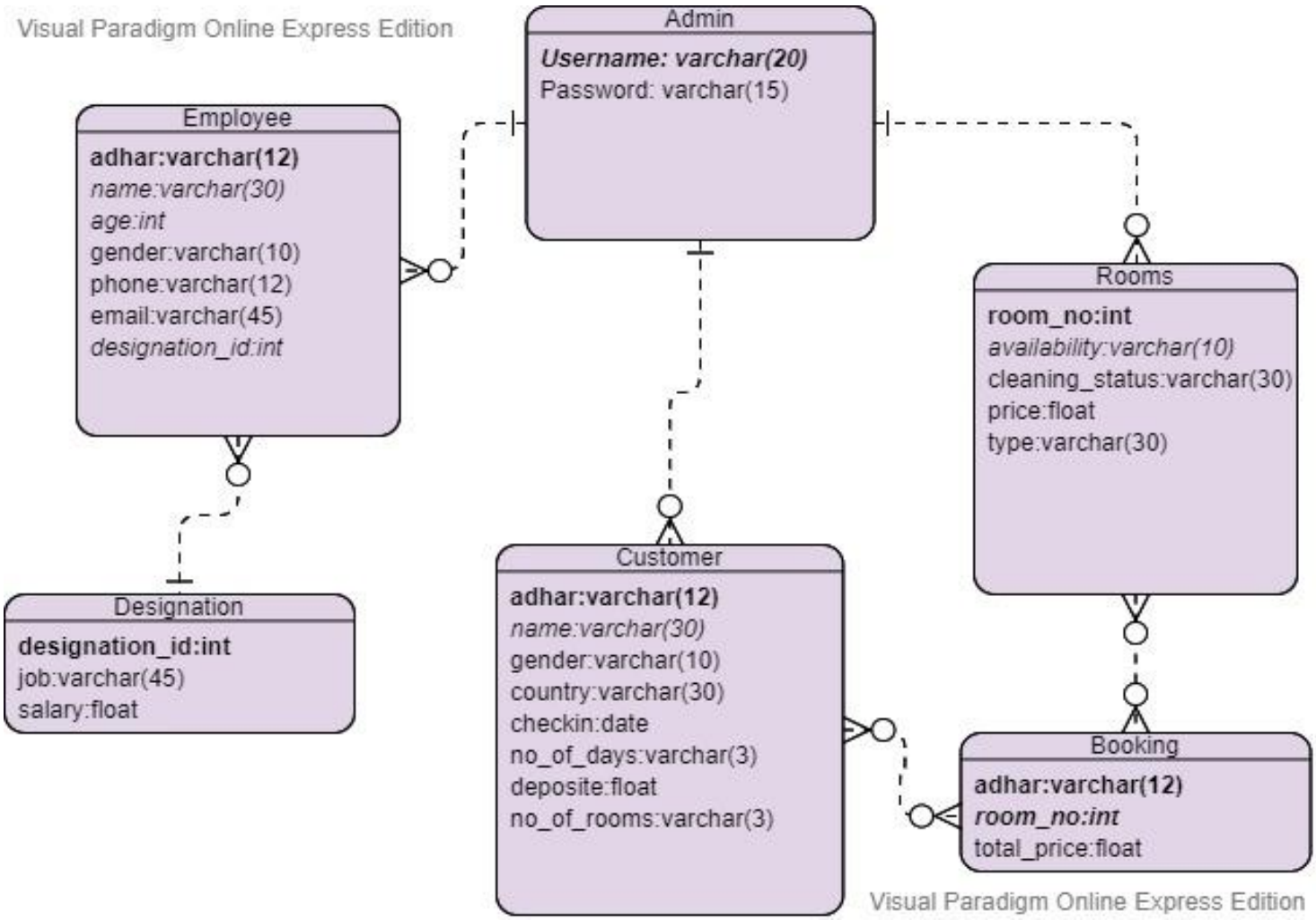
# 4. System Design

The system is designed in such a way that the user will understand all it's functionalities very easily.

## 4.1 ER Model



## 4.2 Schema Description



# 4.3 Tables Description

For this mini project we have created 6 tables.

1) Customer table :

   The customer table holds the information about customers.

   Structure:

   It has 8 columns. Aadhar column is the primary key.

