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HOTEL MANAGEMENT SYSTEM

SUBMITTED TO:

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A DATABASE MANAGEMENT SYSTEM PROJECT

BY:

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Abstract

A Hotel management system is a computerized management system. This system keeps the records of hardware assets besides software of this organization. The proposed system will keep a track of Workers, Residents, Accounts and generation of report regarding the present status. This project has GUI based software that will help in storing, updating and retrieving the information through various user-friendly menu-driven modules. The existing system is a manually maintained system.

All the Hotel records are to be maintained for the details of each customers, Fee details, Room Allocation, Attendance etc. In hotel operations, procurement of goods and services is the most vulnerable area which could lead to malpractice because hotels spend substantial amounts on goods (such as food and beverage, utensils, toiletries etc.) and services (such as cleaning and security services, group insurance services etc.).

Besides making sure that purchases are value for money, it is important for the hotel management to establish a fair and competitive procurement system with sufficient safeguards to prevent abuse by unscrupulous staff. As hotel maintenance and renovation also incur considerable expenses and there is much room for corrupt manipulation in the letting and supervision of works contractors.

Aim

Our main aim is to create a user friendly and simple hotel database management system and the project should provide the basic layout of various modules. It should succeed at storing resident data correctly and maintain accuracy.

Objectives

- The system should maintain details about the users, their needs and payment detail reports etc.
- The system should make the user satisfaction as at most priority.
- The system should maintain records of user registration details accurately arranged order so that the treatment of customers becomes quick and satisfactory.
- The system should ensure data accuracy.
- The system should be maintained efficiently by a database management system.
- The availability of rooms can be enquired easily.
- The guests can avail various services provided by the hotel during their stay.

Introduction

The use of online booking of hotel rooms is growing in India. The manual use of hotel reservation is very tedious task and has large scope of errors and uncertainties. Hotel owners have been trying to replace paper-based reservations or transactions with electronic media, and many companies have implemented or are about to introduce re-reservation systems. Fare evasion and fraud resulting from cash handling could be reduced and better price differentiation would be possible.

The main characteristic of online-reservation is that tickets are sold and stored in electronic devices. However, the benefits of a comprehensive online-reservation system for public hotel operators are hard to quantify, as the main aim of online reservation is an improved service quality. In monetary terms, online-reservation could reduce administrative costs as fewer cashiers are needed, fare processing times could be reduced and a better throughput of guests could be allowed. Also, it allows better reachability to mass public and can increase the hotel's marketing.

Scope

The scope of this project is rather small and is best as it relies on very limited resources. The system that we look forward to develop is going to be a very simple one yet very efficient. The system requirements are going to be very low and is going to work on almost on all configurations. However, the project will be designed in such a way that it can be expanded upon in the future if I wish to continue developing it in the future.

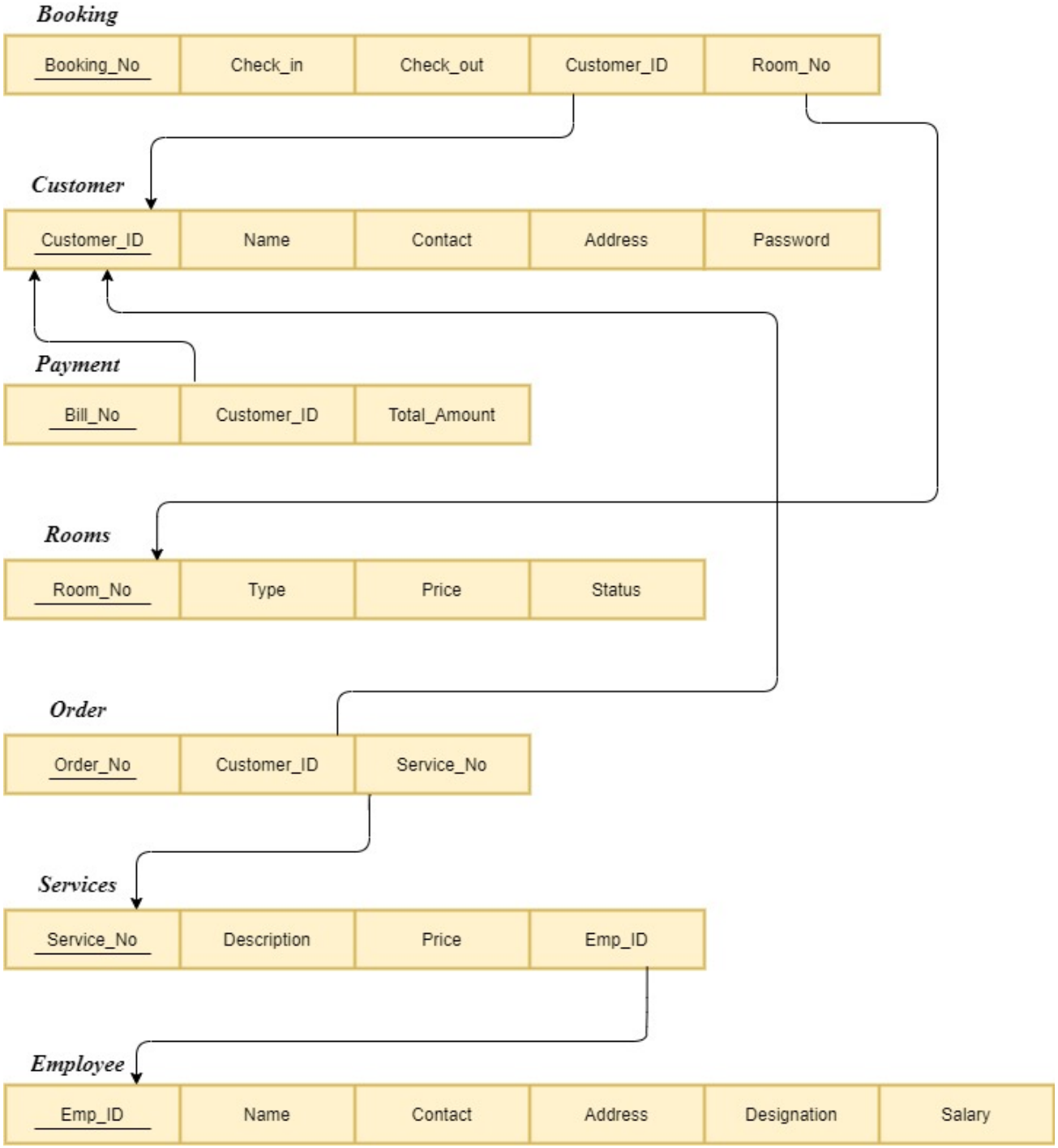
This project will outline all procedural techniques and tools that can be used for quality assurance. It will be user friendly and efficient as well covering and controlling all the procedures.

