

A
PROJECT REPORT ON

Online Hotel Reservation System

By

Joshi Parv (CE052) (19CEUOS125)

Parth Makwana (CE060) (19CEUSG161)

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Under the guidance of

Prof. Pinkal C. Chauhan

Assistant Professor

Dept. of Comp. Eng.



Department of Computer Engineering

Faculty of Technology,

Dharmsinh Desai University, Nadiad.

DHARMSINH DESAI UNIVERSITY



CERTIFICATE

This is to certify that that the term work carried out in the subject of **Software Engineering & Practices** is entitled as “**Online Hotel Reservation System**” is a bonafide report of the work carried out by

Mr. Parv Joshi (CE052) (19CEUOS125)

Mr. Parth Makwana (CE060) (19CEUSG161)

of B. Tech semester **IV** in the branch of **Computer Engineering** during the academic year **2020-2021**.

Prof. Pinkal C. Chauhan
Assistant Professor,
Dept. of Computer Engg.,
Faculty of Technology
Dharmsinh Desai University

Dr. C. K. Bhensdadia,
Head of Department,
Dept. of Computer Engg.,
Faculty of Technology
Dharmsinh Desai University

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1. Abstract

It was very time consuming and annoying task for customers to make a room reservation, the staff members had to record their booking in books. All the necessary booking stuffs were being done in hard copy. So, it was much difficult for staffs to keep the records update all the time.

To overcome these situations the “**Online Hotel Reservation System**” is a system to book for rooms in a hotel. The purpose of this system is to develop and implement an online hotel reservation system for hotels, that will replace the manual method and keep record of booking for hotel rooms. The main goal of this online system is that it can handle all the task which requires in reservation of the hotel in an efficient and reliable way

Introduction

Online Hotel Reservation System is the best platform, as it provides many benefits so customer can easily book the hotel or room through the internet. It discovers the more information about a hotel which is located in a particular area and customer can also select a hotel according to their preference. A hotel reservation system provides customers to schedule dates, room selection, and payment all in one place. Most of the tourist book the hotel online to save time and energy.

The aim of the online hotel reservation system is to create an online web-interface for the users to check the availability and book the room from anywhere. This system is an alternative of the traditional offline way of checking available rooms and book them. The system will have two major types of users: customers and hotel manager.

Tools /Technologies/ Platform Used:

➤ Technologies:

- Django
- Python
- MySQL
- HTML

➤ Tools

- Visual Studio Code
- PyCharm

➤ Platform

- XAMPP Server

2. Software Requirement Specifications

1. Manage User

R.1.1 Register User:

Description: The details of customer such as a name, phone number, email-id, Birth date and address are entered.

Input: Customer's details.

Output: Registered.

R.1.2 Update User:

Description: The details of customer are updated.

Input: Changes needed.

Output: Updated details with confirmation of changes.

R.1.3 Display User Details:

Input: User's name

Output: Currently stored details.

R.1.4 Delete User:

Description: The account of user can be deleted if it is inactive.

Input: Name of Customer

Output: Confirmation message.

2. Manage Hotel

R.2.1 Register Hotel:

Description: The details of the hotels such as name, address, contact no., rooms detail, images, price are entered.

Input: Hotel's details.

Output: Registered.

R.2.2 Update Hotel:

Description: The required changes can be done of the hotel detail.

Input: Changes or update needed.

Output: Updated message with confirmation of changes.

R.2.3 Delete Hotel:

Description: Delete a record of hotel.

Input: Hotel name.

Output: Confirmation message.

3. Mange Room

R.3.1 Select a room:

Description: A user can see and select the rooms to his convivence date.

R.3.1.1 Book a room:

Description: A user can book a room only if he is registered. The various outstanding against him along with the date borrowed are first displayed.

Input: User selection.

Output: Confirmation of room.

R.3.1.2 Confirm booking:

Description: If the user confirms, then the room would be issued to him and the relevant records should be updated.

Input: Users confirmation for booking a room.

Output: Confirmation of Room booking.

R.3.2 Query room:

Description: Any user should be able to query a particular room from anywhere.

Input: User Selection.

Output: Availability of the room and whether the room is already booked.

R.3.3 Cancel the booking of room:

Description: User can cancel the booked room and the relevant records would be updated.

Output: Confirmation message.

4. Manage Payments

R.4.1 Select Payment Mode:

Description: The System needs to be able to check if customers have made payments or not. User can make payments by his choice online or offline. After selecting a payment mode system would show room status booked.

R.4.1.1 Online Payment:

Description: User can make payment at online by credit, debit card UPI.

Input: Add the required details.

Output: Confirmation message of payment done.

R.4.1.2 Offline Payment:

Description: User can also make payment at the day of arriving at hotel by cash, cheque, credit/debit card.

Output: Confirmation message of payment done.

5. Manage Statistics

R.5.1 Display room count:

Description: The total numbers of rooms in the hotel would be displayed.

Input: User selection.

Output: Count of the rooms.

R.5.2 Display amount invested:

Description: The total amount invested in the hotel by is displayed.

Input: User Selection.

Output: Total Amount Invested.