2) Employee table :

   The employee table holds the information about employees.

   Structure:

   It has 7 columns. Aadhar column is the primary key and designetion_id of the designation table is the foriegn key.

3) Rooms :

   The rooms table holds the information about rooms.

   Structure:

   It has 5 columns. room_no column is the primary key.

4) Admin :

   The admin table holds the information about admin.

   Structure:

   It has 2 columns. User name column is the primary key.

5) Booking :

   The booking table holds the information about booking made by customers.

   Structure:

   It has 3 columns. (adhar+room_no) make composite primary key.

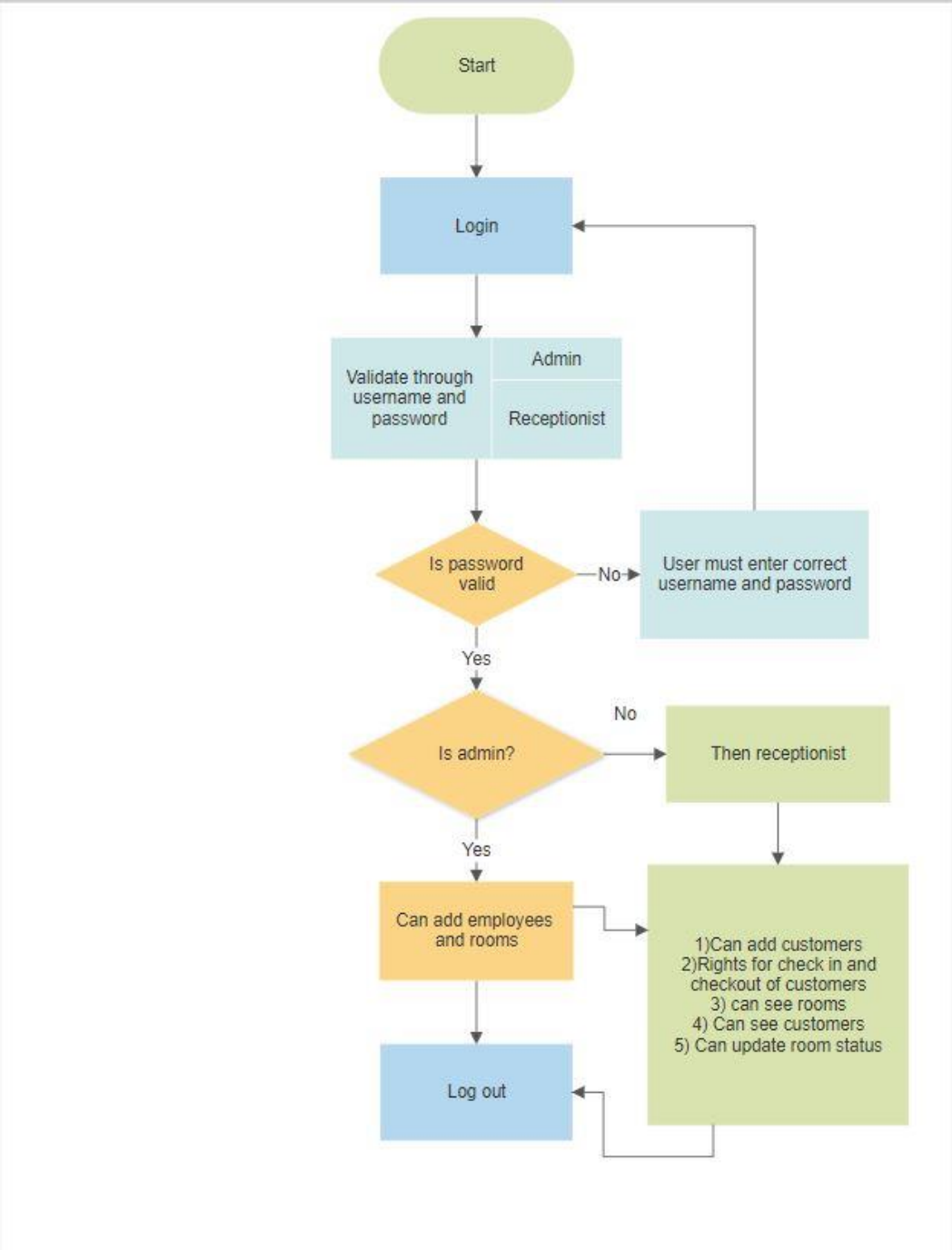
6) Designation :

   The designation table holds the information about designation of employees.