Literature review

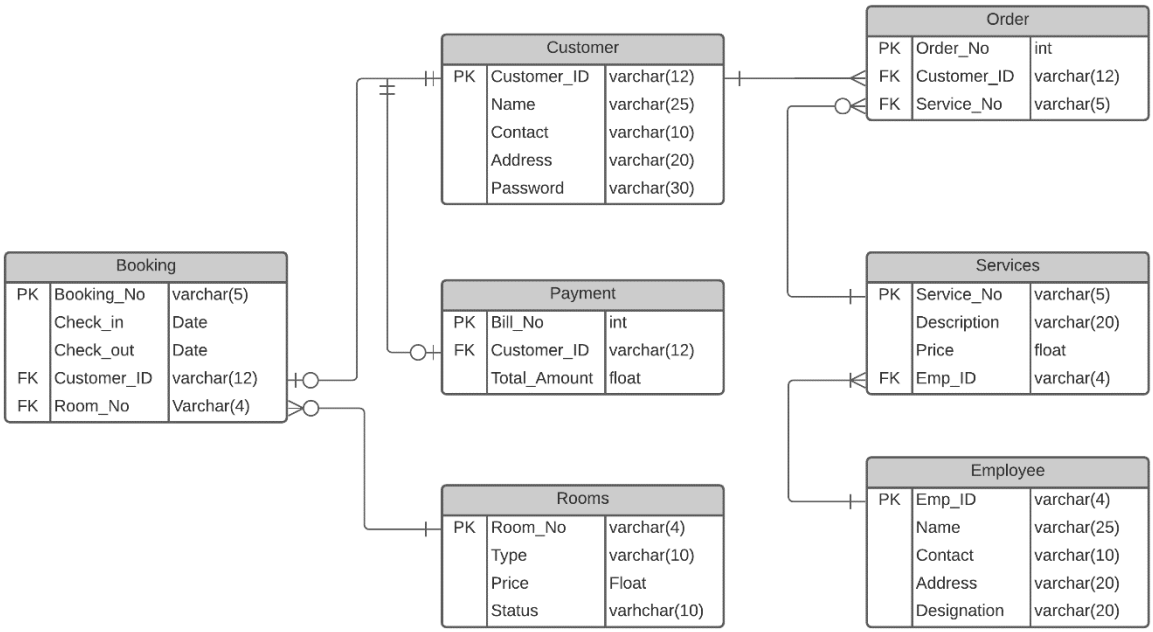
After a look at a survey from 2005 it has been identified that people are more inclined to give information to web sites that ask for less information. Therefore, it has been informed that it is best to avoid complexity. Looking at past projects on hotel management systems we can see that too many images have been used, they have partly deleted anomalies. We also have to focus on improving the security and validity of the user's information. We have identified after research that previous year's secure transactions have been broken down due to SQL injections. SQL injection and transaction anomalies are a huge hazard. These have been quite hard to tackle for most. The major concern relating the entity relational models was the complexity. Some notable commonalities that were found between various research papers and these works were the extensive requirement of database handling using the basics of table normalization and basic entity-relational model in the websites and the general references to transaction security amongst various non ethical hackers. I have hence tried to minimize the basic insecurities in the updates. Therefore, further the HTML codes have been simplified and PHP & SQL have been more focused upon to provide better back end.

Proposed model

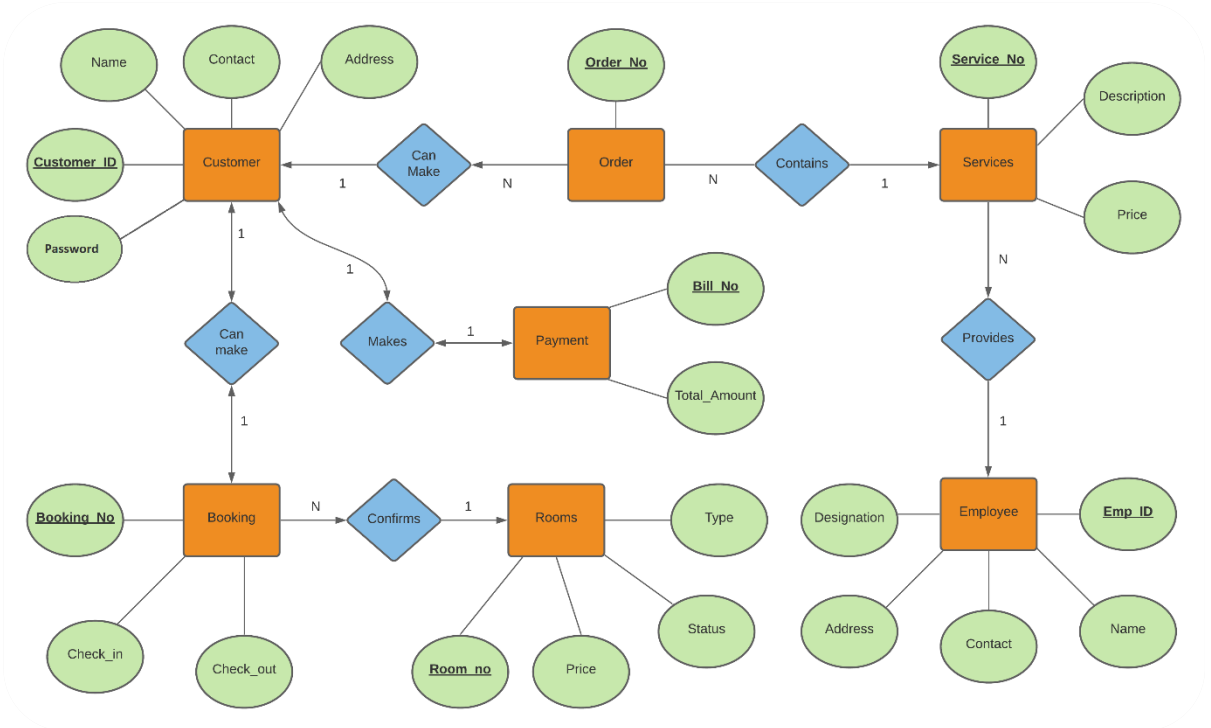
Relation Schema



Relation Schema Table (Physical Schema/Data model)



ER Diagram



List of modules

- Booking Module
- Customer Module
- Payment Module
- Rooms Module
- Order Module
- Services Module
- Employee Module

Module description

- ***Booking Module***
  Once the room is searched and the customer finds his choice room then this module allows the customer to book the room by following the hotel's guidelines, such as hotel check-in and check-out time, etc.

- ***Customers Module***
  Customer module includes their name, contact details, address, password, etc.

- ***Payment Module***
  If all the booking procedure is done properly, the bill will be generated here in the payment module. Further, any service the customer books, their cost will be added to the bill.

- ***Rooms Module***
  People can check the availability of rooms and they can also book a room according to their budget and desire.
  Also we can create, read, update and delete rooms.

- ***Order Module***
  It takes the customer's orders for any of the services in the list.

- ***Services Module***
  It manages the Room Services. Includes a list of services provided by the hotel for a price, with that the employee who provides the service.

- ***Employee Module***
  Complete Details of each staff of the hotel will be stored, such as, their personal details and their post at the hotel.

