CS-6106

DATABASE MANAGEMENT SYSTEM PROJECT

ONLINE HOTEL RESERVATION SYSTEM

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INTRODUCTION

The main objective of this proposed idea is to create an efficient database and manage requests for online hotel reservations. The online reservation system aims at the maintenance and management of different hotels present in different parts of the world. The system provides information about different hotels that are available and their status specific to availability. We try to provide a single web app where – users can book rooms in a particular area based on the available hotels in a particular locality, hotel managers can update hotel details and general public can register to rent their homes. There is no restriction on room registration and any user can rent their homes and it will be listed on the website free of cost.

Users should register and login to the application to book hotel rooms or to rent a house. The user could select a particular city from the popular destination section, or search for a particular hotel in the search bar. Appropriate and valid check-in and check-out date must be provided by the user to search for a hotel. A list of hotels will be displayed for the user along with the special features of each hotel and the room types available in the hotel will also be provided to the user. Then the user could select a particular room type from the selected hotel. The number of rooms booked must be less than the available rooms. The appropriate pricing will be displayed for the booked rooms and the user can either confirm or cancel the booking. Once the booking gets confirmed, the rooms will be allocated to a particular user within the selected date. The rooms will be normally unallocated after the check-out date. The user can also manage his tickets in the dashboard section.

Hotel manager and home renders can register their hotels and rooms on the website free of cost. They should give basic information in order and cost at which they are renting their rooms.

The following concepts of DBMS are implemented in our project, ensuring atomicity, integrity, consistency, durability, and easy accessibility:

Database and table creation
Integrity Constraints
Joins and Views
Procedures, Functions, and Triggers

ABSTRACT

The main reason for implementing a hotel reservation system is to ensure that people could pre-book their rooms rather than booking a room physically from the hotel reception. This brings a sense of reliability to the users as they can be sure that their rooms are booked and need not worry about the hotel rooms becoming unavailable. It also prevents large queues at the hotel reception. Moreover, it also gives the users a wide range of hotels to choose from. People could also rent a part of their house, which could serve as a source of income for the renter. Based on the above-mentioned advantages of the online hotel reservation system, the project was developed.

Problems in Existing Systems:

Usually, hotel booking websites provide their users with a range of available hotels only. There may be general public, who can let people stay as paying guests. These general public are not always considered in the availability list for users.

Communication problems – limited options for users, inconsistency in data provided and actual data in real world, due to careless updates, system failures or improper maintenance.

Proposed Changes:

Creating a web app that allows general public also to rent their house.

By providing a user-friendly GUI, where users have a wide variety of choices and search options to choose from. Also, data inconsistency can be eliminated by proper usage of transactions.

Expected Outcome:

Wide range of choice for users – the web app hosts a variety of rooms from expensive hotel rooms to cheap rent houses.

Free listing of places – Any unregistered user can also view the list of places and the availability of rooms.

Pricing – Hosts can decide on charges per day, per week, per month, and so on.

End-User:

This online hotel reservation system aims to provide a better and more robust hotel management system the with best user satisfaction. This webapp is being developed as a general-purpose room booking application. This will be beneficial to those who travel a lot and need cheap and clean places to stay.

Tables Used:

cust_login (email, password, name)

cust_tkt (ticketID, cus_email, amount)

ticket (ticketID, hotelID, room_no, checkinDate, checkoutDate)

hotel_img (hotelID, imgsrc)

hotel_table (hotelID, HName, address, Hdesc)

Room tables

A table for storing the room details of a particular hotel. A room table will be created for each hotel. The structure of a room table will be

Room_hotelId(room_num , room_type , cost)

ENVIRONMENTAL SETUP

Frontend:

- HTML
- CSS
- JavaScript

Backend:

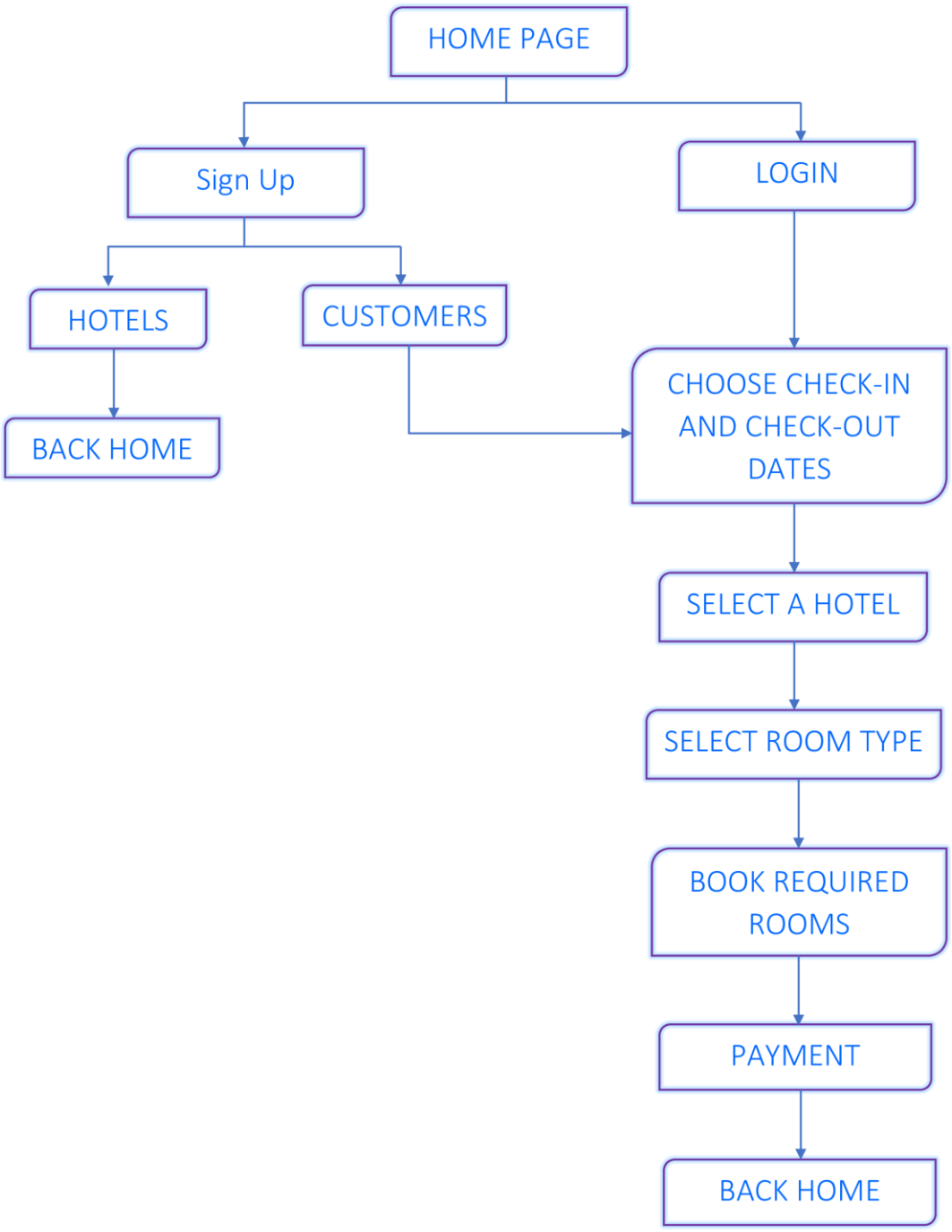
- NodeJS
- ExpressJS

Database:

- MySQL

IMPLEMENTATION

Control Flow of application:



Features in application:

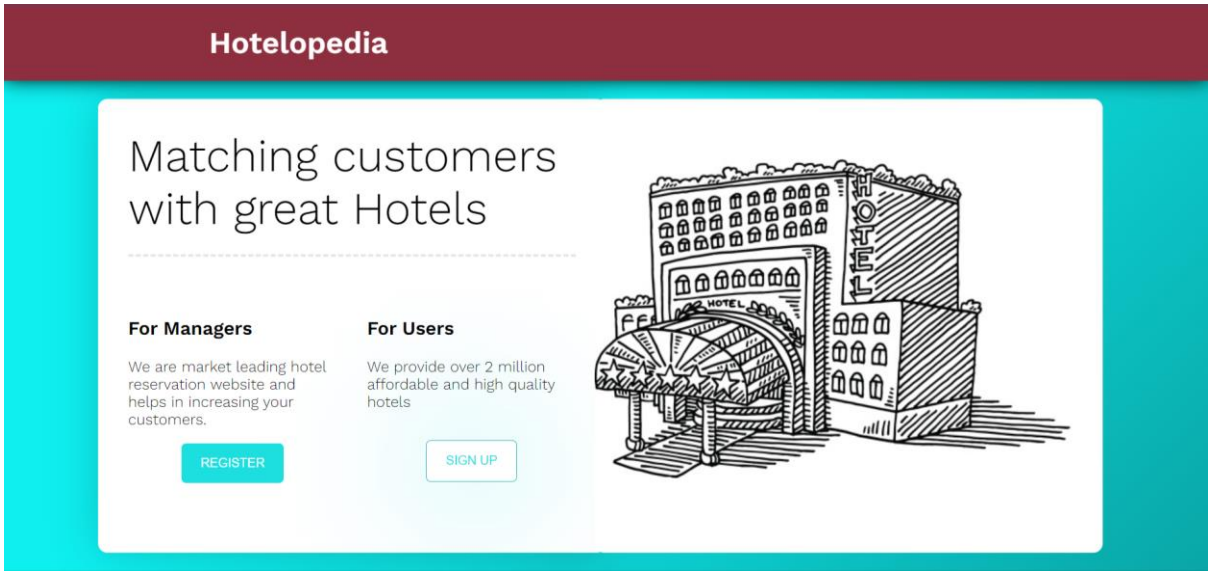


Figure 1: Registration for managers and users

As shown in Figure 1, the managers can click the register button for registering their hotel on the website. Normal user should click the sign-up button.