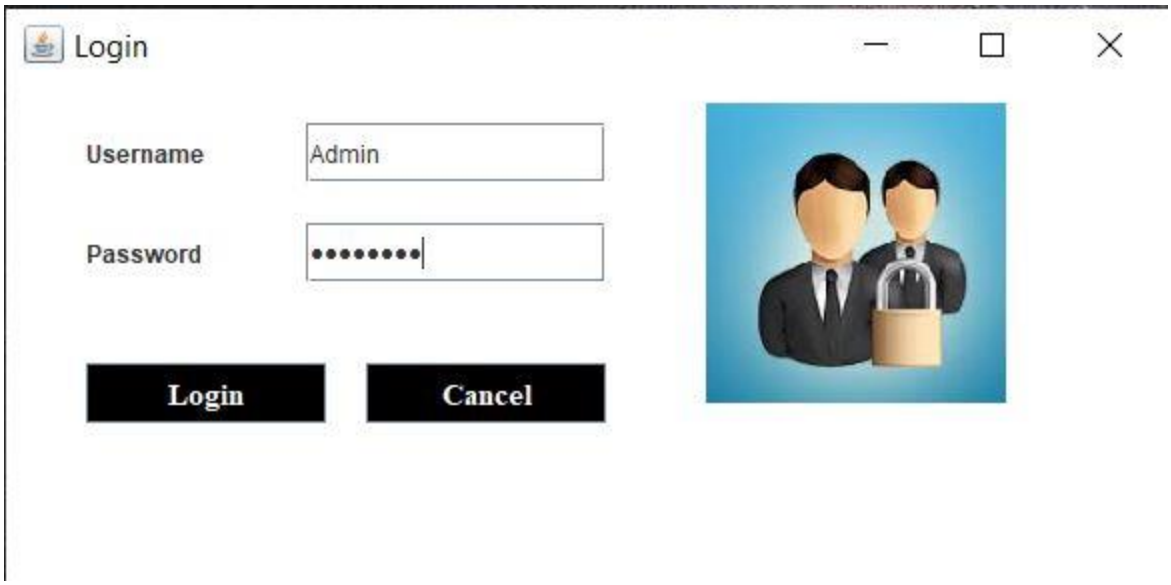
   Structure:

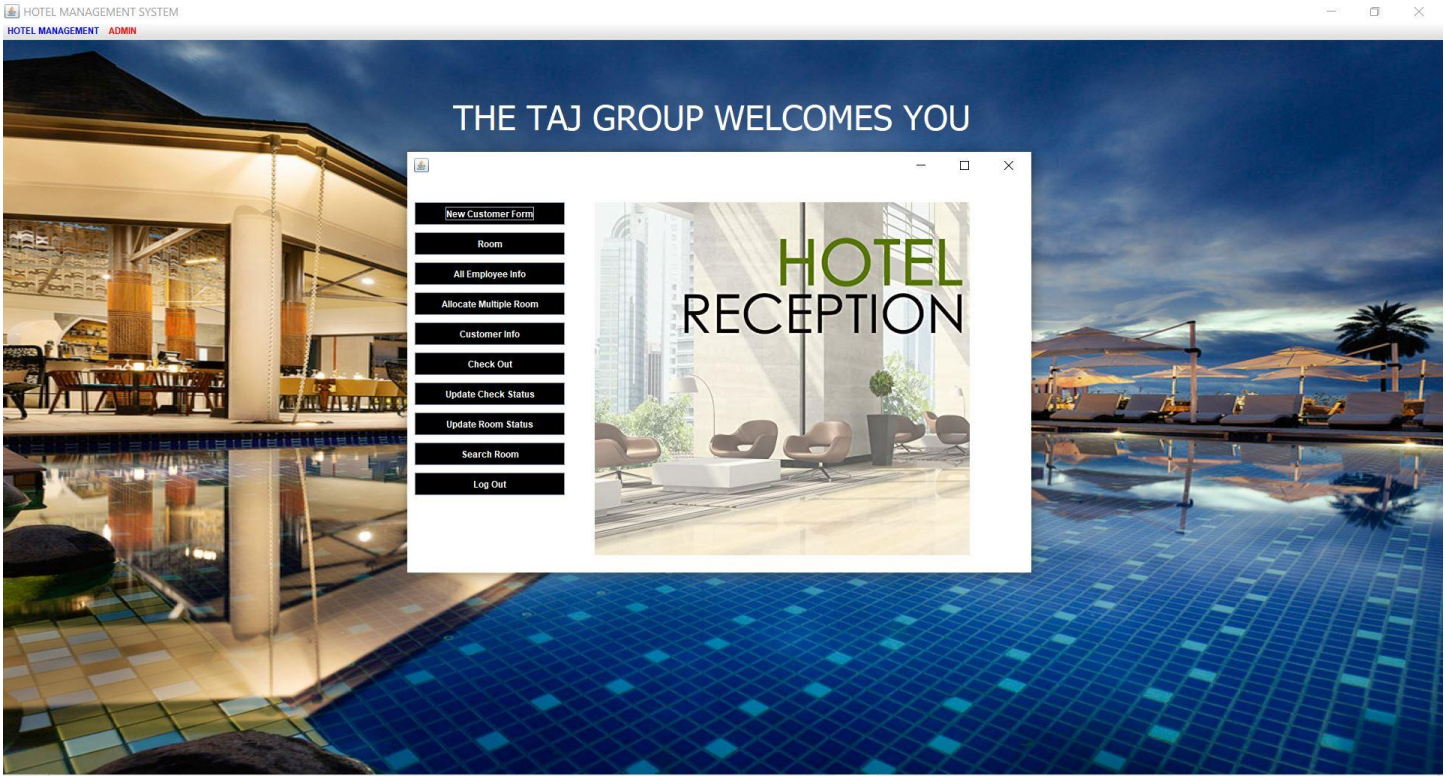
   It has 3 columns. designation_id column is the primary key

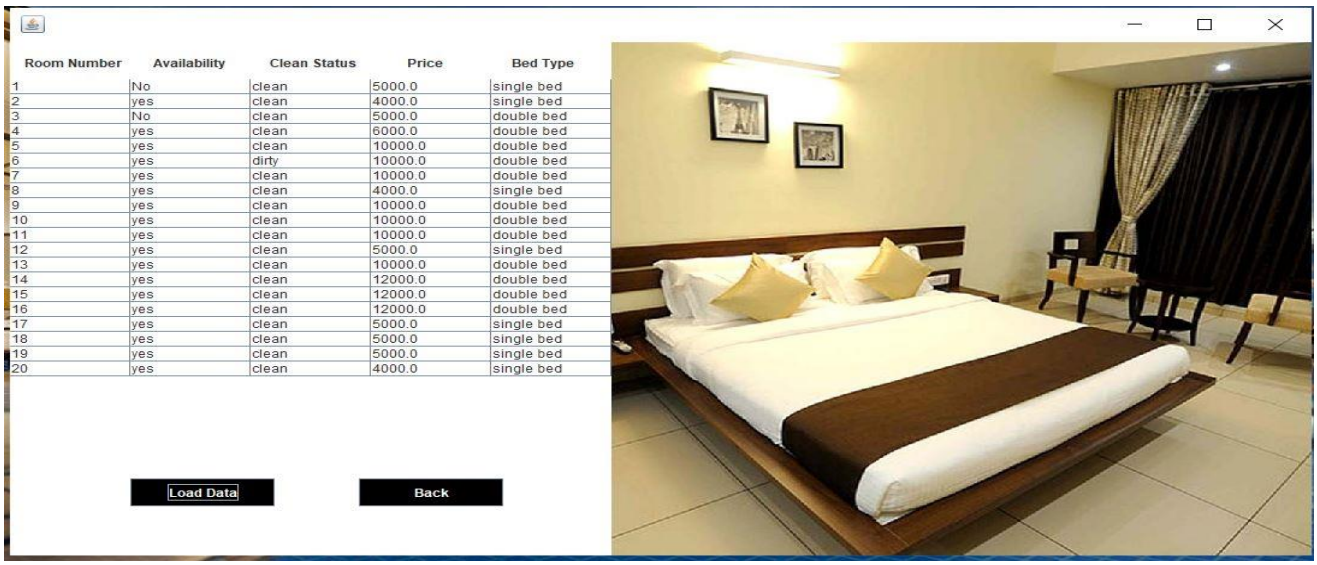
## 4.4 System Flow chart / Activity diagram