Entities and their description

Booking Module

- **Booking_No** – Identifies booking done by a customer
- **Check_In** – Stores the date and time of check-in
- **Check_Out** – Stores date and time of check-out
- **Customer_ID** – Identifies the customer
- **Room_No** – Identifies the room allocated to the particular customer

Booking		
PK	Booking_No	varchar(5)
	Check_in	Date
	Check_out	Date
FK	Customer_ID	varchar(12)
FK	Room_No	Varchar(4)

Customer Module

- **Customer_ID** – Identifies the customer
- **Name** – Stores the name of the customer
- **Contact** – Stores the contact details of the customer
- **Address** – Stores the permanent address of the customer
- **Password** – Stores the password required to access the customer's account

Customer		
PK	Customer_ID	varchar(12)
	Name	varchar(25)
	Contact	varchar(10)
	Address	varchar(20)
	Password	varchar(30)

Payment Module

- **Bill_No** – Identifies the bill provide to the customer
- **Customer_ID** – Identifies the customer
- **Total_Amount** – Stores the total amount to be paid by the customer

Payment		
PK	Bill_No	int
FK	Customer_ID	varchar(12)
	Total_Amount	float

Rooms Module

- **Room_No** – Identifies the specific room in the hotel
- **Type** – Stores the different types of rooms in the hotel
- **Price** – Stores the price of the types of rooms
- **Status** – Identifies if the room is available or booked

Rooms		
PK	Room_No	varchar(4)
	Type	varchar(10)
	Price	Float
	Status	varhchar(10)

Order Module

- **Order_No** – Identifies the specific order made by the customer
- **Customer_ID** – Identifies the customer
- **Service_No** – Stores the types of service

Order		
PK	Order_No	int
FK	Customer_ID	varchar(12)
FK	Service_No	varchar(5)

Services Module

- **Service_No** – Stores the types of services
- **Description** – Displays details of the services
- **Price** – Stores the price of the service
- **Emp_ID** – Identifies the employee

Services		
PK	Service_No	varchar(5)
	Description	varchar(20)
	Price	float
FK	Emp_ID	varchar(4)

Employee Module

- **Emp_ID** – Identifies the employee
- **Name** – Stores the name of the employee
- **Contact** – Stores the contact details of the employee
- **Address** – Stores the address of the employee
- **Designation** – Stores the designation of the employee
- **Salary** – Stores the employee's salary

Employee		
PK	Emp_ID	varchar(4)
	Name	varchar(25)
	Contact	varchar(10)
	Address	varchar(20)
	Designation	varchar(20)

Implementation in MYSQL

```
create database HotelMS;
use hotelms;

create table customer(
Customer_ID varchar(12),
Name varchar(25) NOT NULL,
Contact varchar(10) NOT NULL,
Address varchar(20) NOT NULL,
Password varchar(30) NOT NULL,
Primary Key(Customer_ID),
Constraint num_check check(length(Contact)=10),
Constraint ID_check check(length(Customer_ID)=12)
);

create table Payment(
Bill_No int AUTO_INCREMENT,
Customer_ID varchar(12),
Total_Amount float,
Primary key(Bill_No),
Foreign key(Customer_ID) references Customer(Customer_ID)
);

create table Employee(
Emp_ID varchar(4) Primary key NOT NULL,
Name varchar(25) NOT NULL,
Contact varchar(10) NOT NULL,
Address varchar(20) NOT NULL,
Designation varchar(20) NOT NULL,
Salary int NOT NULL,
Constraint emp_num_check check(length(Contact)=10)
);
```

```
create table Rooms(
Room_No varchar(4),
Type varchar(10),
Price float,
Status varchar(10),
Primary key(Room_no)
);

create table Booking(
Booking_No int AUTO_INCREMENT,
Check_in date NOT NULL,
Check_out date NOT NULL,
Customer_ID varchar(12),
Room_No varchar(4),
Primary Key(Booking_No),
Foreign key(Customer_ID) references Customer(Customer_ID),
Foreign key(Room_No) references Rooms(Room_No),
Constraint date_check check(Check_out>=Check_in)
);

create table Services(
Service_No varchar(5),
Description varchar(20),
Price float,
Emp_ID varchar(4),
Primary key(Service_No),
Foreign Key(Emp_ID) references Employee(Emp_ID)
);
```

```
create table Orders(
Order_No int AUTO_INCREMENT,
Customer_ID varchar(12),
Service_No varchar(5),
Primary key(Order_No),
Foreign key(Customer_ID) references Customer(Customer_ID),
Foreign key(Service_No) references Services(Service_No)
);

insert into rooms values
('S001','Single',1500,'Available'),
('D002','Double',2500,'Available'),
('DE03','Delux',3500,'Available'),
('SU04','Suite',4500,'Available'),
('D005','Double AC','3500','Available'),
('S006','Single AC','2500','Available'),
('SU07','Suite AC','5500','Available'),
('DE08','Deluxe AC','4500','Available');

insert into employee values
('EM01','Ravindar kumar','9101028001','Bengaluru,Karnataka','Manager',70000),
('EM02','Rujin Shrestha','9108871103','Vellore,Tamil Nadu','HouseKeeping',25000),
('EM03','Ria Arun','1508423884','New Delhi,Delhi','Beverage manager',35000),
('EM04','Divya Sharma','6364682127','Mumbai,Maharashtra','Chef',40000),
('EM05','Samyogita Bhandari','9150467979','Chennai,Tamil Nadu','Receptionist',33000);

insert into services values
('SR001','Laundry',250,'EM02'),
('SR002','Beverages',150,'EM03'),
('SR003','Lunch',500,'EM04'),
('SR004','Dinner',500,'EM04'),
('SR005','Room Cleaning',200,'EM02');
```

```
mysql> use hotelms;
Database changed
mysql> show tables;
+------------------+
| Tables_in_hotelms |
+------------------+
| booking          |
| customer         |
| employee         |
| orders           |
| payment          |
| rooms            |
| services         |
+------------------+
7 rows in set (0.02 sec)

mysql> desc booking;
+-------------+-------------+------+-----+---------+----------------+
| Field       | Type        | Null | Key | Default | Extra          |
+-------------+-------------+------+-----+---------+----------------+
| Booking_No  | int         | NO   | PRI | NULL    | auto_increment |
| Check_in    | date        | NO   |     | NULL    |                |
| Check_out   | date        | NO   |     | NULL    |                |
| Customer_ID | varchar(12) | YES  | MUL | NULL    |                |
| Room_No     | varchar(4)  | YES  | MUL | NULL    |                |
+-------------+-------------+------+-----+---------+----------------+
5 rows in set (0.02 sec)

mysql> desc customer;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| Customer_ID | varchar(12) | NO   | PRI | NULL    |       |
| Name        | varchar(25) | NO   |     | NULL    |       |
| Contact     | varchar(10) | NO   |     | NULL    |       |
| Address     | varchar(20) | NO   |     | NULL    |       |
| Password    | varchar(30) | NO   |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