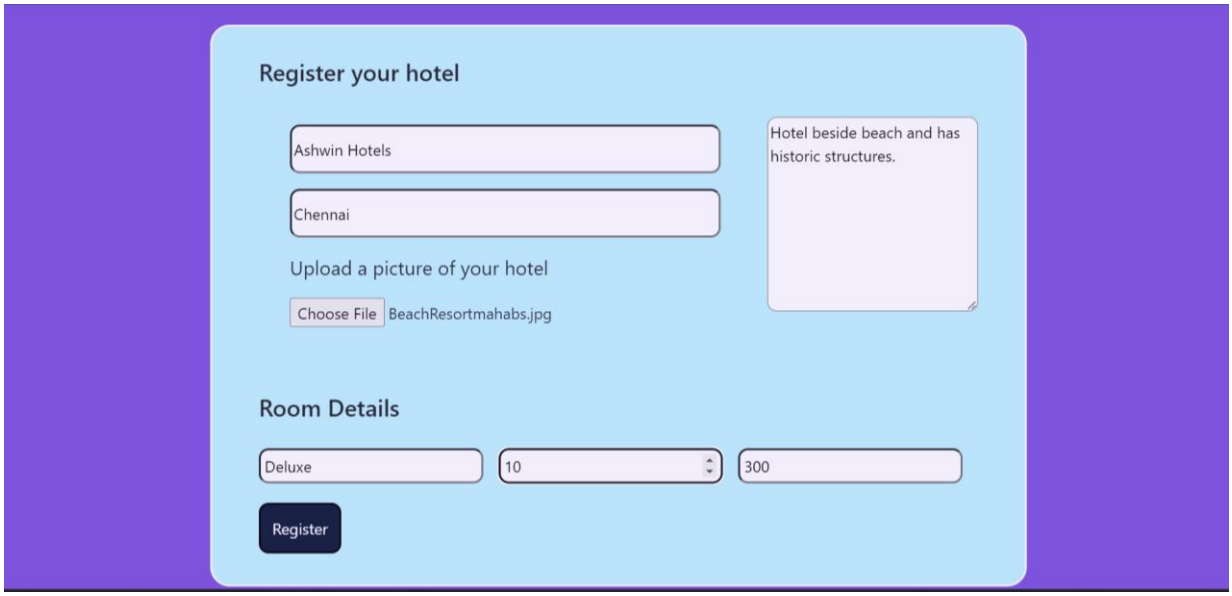


Figure 2: Hotel Registration

The manager should enter the hotel name, address, a short description and a picture of the hotel, along with the room details such as room type, number of rooms, and the cost of each room, as shown in Figure 2. The manager can also add or delete different types of rooms by using the add more rooms or delete rooms functionality. After completing registration, the manger will be directed back to the home page.

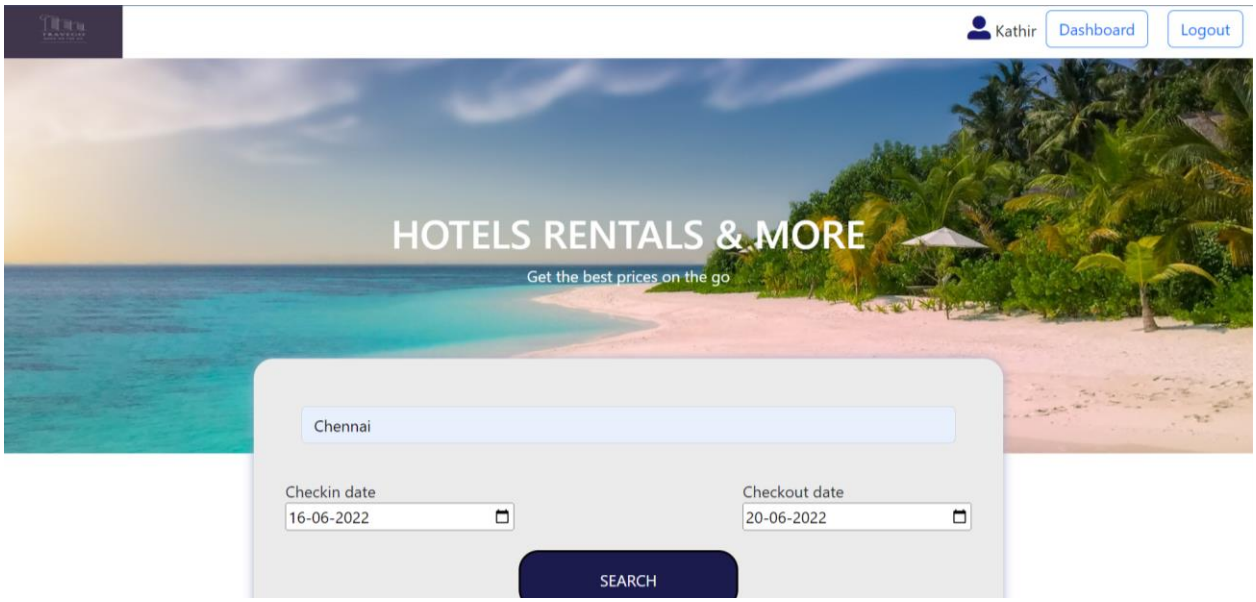


Figure 3: Home page after login

The user is required to enter the destination or a particular hotel or lodging name and the check in data, check out date after login, as shown in Figure 3. The user can also select a location from popular destinations. On clicking search button the user will be directed to a new page where the hotels are displayed if destination is correct. If the user clicks on the dashboard, the user can see his/her booked valid(non-expired) tickets.