## 4.5 User Interface Design


HOTEL MANAGEMENT SYSTEM
HOTEL MANAGEMENT ADMIN
THE TAJ GROUP WELCOMES YOU
New Customer Form
Room
All Employee Info
Allocate Multiple Room
Customer Info
Check Out
Update Check Status
Update Room Status
Search Room
Log Out
HOTEL
RECEPTION


Room Number Availability Clean Status Price Bed Type
1 No clean 5000.0 single bed
2 yes clean 4000.0 single bed
3 No clean 5000.0 double bed
4 yes clean 6000.0 double bed
5 yes clean 10000.0 double bed
6 yes dirty 10000.0 double bed
7 yes clean 10000.0 double bed
8 yes clean 4000.0 single bed
9 yes clean 10000.0 double bed
10 yes clean 10000.0 double bed
11 yes clean 10000.0 double bed
12 yes clean 5000.0 single bed
13 yes clean 10000.0 double bed
14 yes clean 12000.0 double bed
15 yes clean 12000.0 double bed
16 yes clean 12000.0 double bed
17 yes clean 5000.0 single bed
18 yes clean 5000.0 single bed
19 yes clean 5000.0 single bed
20 yes clean 4000.0 single bed
Load Data
Back

ADD EMPLOYEE DETAILS

NAME

AGE

GENDER MALE FEMALE

JOB Front Desk Clerks

PHONE

AADHAR

EMAIL

SAVE

## ADD EMPLOYEE DETAILS

## Search For Room

Room Bed Type: Single Bed

Only display Available

| Room Number | Availability | Clean Status | Price | Bed Type |
|---|---|---|---|---|
| 2 | yes | clean | 4000.0 | single bed |
| 8 | yes | clean | 4000.0 | single bed |
| 12 | yes | clean | 5000.0 | single bed |
| 17 | yes | clean | 5000.0 | single bed |
| 18 | yes | clean | 5000.0 | single bed |
| 19 | yes | clean | 5000.0 | single bed |
| 20 | yes | clean | 4000.0 | single bed |