```
mysql> desc employee;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| Emp_ID      | varchar(4)  | NO   | PRI | NULL    |       |
| Name        | varchar(25) | NO   |     | NULL    |       |
| Contact     | varchar(10) | NO   |     | NULL    |       |
| Address     | varchar(20) | NO   |     | NULL    |       |
| Designation | varchar(20) | NO   |     | NULL    |       |
| Salary      | int         | NO   |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

mysql> desc orders;
+-------------+-------------+------+-----+---------+----------------+
| Field       | Type        | Null | Key | Default | Extra          |
+-------------+-------------+------+-----+---------+----------------+
| Order_No    | int         | NO   | PRI | NULL    | auto_increment |
| Customer_ID | varchar(12) | YES  | MUL | NULL    |                |
| Service_No  | varchar(5)  | YES  | MUL | NULL    |                |
+-------------+-------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

mysql> desc payment;
+--------------+-------------+------+-----+---------+----------------+
| Field        | Type        | Null | Key | Default | Extra          |
+--------------+-------------+------+-----+---------+----------------+
| Bill_No      | int         | NO   | PRI | NULL    | auto_increment |
| Customer_ID  | varchar(12) | YES  | MUL | NULL    |                |
| Total_Amount | float       | YES  |     | NULL    |                |
+--------------+-------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

mysql> desc rooms;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| Room_No | varchar(4)  | NO   | PRI | NULL    |       |
| Type    | varchar(10) | YES  |     | NULL    |       |
| Price   | float       | YES  |     | NULL    |       |
| Status  | varchar(10) | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> desc services;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| Service_No  | varchar(5)  | NO   | PRI | NULL    |       |
| Description | varchar(20) | YES  |     | NULL    |       |
| Price       | float       | YES  |     | NULL    |       |
| Emp_ID      | varchar(4)  | YES  | MUL | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

Implementation in PHP

Index: (Used for connection to database)

```php
<?php
    $servername = "localhost";
    $username = "root";
    $password = "8567";
    $dbname = "hotelms";       //database name
    //making an connection
    $con = mysqli_connect($servername,$username,$password,$dbname);
    if(!$con){          //if $con does not return true
        die("Connection failed due to ".mysqli_connect_error());
    }else{
        //echo "Connection successful <br><br>"; }
?>
```

Home page:

```php
<?php include('index.php'); ?>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Hotel Imperial</title>
    <link href="https://fonts.googleapis.com/css?family=Roboto|Sriracha&displa
y=swap" rel="stylesheet">
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <header>
        <div class="container">
        <a href='home.php'><h1>Hotel Management System</h1></a>
            <br>
            <table width="100%" border="50" cellspacing="0">
                <tr>
                    <td><a href="customer login.php"><h2>Customer Login</h2></
a></td>
                   <td><a href="employee login.php"><h2>Employee Login</h2></a
></td>
                </tr>
            </table>
        </div>
    </header>
</body>
<div class="footer">
    <h4>Copyright 2020 Hotel Imperial | All rights reserved.</h4>
</div>
</html>
```

Employee Login page

```php
<?php include('home.php');?>
<?php
    session_start();
    if(isset($_POST['Emp_ID']))
    {
        $record = $_POST["Emp_ID"];
        $record2 = $_POST["Name"];
        $pass=0;
        //$_SESSION['Name']=$record2;
        $sql="SELECT Designation FROM employee WHERE Emp_ID='$record' AND Name
 ='$record2'";
        $query = mysqli_query($con,$sql);
        echo "<br>";
        $row = mysqli_fetch_assoc($query);
        if($row){
            $manager= $row['Designation'];
            //echo $manager;
            if($manager=='Manager'){
                if($_POST["Pass"]=='123456'){
                    $_SESSION['Name'] = $record2;
                    header("Location:employee page.php?login=success");
                }else{
                    $pass=1;
                }
            }else{
                $pass=1;
            }
        }else{
            $pass=1;
        }
        if($pass==1){
            echo "<p class='submitMsg'><b>Access Denied!<b></p>";
        }
    }
    echo "<br>";
?>
<h1><center>Employee Login portal</center></h1>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Hotel imperial</title>
    <link href="https://fonts.googleapis.com/css?family=Roboto|Sriracha&displa
y=swap" rel="stylesheet">
    <link rel="stylesheet" href="style.css">
</head>
```

```
<body>
    <div class="container">
        <form action="employee login.php" method="POST">
            <input style="width:250px;" type="text" name="Emp_ID" id="Emp_ID"
placeholder="Enter your Employee ID" maxlength=4 minlength=4 required>
            <input style="width:250px;" type="text" name="Name" id="Name" plac
eholder="Enter your Name"  required>
            <input style="width:250px;" type="password" name="Pass" id="Pass"
placeholder="Enter password"  required>
            <button class="btn">Login</button>
        </form>
    </div>
</body>
</html>
```

Employee home page

```
<html>
    <br>
    <div class="wrapper"><div class="container">
        <body>
            <nav>
            <a href="employee page.php"><u><h1>Employee portal</h1></u></a>
            <a href="home.php?logout=success"><button class="btn2"><p style="t
ext-align:right;">Log out?</p></button></a>
            <?php
                session_start();
                $record2=$_SESSION['Name'];
                echo"<h1>Welcome $record2 !</h1>";
            ?>
            </nav>
            </body>
        </div>
    </div>
</html>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Employee portal</title>
    <link href="https://fonts.googleapis.com/css?family=Roboto|Sriracha&displa
y=swap" rel="stylesheet">
    <link rel="stylesheet" href="style.css">

</head>
<body>
    <br>
    <div class="container">
```

```
        <nav>
            <a href="employee list.php"><button class="btn">Employees list</bu
tton></a>
            <a href="Customers list.php"><button class='btn'>Customers List</b
utton></a>
            <a href="Rooms.php"><button class='btn'>View Rooms status</button>
</a>
            <a href="Orders.php"><button class="btn">View Orders list</button>
</a>
            <a href="Bookings.php"><button class="btn">Bookings list</button><
/a>
            <a href="Check out.php"><button class="btn">Check Out</button></a>
        </nav>
    </div>
    <div class="footer">
    <h4>Copyright 2020 Hotel Imperial | All rights reserved.</h4>
    </div>
</body>
</html>
```

Room Status View(Employee side)

```
<html>
    <?php
        include('index.php');
        include('employee page.php');
        $result=$con->query("SELECT * FROM rooms");
        echo "<table class='center' border='1'>
            <tr>
            <th><h1>Room_No</th>
            <th><h1>Type</h1></th>
            <th><h1>Price</h1></th>
            <th><h1>Status</h1> </th>
            </tr>";
            while($row = mysqli_fetch_assoc($result))
            {
            echo "<tr>";
            echo "<td><b>" . $row['Room_No'] . "</b></td>";
            echo "<td>" . $row['Type'] . "</td>";
            echo "<td>" . $row['Price'] . "</td>";
            if($row['Status']=="Booked")     {
                echo "<td><p class='submitMsg'>" . $row['Status'] . "</p></td>
";
            }else{
                echo "<td><p class='submitMsgD'>" . $row['Status'] . "</p></td
>";
            }

            echo "</tr>";
```

```
            }
            echo "</table>";
    ?>
    <br>
    <br>
    <br>
</html>
```

Orders Status View(Employee side

```
<html>
    <?php
        include('index.php');
        include('employee page.php');
        $result=$con->query("SELECT * FROM orders");
         if(mysqli_num_rows($result)>0){
             echo "<table class='center' border='1'>
             <tr>
             <th><h1>Order No</th>
             <th><h1>Customer ID</h1></th>
             <th><h1>Service No</h1></th>
             </tr>";
             while($row = mysqli_fetch_assoc($result))
             {
                 echo "<tr>";
                 echo "<td>" . $row['Order_No'] . "</td>";
                 echo "<td>" . $row['Customer_ID'] . "</td>";
                 echo "<td>" . $row['Service_No'] . "</td>";
                 echo "</tr>";
             }
             echo "</table>";
         }else{
            echo "<div class='container'><h1>NO ORDERS!</h1></div>";
            }
    ?>
    <br>
    <br>
    <br>
</html>
```