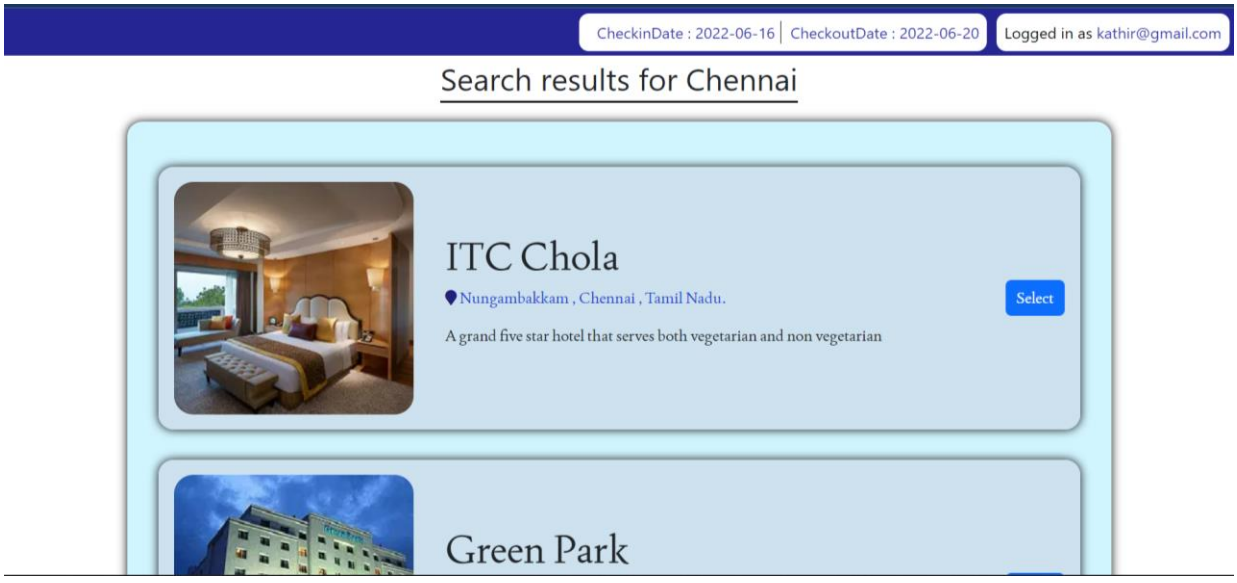


Figure 4: Search result page

The hotels available in the desired location will be displayed to the user, as shown in Figure 4. The user email is also displayed along with check in and check out date. The user can select any hotel from the displayed results and it will direct to room page.

Figure 5: Room selection page

The rooms for the selected hotel will be displayed to the user, as shown in Figure 5. The user can choose from the available list of rooms based on the type of room and its cost. Once a particular room is selected the user will be requested to enter the number of rooms needed.