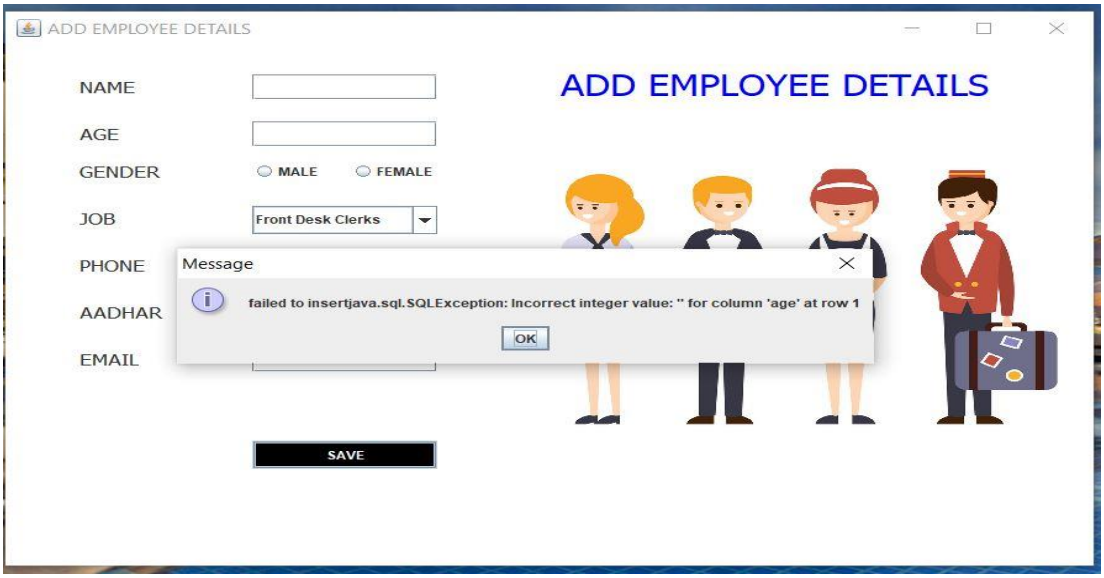
Search

Back

# 4.6 Error Messages / Alerts Design

1) When the username or password is invalid


2) While inserting data



# 4.7 Test Case Design

- Test Case 1: Check results on entering valid User Id & Password
- Test Case 2: Check results on entering Invalid User ID & Password
- Test Case 3: Check response when a User ID is Empty & Login Button is pressed, and many more
- Test Case 4: Try submitting the data without entering any field.

# 5. System Implementation

- The system is implemented using Java Swing and the database used is mySQL with JDBC connector to connect together the whole system.
- Swing is a set of program components for Java programmers that provide the ability to create graphical user interface ( GUI ) components, such as buttons and scroll bars, that are independent of the windowing system for specific operating systems. Swing components are used with the Java Foundation Classes ( JFC ).
- This system is designed and implemented in a way such that it allows the hotel manager and receptionist to handle all hotel activities online. This system provides room booking, staff management and other necessary hotel management features. The system allows the manager to post available rooms in the system.
- Implementation of various modules of system:
    1. Front-end of this module is implemented using various Java Swing components such as ImageIcon, JButton, JLable, JTextfield etc.
    2. All the actions to be performed on these components are described by adding an action listener component provided by action listener class in Java.
    3. Functions and validations are written within action performed for a particular action listener provided by a class in Java.
    4. Connection with mySQL database is established using jdbc driver.
    5. CRUD operations are performed within an action performed function for all events and data from user/front-end is accessed from request using getText function and according to functionality queries are performed on database.

        a. Reception Module

        I. Within the reception module functionality such as allocating a room, update room status, check in, check out, checking all employee information, searching a room, checking customer information have been described.

        b. Admin Module

        I. This module is designed for the use of the manager/admin of the hotel.

Ii. In this module functionality such as adding/removing an employee, search and view the information of all employee and customers, search, view and update information of rooms have been described.

## 5.1 Hardware and Software Platform Description

### 1. Software Platform Description

Operating System : Windows 10

Platform : Desktop Application

Technology : Java Swing

Language : Java

Backend : SQL server 2007

For Development : visual studio

For Design : HTML, Visual studio designer

### 2. Hardware Platform Description

**Minimum**

1. Pentium III or better processor
2. 10 GB hard disk
3. 256MB RAM

**Recommended**

1. Pentium IV
2. 20GB hard disk
3. 1GB RAM
4. 100-512 MBPS of network card

## 5.2 Tools Used

1. Netbeans IDE
2. JUnit
3. Java Development Kit (JDK)
4. Sql server
5. JDBC driver

## 5.3 System Verification and Testing (Test Case Execution)

1. System has been verified by means of various test cases.
2. Execution of test cases is as follow: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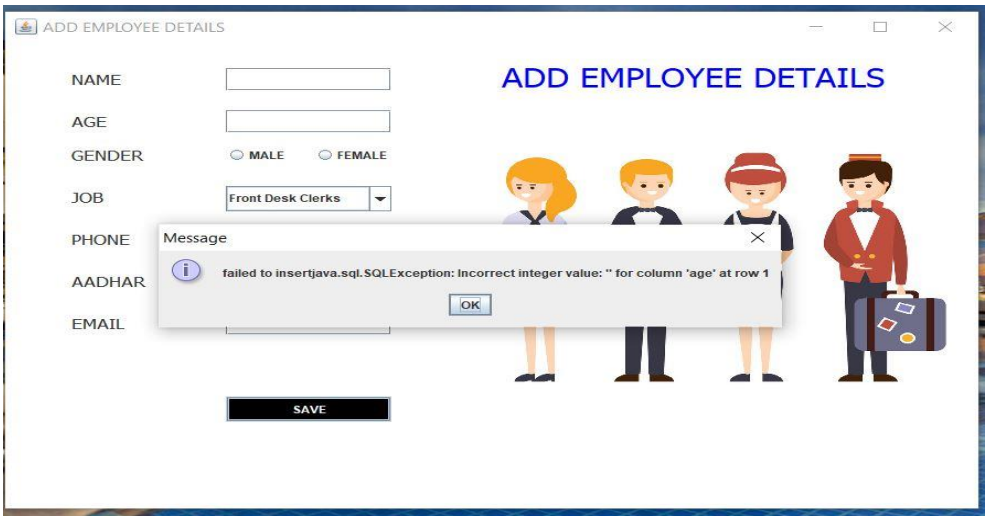