Bookings Status View(Employee side)

```
<html>
    <?php
        include('index.php');
        include('employee page.php');
        $result=$con->query("SELECT * FROM booking");
         if(mysqli_num_rows($result)>0){
             echo "<table class='center' border='1'>
             <tr>
             <th><h1>Booking No</th>
             <th><h1>Check in</h1></th>
             <th><h1>Check out</h1></th>
             <th><h1>Customer ID</h1></th>
             <th><h1>Room No</h1></th>
             </tr>";
             while($row = mysqli_fetch_assoc($result))
             {
                 echo "<tr>";
                 echo "<td>" . $row['Booking_No'] . "</td>";
                 echo "<td>" . $row['Check_in'] . "</td>";
                 echo "<td>" . $row['Check_out'] . "</td>";
                 echo "<td>" . $row['Customer_ID'] . "</td>";
                 echo "<td>" . $row['Room_No'] . "</td>";
                 echo "</tr>";
             }
             echo "</table>";
         }else{
            echo "<div class='container'><h1>NO BOOKINGS!</h1></div>";
            }
    ?>
    <br>
    <br>
    <br>
</html>
```

Check Out Page(Employee side)

```
<html>
    <?php
        include('index.php');
        include('employee page.php');
        if(isset($_POST['Customer_ID']))
        {
            $record = $_POST["Customer_ID"];
            $sql="SELECT Customer_ID FROM payment WHERE Customer_ID='$record'"
;
            $query = mysqli_query($con,$sql);
            echo "<br>";
            if(mysqli_num_rows($query)>0){
                $sql2="SELECT rooms.Room_No
                FROM customer
                JOIN booking ON customer.Customer_ID = booking.Customer_ID
                JOIN rooms ON booking.Room_No = rooms.Room_No
                WHERE Customer.Customer_ID=$record";
                $query2=mysqli_query($con,$sql2);
                if(mysqli_num_rows($query2)>0){
                    while($row = mysqli_fetch_assoc($query2))
                    {
                        $room=$row['Room_No'];
                    }
                    $sql3="UPDATE rooms
                    set status='Available'
                    where Room_No='$room'";
                    //echo $sql3;
                    mysqli_query($con,$sql3);
                }
                $sql4="SELECT * FROM payment WHERE Customer_ID=$record";
                $query4=mysqli_query($con,$sql4);
                echo "<table class='center' border='1'>
                <tr>
                <th><h1>Bill No</th>
                <th><h1>Customer ID</h1></th>
                <th><h1>Total Amount</h1></th>
                </tr>";
                while($row = mysqli_fetch_assoc($query4))
                {
                    echo "<tr>";
                    echo "<td>" . $row['Bill_No'] . "</td>";
                    echo "<td>" . $row['Customer_ID'] . "</td>";
                    echo "<td>" . $row['Total_Amount'] . "</td>";

                    echo "</tr>";
                }
                echo "</table>";
```

```
                echo "<br>";
                echo "<p class='submitMsgD'><b>Customer successfully Checked o
ut<b></p>";
                $sql5="DELETE FROM payment
                WHERE Customer_ID=$record";
                mysqli_query($con,$sql5);
                $sql6="DELETE FROM booking
                WHERE Customer_ID=$record";
                mysqli_query($con,$sql6);
                $sql7="DELETE FROM orders
                WHERE Customer_ID=$record";
                mysqli_query($con,$sql7);
            }
            else{
                echo "<p class='submitMsg'><b>Searched Customer Not Found!<b><
/p>";
            }
        }
    ?>
    <body>
        <div class="container">
            <form action="Check out.php" method="POST">
                <input style="width:200px;" type="text" name="Customer_ID" id=
"Customer_ID" placeholder="Enter Customer ID" maxlength=12 minlength=12 requir
ed>
                <button class="btn">Check Out</button>
            </form>
        </div>
    </body>
</html>
```

Employees List View(Employee side)

```
<html>
    <?php
        include('index.php');
        include('employee page.php');
        $result=$con->query("SELECT * FROM employee");
         if(mysqli_num_rows($result)>0){
            echo "<table class='center' border='1'>
            <tr>
            <th><h1>Employee ID</th>
            <th><h1>Name</h1></th>
            <th><h1>Contact</h1></th>
            <th><h1>Address</h1></th>
            <th><h1>Designation</h1></th>
            <th><h1>Salary</h1></th>
            </tr>";
            while($row = mysqli_fetch_assoc($result))
            {
                echo "<tr>";
                echo "<td>" . $row['Emp_ID'] . "</td>";
                echo "<td>" . $row['Name'] . "</td>";
                echo "<td>" . $row['Contact'] . "</td>";
                echo "<td>" . $row['Address'] . "</td>";
                echo "<td>" . $row['Designation'] . "</td>";
                echo "<td>INR " . $row['Salary'] . "</td>";
                echo "</tr>";
            }
            echo "</table>";
        }
    ?>
    <br>
    <br>
    <br>
</html>
```

Customers List View(Employee side)

```
<html>
    <?php
        include('index.php');
        include('employee page.php');
        $result=$con->query("SELECT * FROM customer");
         if(mysqli_num_rows($result)>0){
            echo "<table class='center' border='1'>
            <tr>
            <th><h1>Customer ID</th>
            <th><h1>Name</h1></th>
            <th><h1>Contact</h1></th>
            <th><h1>Address</h1></th>
            <th><h1>Password</h1></th>
            </tr>";
            while($row = mysqli_fetch_assoc($result))
            {
                echo "<tr>";
                echo "<td>" . $row['Customer_ID'] . "</td>";
                echo "<td>" . $row['Name'] . "</td>";
                echo "<td>" . $row['Contact'] . "</td>";
                echo "<td>" . $row['Address'] . "</td>";
                echo "<td>" . $row['Password'] . "</td>";
                echo "</tr>";
            }
            echo "</table>";
        }
    ?>
    <br>
    <br>
    <br>
</html>
```

Customer login page

```php
<?php include('home.php')?>
<?php
    session_start();
    $incorrect=0;
    if(isset($_POST['ID']))
    {
        $Customer_ID = $_POST['ID'];
        $Name = $_POST['Name'];
        $Password=$_POST['Pass'];
        $Contact = $_POST['Contact'];
        $Address = $_POST['Address'];
        //$sql="SELECT Customer_ID FROM customer WHERE Customer_ID=$Customer_I
D";
        $sql="SELECT * FROM customer WHERE Customer_ID='$Customer_ID'";
        $query=mysqli_query($con,$sql);
        $row = mysqli_fetch_array($query);
        if($row){   //if data exists
            $_SESSION['Customer_ID'] = $Customer_ID;
            $Pass=$row['Password'];
            if($Pass==$Password){
                header("Location:customer page.php?login=success");
            }else{
                $incorrect=1;
            }
        }else{
            //if customer doesnt exist, new account is created and redirected
to customer page
            $sql2 = "INSERT INTO customer VALUES ('$Customer_ID','$Name', '$Co
ntact', '$Address','$Password');";
            $query2=mysqli_query($con,$sql2);
            if($query2 == true){
                header("Location:customer page.php?login=success");
            }
        }
    }
    if($incorrect==1){
        echo "<p class='submitMsg'><b>Incorrect Password/Username or Account N
ot Found!<b></p>";
    }
    echo "<br>";
?>
<h1><center>Customer Login</center></h1>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
    <title>Hotel Imperial</title>
    <link href="https://fonts.googleapis.com/css?family=Roboto|Sriracha&displa
y=swap" rel="stylesheet">
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <div class="container">
        <form action="customer login.php" method="POST">
            <input style="width:250px;" type="text" name="ID" id="ID" placehol
der="Enter your ID"  maxlength=12 minlength=12 required>
            <input style="width:250px;" type="password" name="Pass" id="Pass"
placeholder="Enter your Password" required>
            <input style="width:250px;" type="text" name="Name" id="Name" plac
eholder="Enter your Name">
            <input style="width:250px;" type="text" name="Contact" id="Contact
" placeholder="Enter your contact number" maxlength=10 minlength=10>
            <textarea name="Address" id="Address" style="width:250px;" rows="5
" placeholder="Enter your address"></textarea>
            <button class="btn">Login</button>
            <br>
        </form>
    </div>
</body>
</html>
```