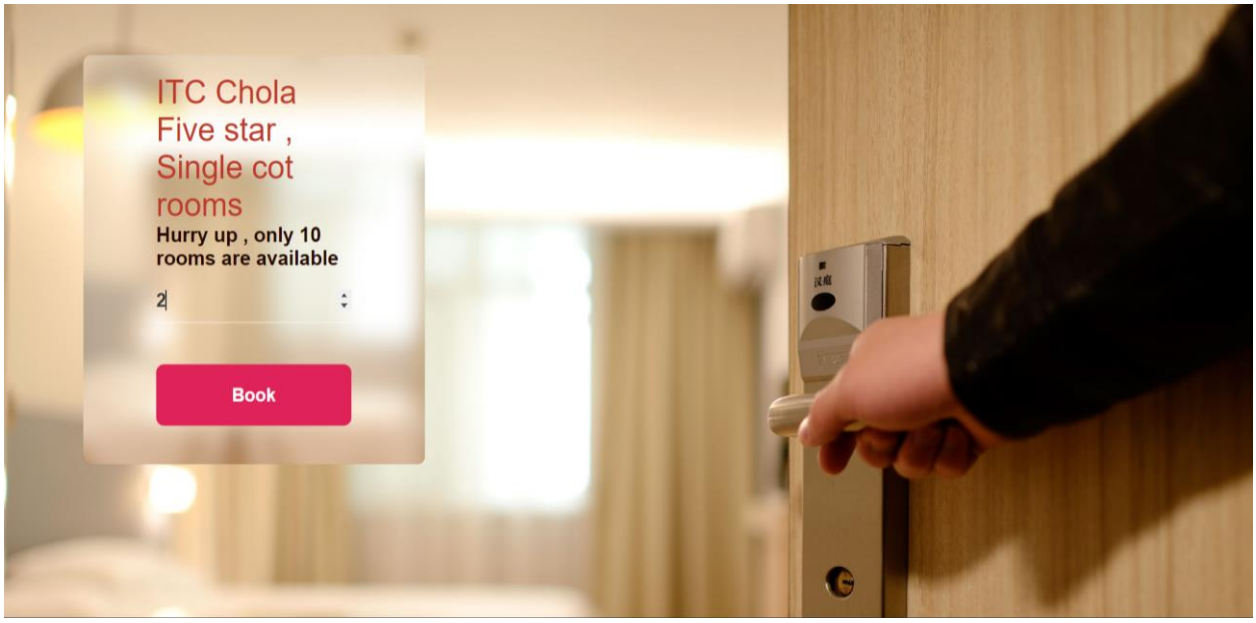


Figure 6: Room availability page

The user can enter the number of rooms needed, as shown in Figure 6. The number of rooms entered must be less than the available rooms else it will prompt the user to enter the value again. Once the number of rooms is entered the user can click on the book button. Then, the user will be directed to payments page.

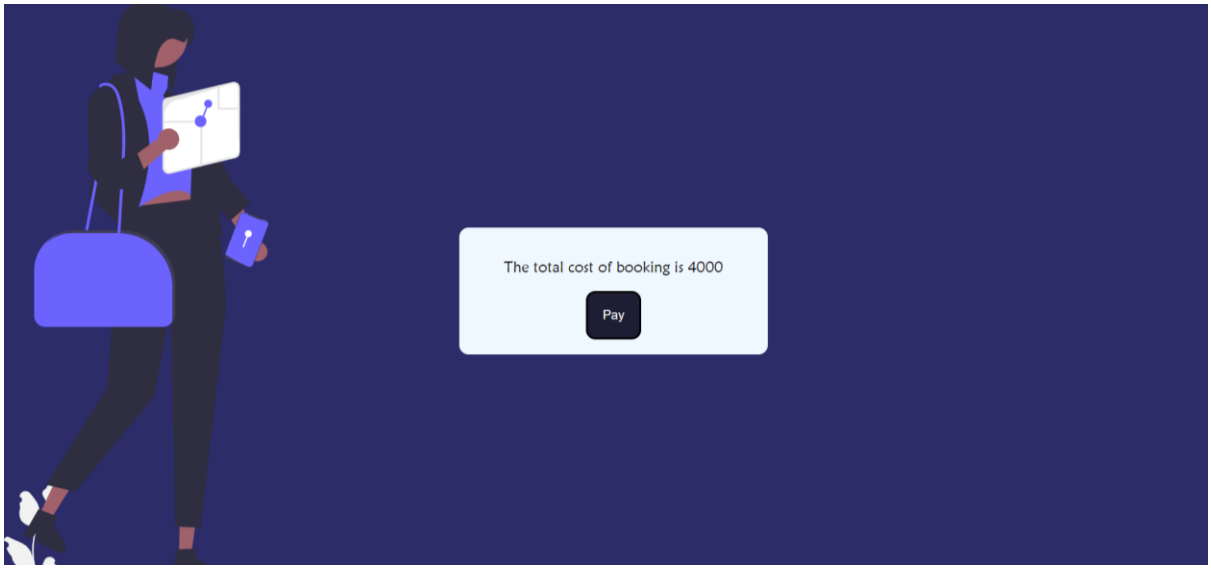


Figure 7: Payment page

The total amount for the booked rooms will be displayed, as shown in Figure 7. The user can click pay, if he wants to continue and pay for the rooms.