R.5.3 Display transection:

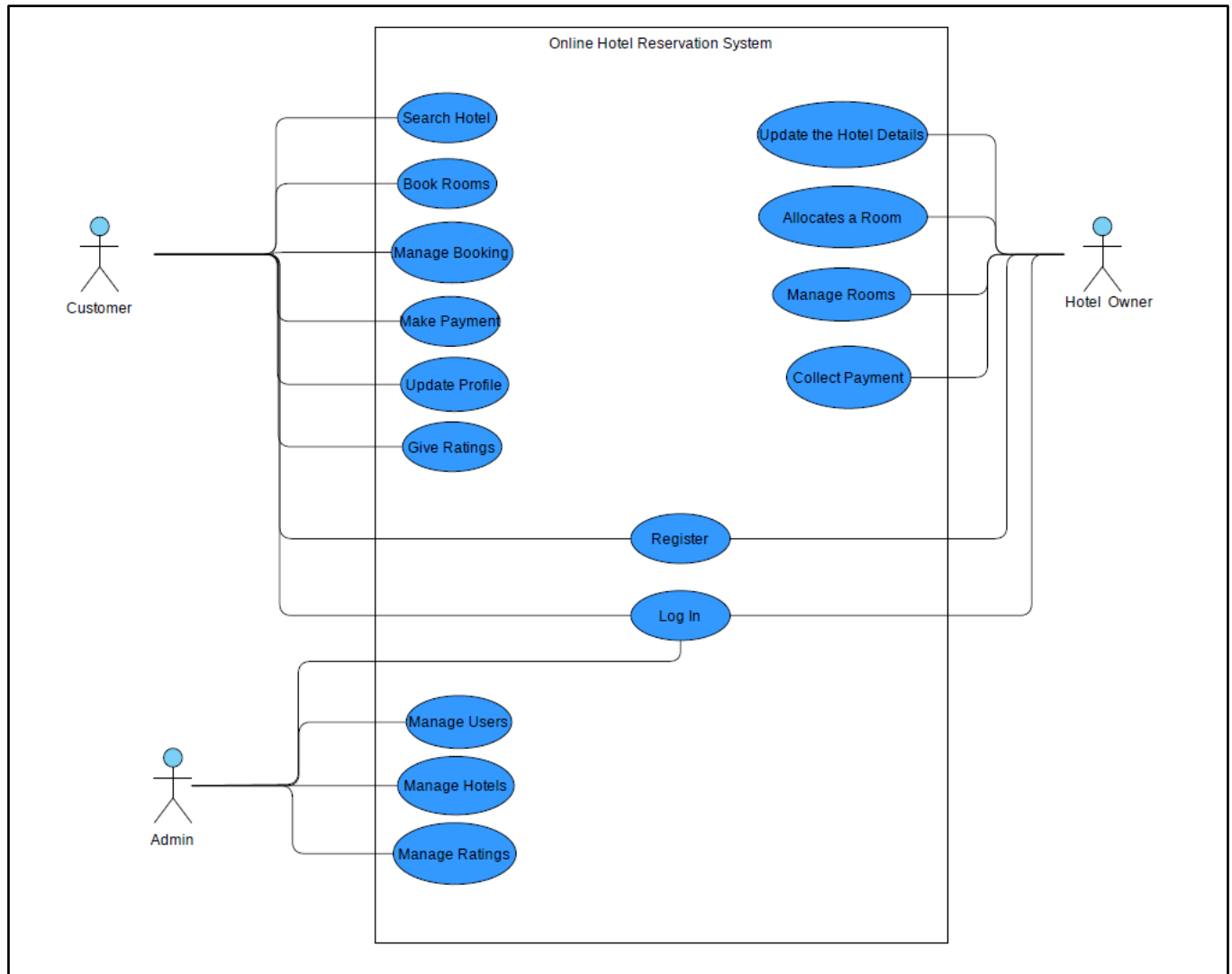
Description: The total numbers of rooms are booked over a specific time period is displayed.

Input: Start of period and end of period.

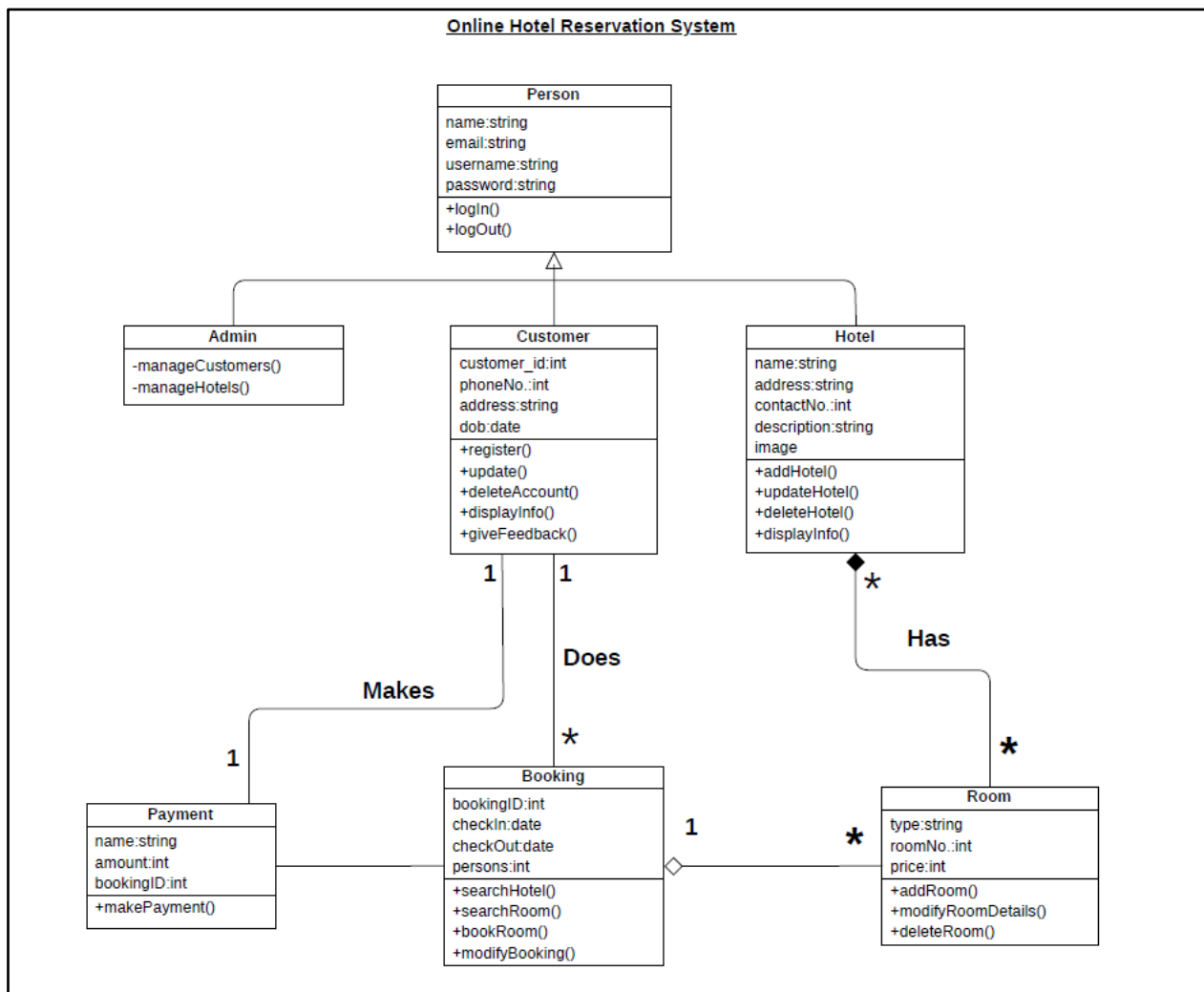
Output: The total number of rooms booked.