Customer home page

```
<html>
    <br>
    <div class="wrapper"><div class="container">
        <body>
            <nav>
            <a href="customer page.php"><u><h1>Customer Page</h1></u></a>
            <a href="home.php?logout=success"><button class="btn2"><p style="t
ext-align:right;">Log out?</p></button></a>
            <?php
                session_start();
                echo"<h1>Welcome !</h1>";
            ?>
            </nav>
            </body>
        </div>
    </div>
</html>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Welcome</title>
    <link href="https://fonts.googleapis.com/css?family=Roboto|Sriracha&displa
y=swap" rel="stylesheet">
    <link rel="stylesheet" href="style.css">

</head>
<body>
    <br>
    <div class="container">
        <nav>
            <a href="Booking page.php"><button class='btn'>Make a booking?</bu
tton></a>
            <a href="orders page.php"><button class="btn">Services</button></a
>
        </nav>
        <br>
    </div>
    <div class="footer">
    <h4>Copyright 2020 Hotel Imperial | All rights reserved.</h4>
    </div>
</body>
</html>
```

Order page

```php
<?php
  include('index.php');
  include('Customer page.php');
  $result=mysqli_query($con,"SELECT * FROM services");
  if(isset($_POST['Service'])){
  //if($check==1){
    $Customer_ID =$_SESSION['Customer_ID'];
    $Service=$_POST['Service'];
    $sql="SELECT * FROM services WHERE description='$Service';";
    $query=mysqli_query($con,$sql);
    $row = mysqli_fetch_assoc($query);
    $Service_No=$row['Service_No'];  //service number extracted
    $Price=$row['Price']; //price of service extracted

    //Inserting into orders table
    $sql2= "INSERT INTO orders(Customer_ID,Service_No) VALUES ('$Customer_ID',
'$Service_No');";
    $query2=mysqli_query($con,$sql2);

    //updating the bill of customer
    //Checking if there exists a bill of a particular customer and updating th
e bill/Generating bill
    $sql3="SELECT Total_Amount FROM payment WHERE Customer_ID = '$Customer_ID'
;";
    $query3=mysqli_query($con,$sql3);
    $row = mysqli_fetch_assoc($query3);
    if($row){
      $old_amount=$row['Total_Amount'];     //previous bill total amount
      $new_amount=$old_amount+$Price;
      $sql4="UPDATE payment
      SET Total_Amount=$new_amount
      WHERE Customer_ID='$Customer_ID';";
      $query4=mysqli_query($con,$sql4);
    }else{
      $sql4="INSERT INTO payment(Customer_ID,Total_Amount)
      VALUES('$Customer_ID',$Price);";
      $query4=mysqli_query($con,$sql4);
    }
    if($query2 && $query3 && $query4){
      echo "<p class='submitMsgD'><b>Service Confirmed!<b></p>";
      echo "<p class='submitMsgD'><b>Service will be provided shortly.<b></p><
br>";
    }
    /*else{
      echo"Error: $sql2 <br> $con->error <br>";
    }*/
  }
```

```
  $con->close();
?>

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Hotel Imperial</title>
    <link href="https://fonts.googleapis.com/css?family=Roboto|Sriracha&displa
y=swap" rel="stylesheet">
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <div class="container">
    <h1><center>Service page</center></h1>
    </div>
    <?php
      if(mysqli_num_rows($result)>0){
          echo "<table class='center' border='1'>
          <tr>
          <th><h1>Service</h1></th>
          <th><h1>Pricing</h1></th>
          </tr>";
          while($row = mysqli_fetch_assoc($result))
          {
              echo "<tr>";
              echo "<td>" . $row['Description'] . "</td>";
              echo "<td>" . $row['Price'] . "</td>";
              echo "</tr>";
          }
          echo "</table>";
      }
    ?>
        <form action="orders page.php" method="POST">
            <br>
            <p><h4>Select Service:</h4></p>
            <br>
            <select style="width:200px;height:50px;" name="Service" >
            <br>
            <br>
              <option value='Laundry'><button class='btn'>Laundry</button></op
tion>
              <option value='Beverages'><button class='btn' selected>Beverages
</button></option>
              <option value='Lunch'><button class='btn'>Lunch</button></option
>
```

```
            <option value='Dinner'><button class='btn'>Dinner</button></opti
on>
            <option value='Room Cleaning'><button class='btn'>Room Cleaning<
/button></option>
        </select>
        <br>
        <button class="btn">Confirm service!</button>
    </form>
</body>
<br>
<br>
</html>
```