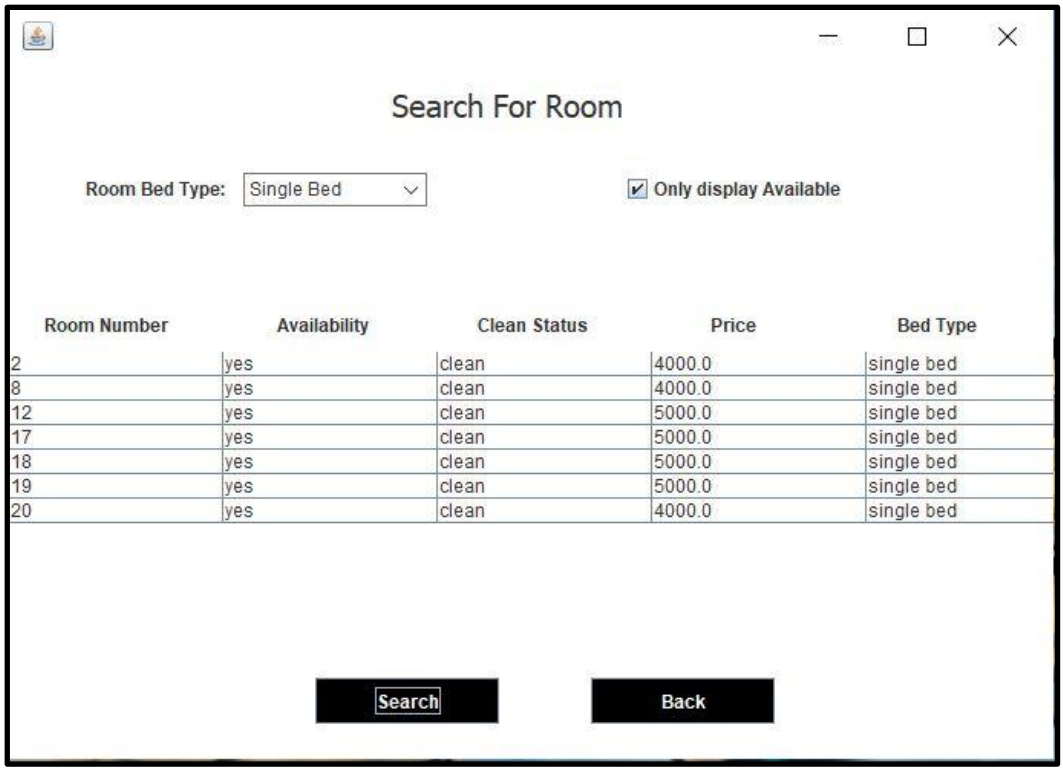


| Room Number | Availability | Clean Status | Price | Bed Type |
|---|---|---|---|---|
| 2 | yes | clean | 4000.0 | single bed |
| 8 | yes | clean | 4000.0 | single bed |
| 12 | yes | clean | 5000.0 | single bed |
| 17 | yes | clean | 5000.0 | single bed |
| 18 | yes | clean | 5000.0 | single bed |
| 19 | yes | clean | 5000.0 | single bed |
| 20 | yes | clean | 4000.0 | single bed |

## 5.4 Future work / Extension

For future work, development of UI of the system will be improved along with addition of functionalities related to hms. Also work will be done so that efficiency of the system will be improved.

## 5.5 Conclusion

The HMS system which enables and is able to manage the working of the hotel without any issues with easy retrieval of information of customers and their stay at the hotel has been implemented with all the given requirements and the system can be used by any hotel to make their system more efficient in terms of time as well speed.

# REFERENCES


1) www.google.com

2) www.nevonprojects.com

3) www.W3Schools.com (mysql)

4) docs.oracle.com (for java)

5) https://online.visual-paradigm.com/diagrams/features/erd-tool/