3. Design

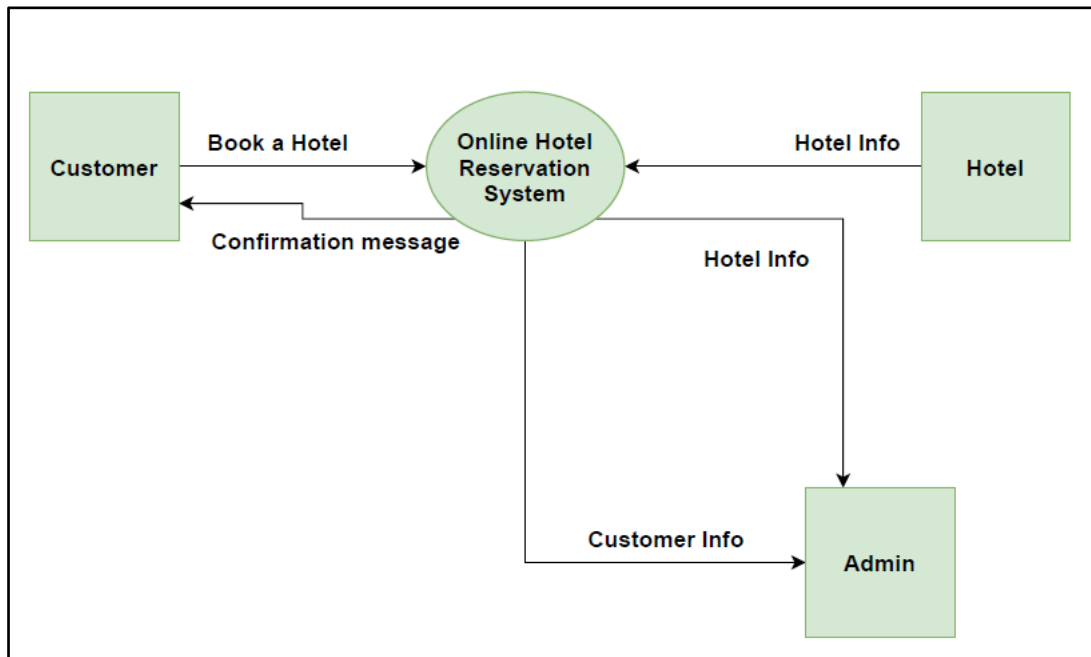
1. Use case Diagram:



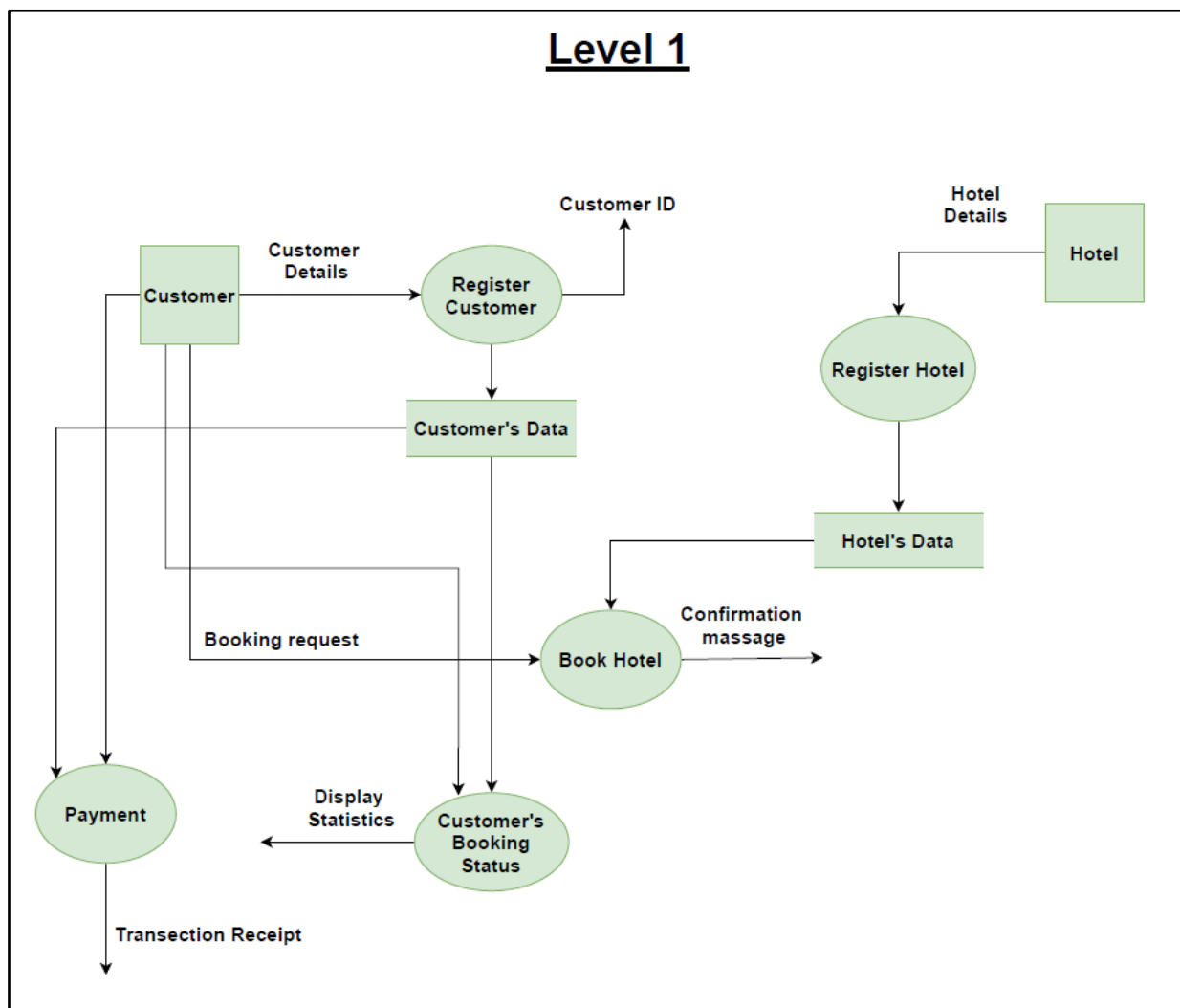
2. Class Diagram:



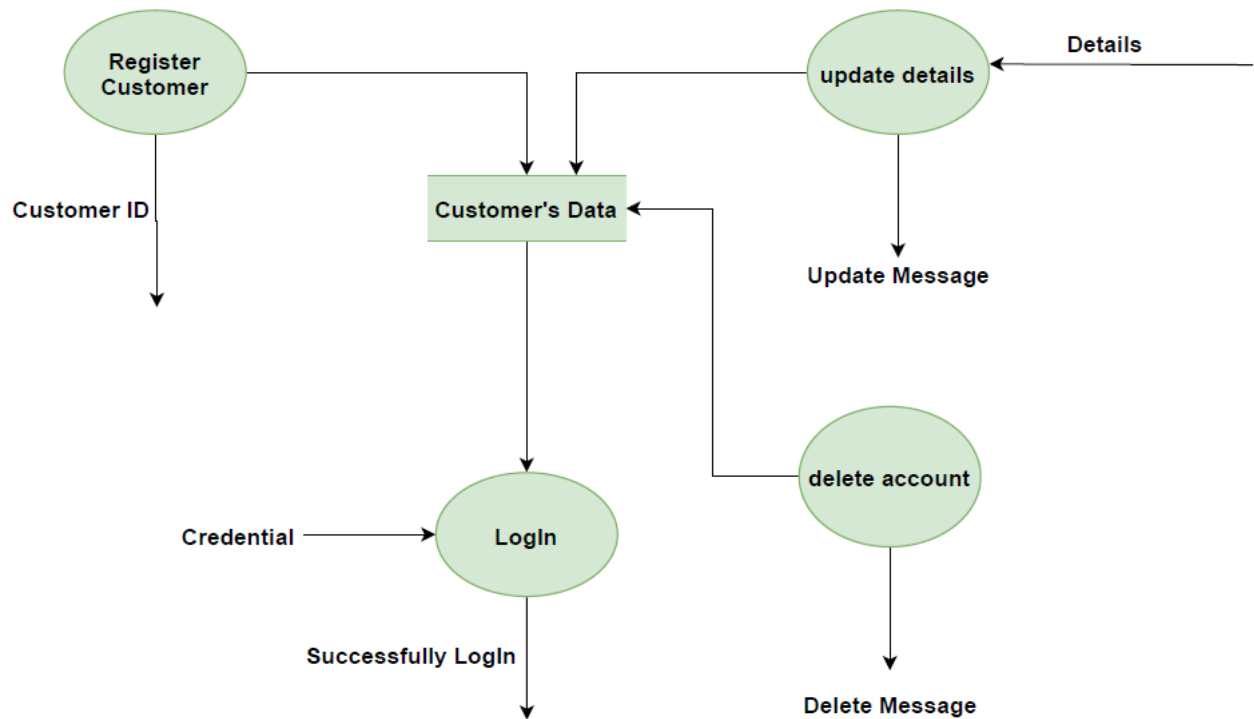
3. Context Diagram:



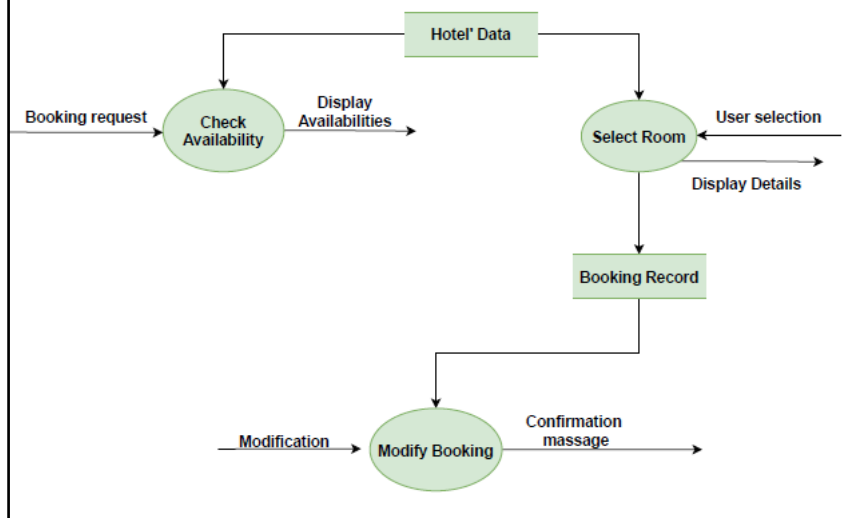
Level 1



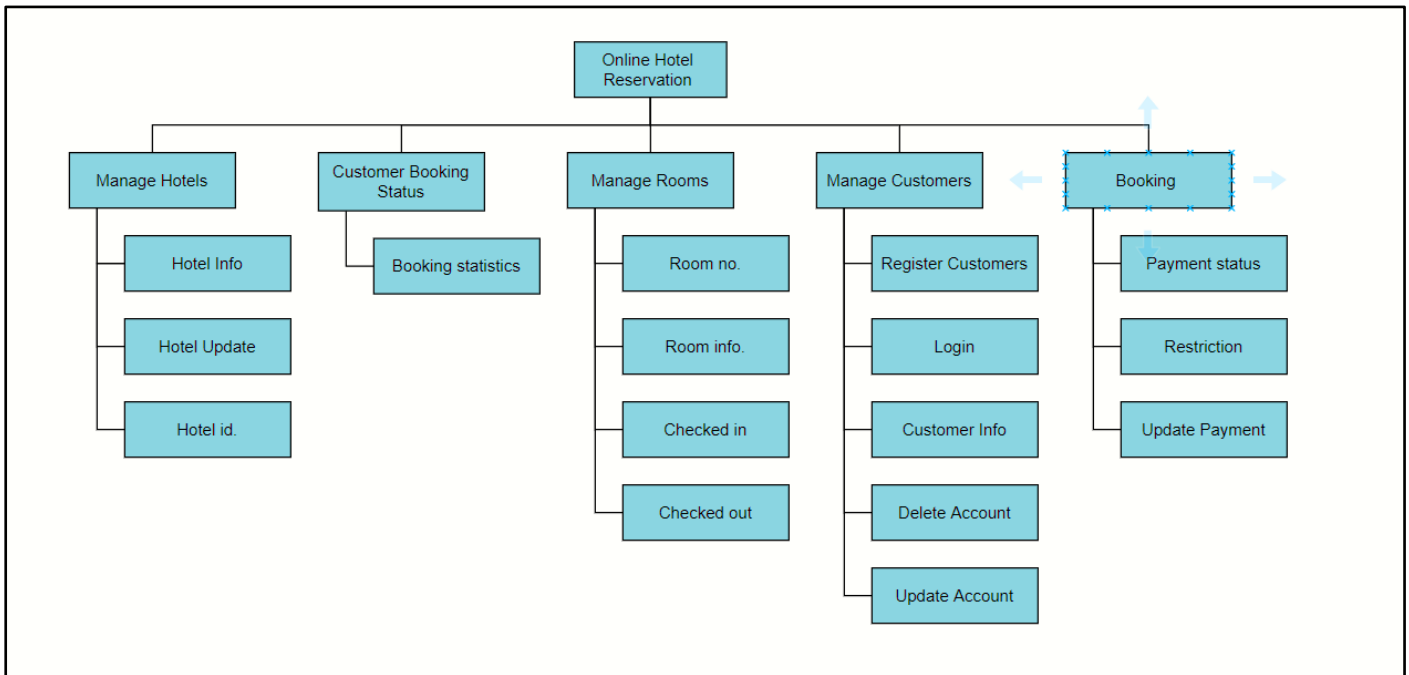
Level 2(Register Customer)