Booking page

```
<?php
    include('index.php');
    include('Customer page.php');
    $result=$con->query("SELECT * FROM rooms");
    $Customer_ID =$_SESSION['Customer_ID'];
    $sql0="SELECT Customer_ID FROM booking WHERE Customer_ID='$Customer_ID';";
    $query0=mysqli_query($con,$sql0);
    $row = mysqli_fetch_array($query0) ;
    if($row){
        echo "<p class='submitMsg'><b>Booking already present, Only one bookin
g per customer allowed</b></p>";
    }
    else{
        if(isset($_POST['Room_Type']))
        {
            $Check_In =$_POST['Check_In'];
            $Check_Out =$_POST['Check_Out'];
            $Room_Type =$_POST['Room_Type'];
            $sql="SELECT Room_No FROM rooms WHERE Type='$Room_Type'";
            $query = mysqli_query($con,$sql);
            $row = mysqli_fetch_assoc($query);
            $Room_No=$row['Room_No'];
            $sql1="SELECT Status from rooms WHERE Room_No='$Room_No'";
            $row= mysqli_fetch_assoc(mysqli_query($con,$sql1));
            if($row['Status']=='Booked'){
                echo "<p class='submitMsg'><b>Booking Failed! Room already boo
ked<b></p>";
            }else{
                $sql2="INSERT INTO booking(Check_in,Check_out,Customer_ID,Room
_No)
                VALUES('$Check_In','$Check_Out','$Customer_ID','$Room_No')";
                echo "<br>";
                $query2 = mysqli_query($con,$sql2);
                //To check if booking is successsful
```

```
                if(!$query2){  //if insertion into booking is successful
                    echo "<p class='submitMsg'><b>Booking Failed!<b></p>";
                }
                else{
                    $sql3="UPDATE rooms SET Status='Booked' WHERE Room_No='$Ro
om_No'";
                    //echo $sql3;
                    $query3 = mysqli_query($con,$sql3);
                    //creating a bill
                    $sql4="SELECT Price from rooms WHERE Room_No='$Room_No'";
                    $Room_Price=(mysqli_fetch_assoc(mysqli_query($con,$sql4)))
['Price'];
                    $sql5="INSERT INTO payment(Customer_ID,Total_Amount)
                    VALUES ('$Customer_ID',$Room_Price)";
                    mysqli_query($con,$sql5);
                    echo "<p class='submitMsgD'><b>Booking Successful!<b></p>"
;
                }
            }
        }
    }
    $con->close();
?>

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Hotel Imperial</title>
    <link href="https://fonts.googleapis.com/css?family=Roboto|Sriracha&displa
y=swap" rel="stylesheet">
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <div class="container">
    <h1><center>Booking page</center></h1>
    </div>
    <?php
        echo "<table class='center' border='1'>
        <tr>
        <th><h1>Room Type</h1></th>
        <th><h1>Price</h1></th>
        </tr>";
        while($row = mysqli_fetch_assoc($result))
        {
        echo "<tr>";
        echo "<td><b>" . $row['Type'] . "</td>";
```

```
        echo "<td>INR " . $row['Price'] . "</td>";
        echo "</tr>";
        }
        echo "</table>";
    ?>
        <form action="Booking page.php" method="POST">
            <br>
            <input style="width:200px;" type="date" name="Check_In" id="Check_
In" placeholder="Enter Check in Date"  required>
            <input style="width:200px;" type="date" name="Check_Out" id="Check
_Out" placeholder="Enter Check out date"  required>
            <br>
            <p><h4>Select Room Type:</h4></p><select style="width:200px;height
:50px;" name="Room_Type"  required>
                <option value='Single'><button class='btn'>Single</button></op
tion>
                <option value='Single AC'><button class='btn'>Single AC</butto
n></option>
                <option value='Double'><button class='btn'>Double</button></op
tion>
                <option value='Double AC'><button class='btn'>Double AC</butto
n></option>
                <option value='Deluxe'><button class='btn'>Deluxe</button></op
tion>
                <option value='Deluxe AC'><button class='btn'>Deluxe AC</butto
n></option>
                <option value='Suite'><button class='btn'>Suite</button></opti
on>
                <option value='Suite AC'><button class='btn'>Suite AC</button>
</option>
            </select>
            <br>
            <button class="btn">Book my room!</button>
        </form>
        <br><br>
</body>
<br>
<br>
</html>
```

Stylesheet (.css file)

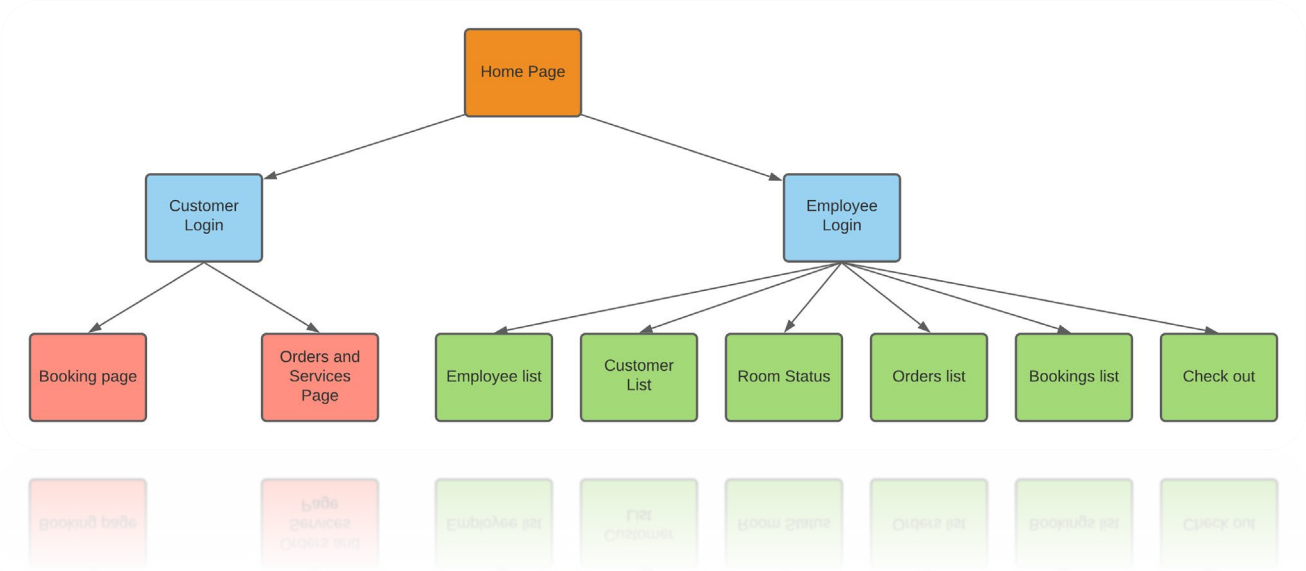
```
*{
    margin: 0px;
    padding: 0px;
    box-sizing: border-box;

font-family: 'Roboto', sans-serif;
}

.container{
    max-width: 100%;
    padding: 34px;
    margin: auto;
}

.container h1 {
    text-align: center;
    font-family: 'Sriracha', cursive;
    font-size: 40px;
    background-color:darkcyan;
}

p{
    font-size: 17px;
    text-align: center;
    font-family: 'Sriracha', cursive;
}
input, textarea{

    border: 2px solid black;
    border-radius: 6px;
    outline: none;
    font-size: 16px;
    width: 80%;
    margin: 11px 0px;
    padding: 7px;
}
form{
    display: flex;
    align-items: center;
    justify-content: center;
    flex-direction: column;
}

.btn{
    color: white;
    background: rgb(0, 174, 255);
    padding: 8px 22px;
```

```
    font-size: 30px;
    border: 1px solid white;
    border-radius: 30px;
    cursor: pointer;
}
.btn2{
    color: rgb(255, 255, 255);
    background: rgb(0, 174, 255);
    padding: 8px 30px;
    font-size: 30px;
    border: 1px solid rgb(255, 255, 255);
    border-radius:40px;
    cursor: pointer;
}
.wrapper {
    text-align: right;
}
.bg{
    width: 100%;
    position: absolute;
    z-index: -1;
    opacity: 0.4;
}
.submitMsg{
    color: red;
    font-size: 30px;
}
.submitMsgD{
    color: rgb(0, 255, 34);
    font-size: 30px;
}
.footer{
    position: fixed;
    bottom: 0px;
    width: 100%;
    color: rgb(255, 255, 255);
    background-color: rgb(0, 0, 0);
    font-size: 30px;
    font-family: Verdana, Geneva, Tahoma, sans-serif;
    text-align: center;
    font-weight: bolder;
}
table
{
border-style:groove;
border-width:20px;
border-spacing: 15px;
border-width: 20px;
```

```
border-color:rgb(108, 128, 138)
}
.center {
    margin-left: auto;
    margin-right: auto;
    row-gap: 200px;
  }
  td {
    width: 250px;
    text-align: center;
    border: 1px solid rgb(0, 0, 0);
    padding: 10px;
}
```

The Website

The following diagram is the website mapping of the front end of our project.