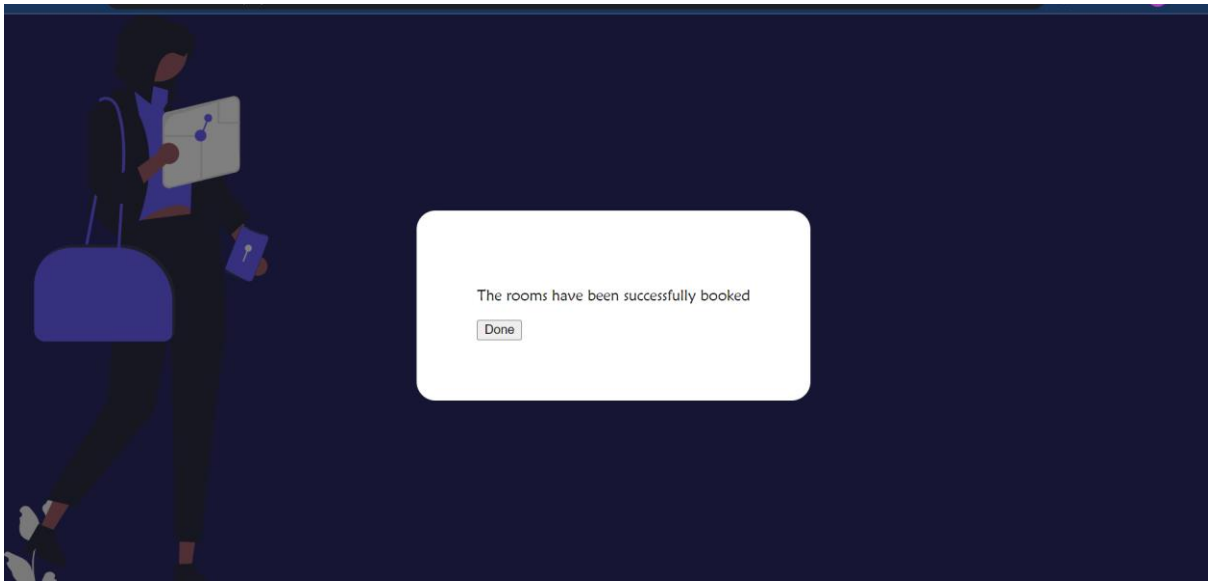


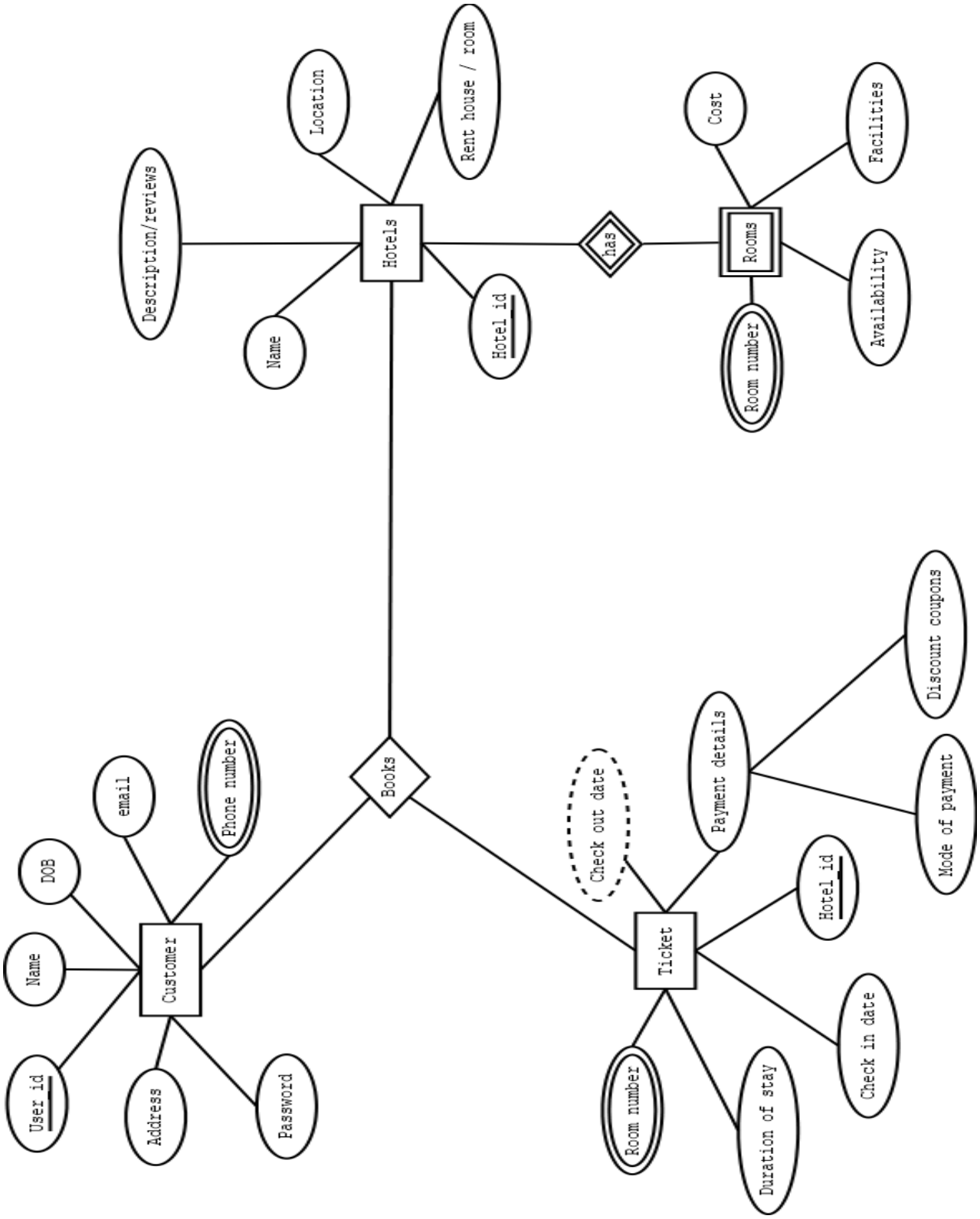
Figure 8: Confirmation page

A confirmation page will be displayed if the rooms are successfully allocated to the user. The user can click done to return back to login page.

Figure 9: Dashboard

The rooms booked by the user will be displayed in the dashboard, as shown in Figure 9. Only valid tickets will be displayed in the dashboard, that is the tickets that have not expired.

ER DIAGRAM


Hotels
Location
Rent house / room
Description/reviews
Name
Hotel id
has
Rooms
Cost
Facilities
Availability
Room number
Books
Customer
User id
Name
DOB
email
Phone number
Address
Password
Ticket
Check out date
Payment details
Discount coupons
Mode of payment
Hotel id
Check in date
Duration of stay
Room number

FUTURE SCOPE

Hotel managers can be allowed to upload a 360-degree video of their rooms so that the customers can have a better idea of the rooms.

Users can be allowed to have a look at various hotels and rooms before login and user information should be asked only for booking.

Reviews for each hotel and rooms can be taken from the users. The ratings and reviews shall be displayed, which helps future customers in choosing a good hotel.

CONCLUSION

The proposed idea covers most of the basic requirements needed for hotel booking. It can handle massive amounts of data. The front end is responsive, and the backend is designed keeping in mind to reduce the possibility of various errors while being efficient. The application runs successfully and produces satisfactory results living up to the expectations of the user. We have achieved immense satisfaction for developing a successful and a good app in terms of effectiveness and efficiency, flexibility, adaptability, generality, robustness and reusability. We, all three of us, are very happy that we created the app with the basics what we learnt, by contributing equal works towards the development of app.