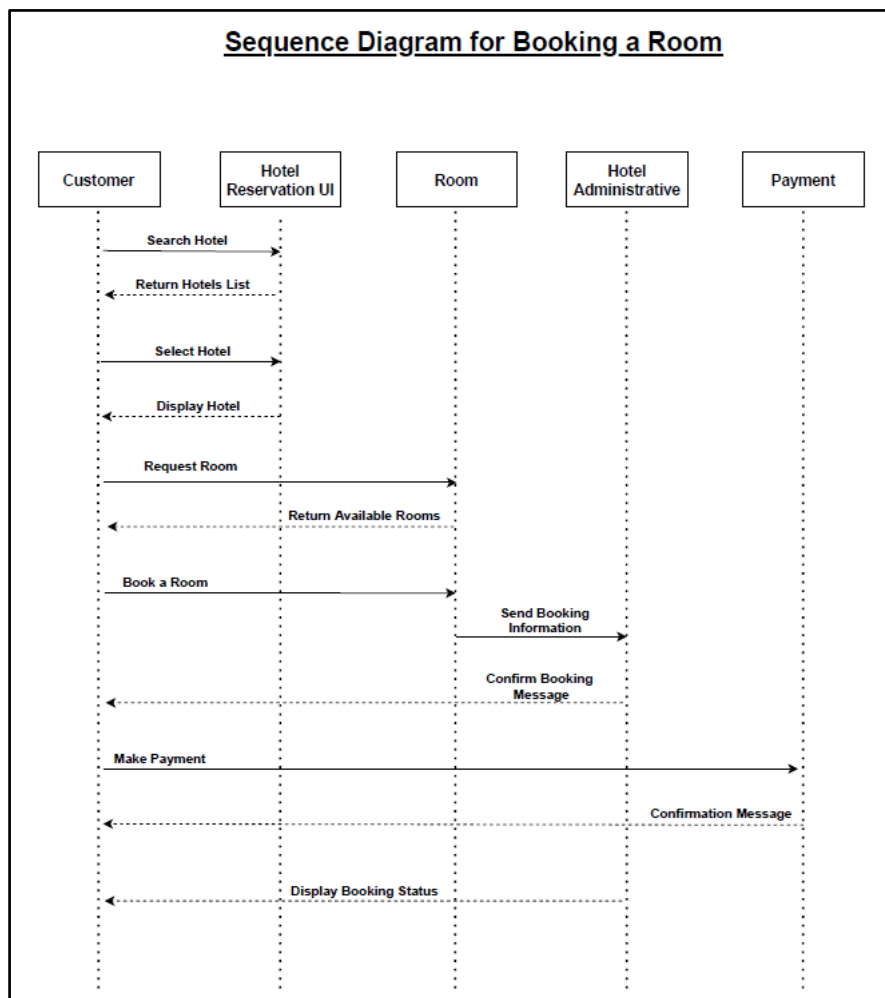
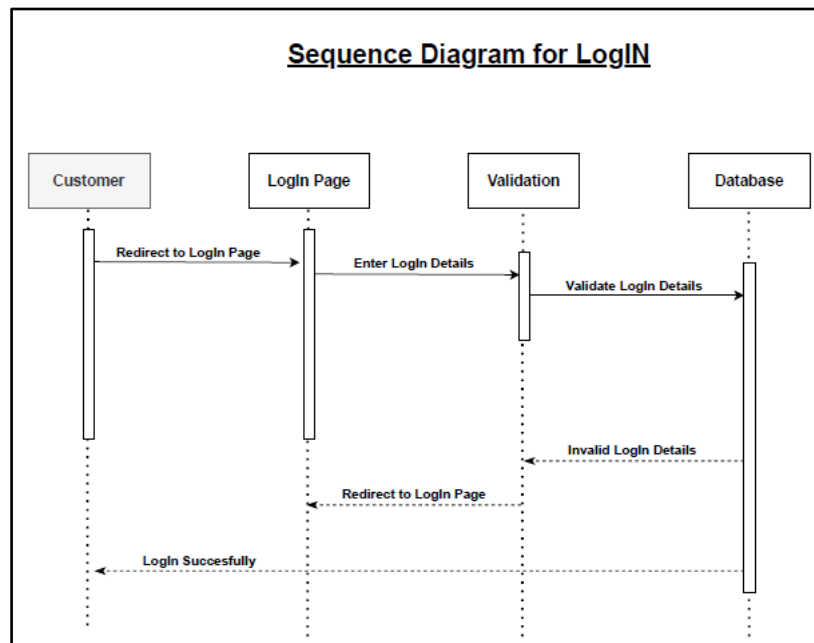
Level 2(Book Hotel)



4. Structure Diagram:

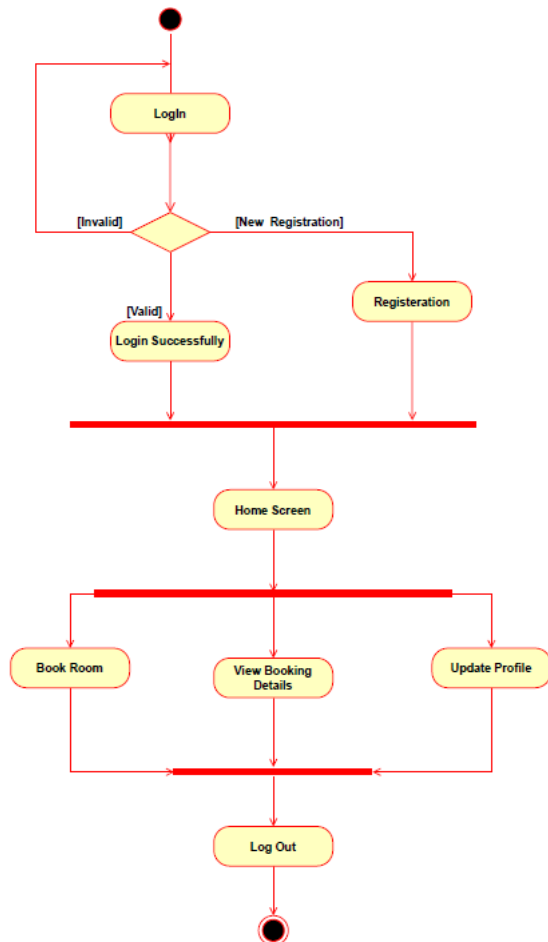


5. Sequence Diagram:

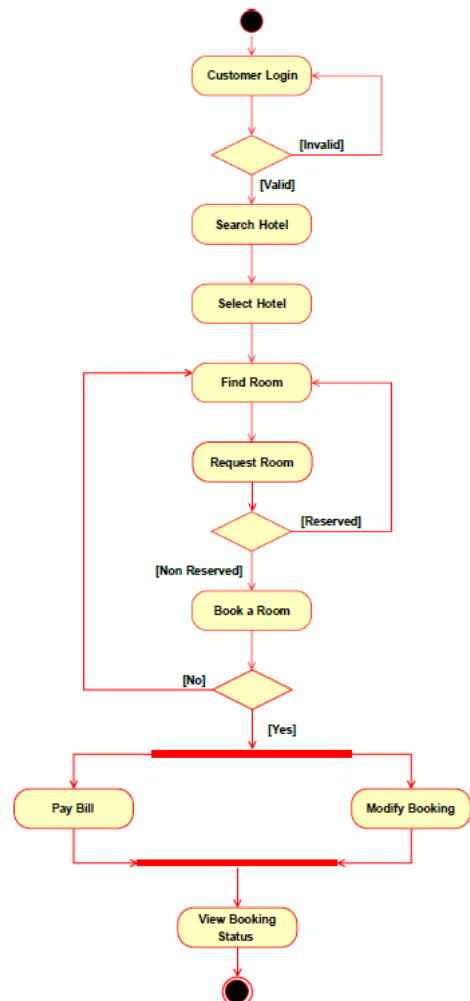


6. Activity Diagram:

Activity Diagram for Log In



Activity Diagram for Booking a Room



4. Implementation Details

1. Modules

The system consists of 3 basic modules namely

1. User Module
2. Hotel Module
3. Booking Module

Each module consists of several methods to implement the required functionality.

User Module

This module is the base for authentication and authorization to ensure the security aspect of the user. It also includes profile creation and update if required.

Hotel Module

In this Hotel Module Admin and hotel manager have an access to add, update and delete hotels.

Booking Module

This module manages all the booking related stuff. Customer can book a hotel room, they can view the booking status.

2. Function Prototypes

➤ Signup

```
def signup(request):
    if request.method == 'POST':
        first_name = request.POST['first_name']
        last_name = request.POST['last_name']
        username = request.POST['username']
        password = request.POST['password']

        customer = Customer(customer_id=None, first_name=first_name, last_name=last_name, username=username,
                             password=password)
        user = User.objects.create_user(username=username, password=password)
        user.save()
        customer.save()
        messages.success(request, "Account created successfully!")
        return render(request, 'home.html')

    else:
        return render(request, 'signup.html')
```

➤ Login

```
def login(request):
    if request.method == 'POST':
        user = request.POST['username']
        password = request.POST['password']
        user = auth.authenticate(username=user, password=password)

        if user is not None:
            auth.login(request, user)
            return render(request, 'home.html')
        else:
            messages.error(request, "Invalid Username and Password!")
            return render(request, 'login.html')

    else:
        messages.info(request, "Enter Username and Password!")
        return render(request, 'login.html')
```

➤ Booking Room

```
def book_room(request):
    if request.method == "POST":
        room_id = request.POST['room_id']
        room = Rooms.objects.all().get(id=room_id)

        for each_reservation in Reservation.objects.all().filter(room=room):
            if str(each_reservation.check_in) < str(request.POST['check_in']) and \
               str(each_reservation.check_out) < str(request.POST['check_out']):
                pass
            elif str(each_reservation.check_in) > str(request.POST['check_in']) and \
                 str(each_reservation.check_out) > str(request.POST['check_out']):
                pass
            else:
                messages.warning(request, "Sorry This Room is unavailable for Booking")
                return redirect("homepage")

        user = request.user
        total_person = int(request.POST['person'])
        booking_id = str(room_id) + str(datetime.datetime.now())

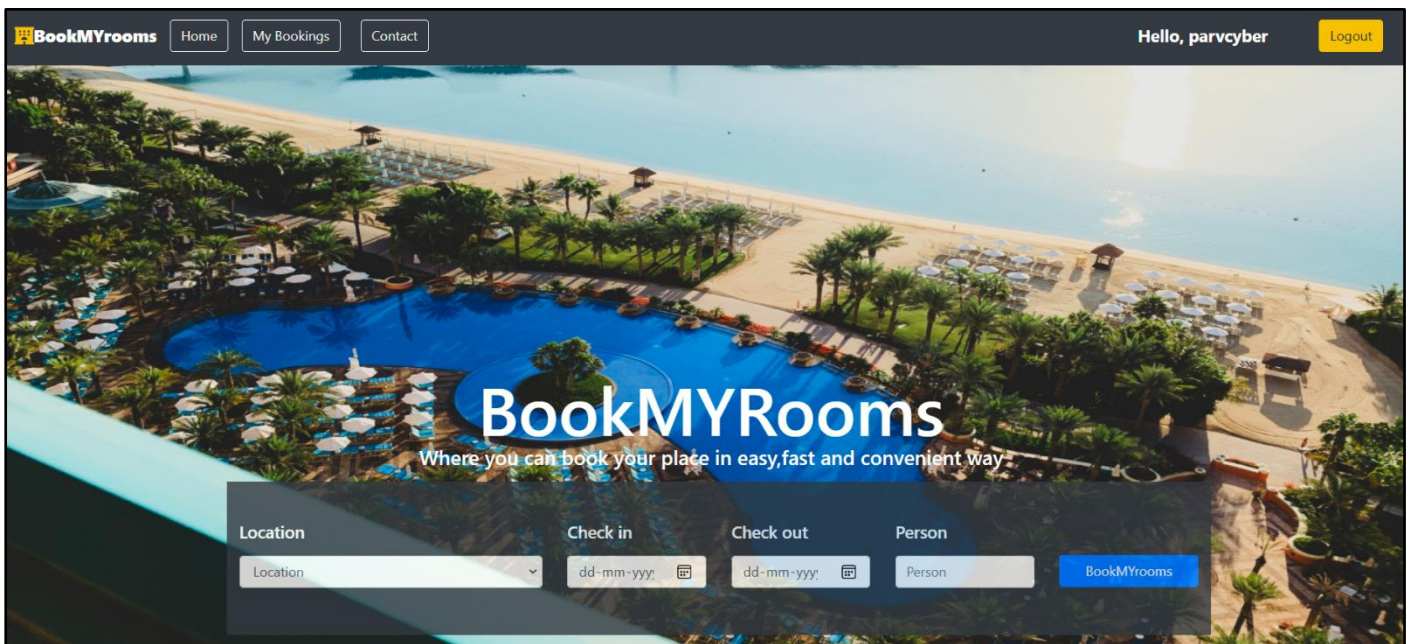
        reservation = Reservation()
        room_object = Rooms.objects.all().get(id=room_id)
        room_object.status = '2'

        user_object = User.objects.all().get(username=user)

        reservation.guest = user_object
        reservation.room = room_object
        person = total_person
        reservation.check_in = request.POST['check_in']
        reservation.check_out = request.POST['check_out']

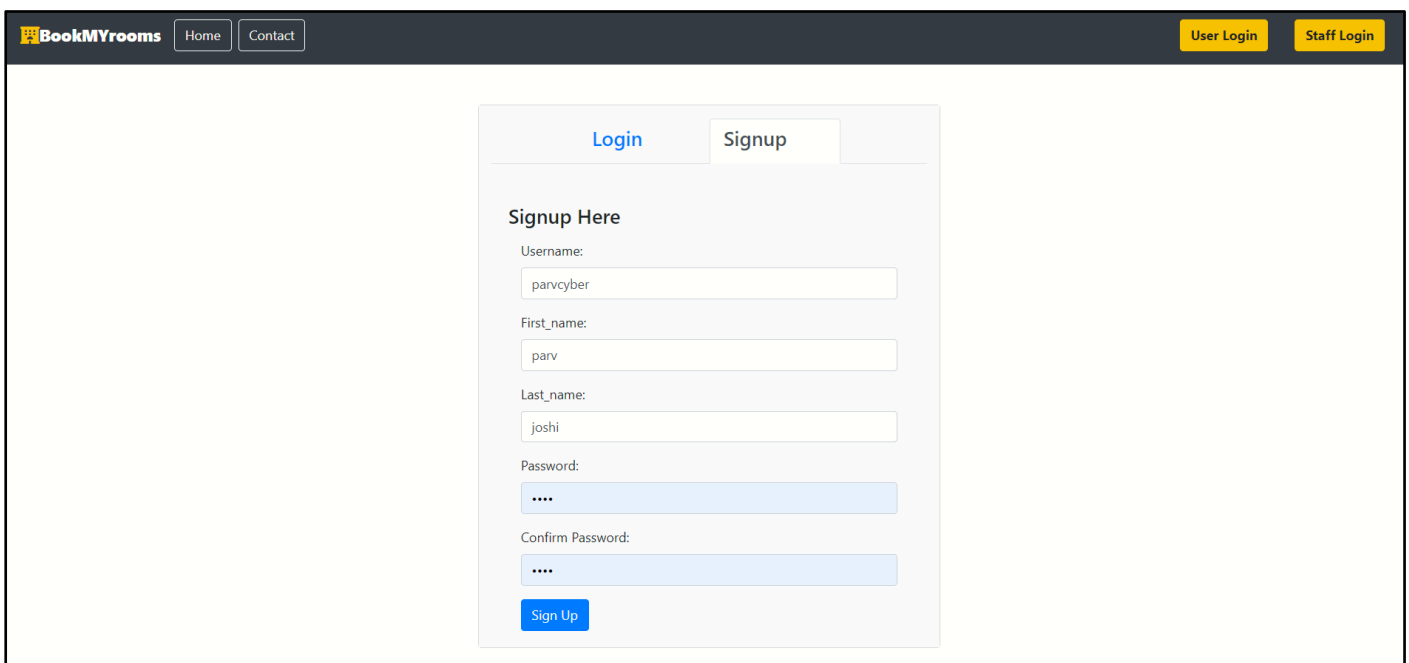
        reservation.save()
        messages.success(request, "Congratulations! Booking Successful")
        return redirect("homepage")
    else:
        return HttpResponse('Access Denied')
```

5. Work Flow/ Layouts



The homepage features a dark header with the BookMYrooms logo and navigation links: Home, My Bookings, and Contact. On the right, it displays 'Hello, parvcyber' and a Logout button. The main content area has a large background image of a resort with a pool and beach. Overlaid on this is a booking form with the following fields:

- Location:** A dropdown menu with the placeholder text 'Location'.
- Check in:** A date input field with the placeholder 'dd-mm-yyyy' and a calendar icon.
- Check out:** A date input field with the placeholder 'dd-mm-yyyy' and a calendar icon.
- Person:** A text input field with the placeholder 'Person'.
- BookMYrooms:** A blue button to submit the booking.



The User Signup form is located in the center of the page. It has a dark header with the BookMYrooms logo and navigation links: Home and Contact. On the right, there are buttons for User Login and Staff Login. The form itself has two tabs: Login and Signup. The Signup tab is active, and the form is titled 'Signup Here'. It contains the following fields:

- Username:** A text input field with the placeholder 'parvcyber'.
- First_name:** A text input field with the placeholder 'parv'.
- Last_name:** A text input field with the placeholder 'joshi'.
- Password:** A password input field with the placeholder '....'.
- Confirm Password:** A password input field with the placeholder '....'.
- Sign Up:** A blue button to submit the signup form.

BookMYrooms

Home

Contact

User Login

Staff Login

Login

Signup

Login Here

Username:

parvcyber

Password:

....

☒ Remember me

Login

BookMYrooms

Home

My Bookings

Contact

Hello, parvcyber

Logout

Hotel:

luke

Location:

daman

username:

parvcyber

Person:

2

Check-in:

14-04-2021

Check-Out:

16-04-2021

Room Type:

basic

Price:

700

Book Now

My Bookings

User	Room	Location	Person	Check in	Check out	Price
parvcyber	5	daman	2	April 14, 2021	April 16, 2021	700

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6. Conclusion

In Conclusion, by addressing the issues of customers and hotels face while making a reservation using manual method for booking, The Online Hotel Reservation System is developed to replace the manual process of booking for a hotel room or any other facility of the hotel. The old system does not serve the customer in a better way.

7. Limitations

We are able to implement the functionality of the “**Online Hotel Reservation System**”. We aim to make this project ready to be used in practical use cases. Although this system will provide the booking facilities to customers, it is having some limitations.

Future Enhancements

To take over the limitations we are planning this future extension in our system.

1. The feature of online payment will be added in future.
2. User interface will be improved to provide better interaction with system.

8. References & Bibliography

Following websites were referred during the development of this project:

<https://docs.djangoproject.com/en/3.1/>

<https://stackoverflow.com/>

<https://www.youtube.com/>