We first start off at the home page, then the user can make a selection to either access the customer login or the employee login.
The Customer can login/sign up using their credentials, if their data already exist in the database , they are prompted to the Customer page.
If their data does not exist in the database, then new records will be added and they will then be prompted to the Customer page.

In the customer page, they can make a selection to either access the booking page or the orders and services page.

In the booking page, the customer can make a booking for a room if not done yet.

In the Orders and Services page, they can make orders for services provided by the hotel. The service cost will be added to the Customer's bill.

In the employee login, the user has to input their employee ID and their name and password, they will only be granted access if the credentials exist in the employee table, employee is a manager and if the password is correct.
Once they are in, they are redirected to an employee page, where they can make the following selections:

1) View Room Status
2) View Order Details
3) View Bookings list
4) Check Customers Out
5) View Employee details
6) View Customer details

With the View Room Status, all information of the rooms is displayed.

The Order details displays the orders made by the customers.

The Bookings list, displays all the bookings made by the customers.

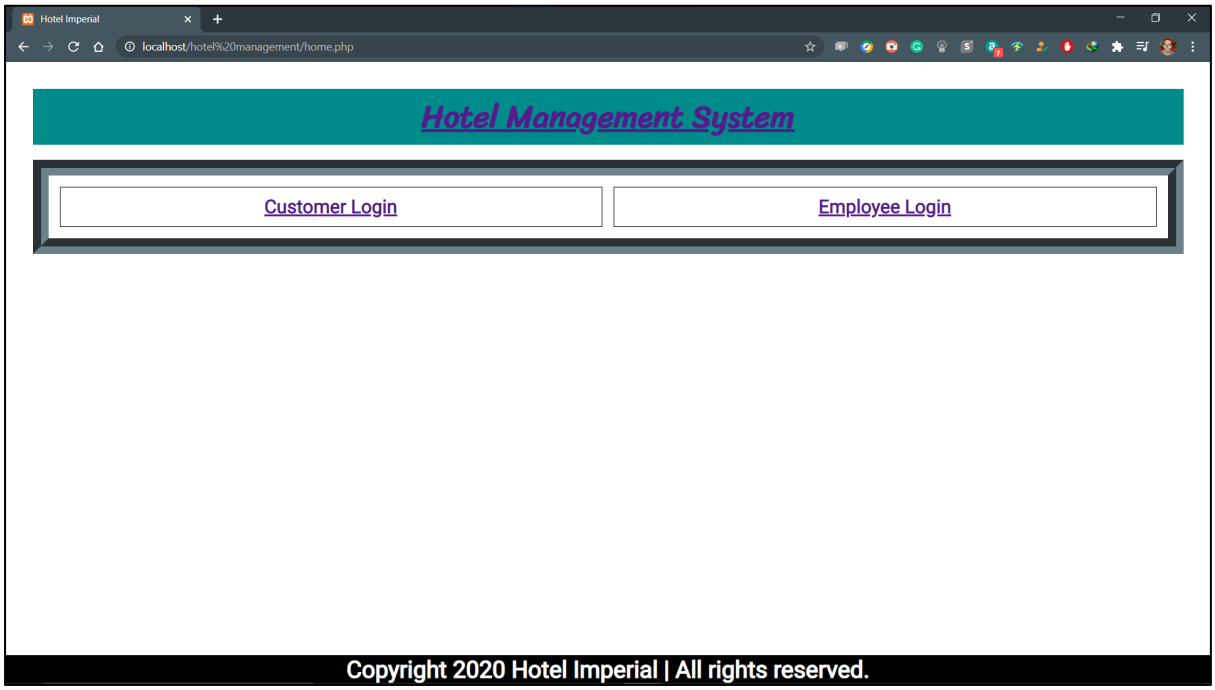
In the Checkout page, the employee can generate the bill for the customer, and check them out.

With the employee details, the manager can view all the details of the employees of the hotel.

View Customer details displays the details about the customers that has made an account in the hotel.

Result and discussion

Home Page:

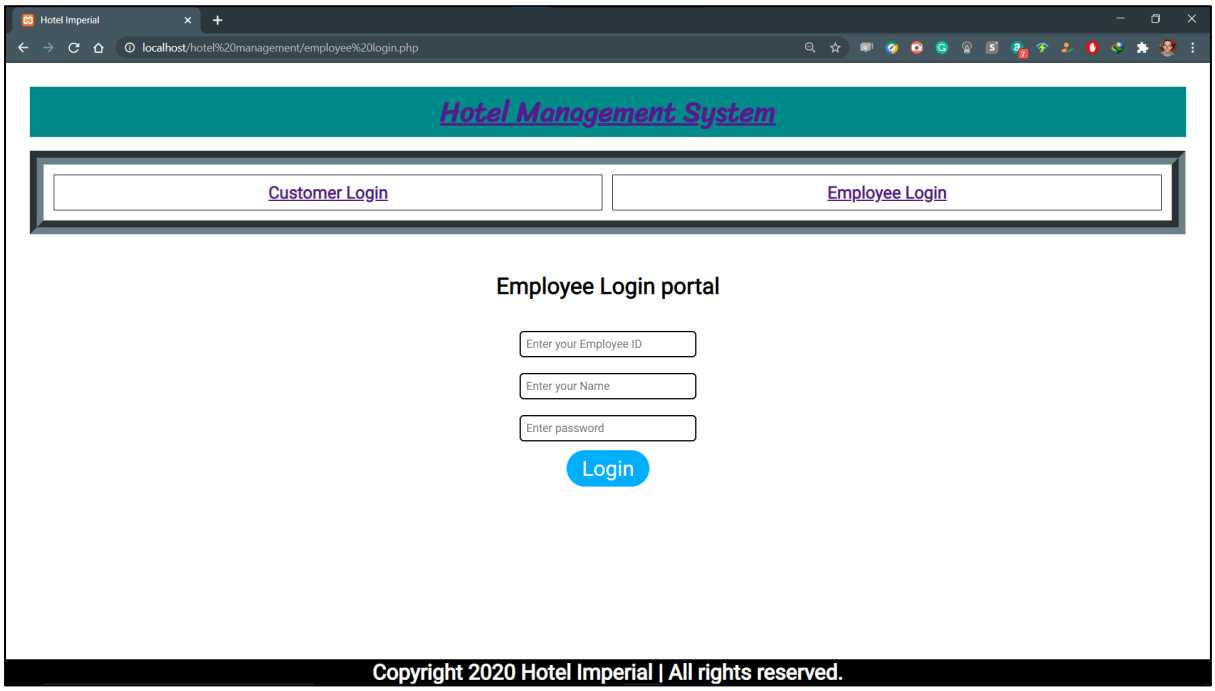


Employee Login Page:

Employee list:

```
mysql> select * from employee;
+--------+--------------------+------------+---------------------+------------------+--------+
| Emp_ID | Name               | Contact    | Address             | Designation      | Salary |
+--------+--------------------+------------+---------------------+------------------+--------+
| EM01   | Ravindar kumar     | 9101028001 | Bengaluru,Karnataka | Manager          |  70000 |
| EM02   | Rujin Shrestha     | 9108871103 | Vellore,Tamil Nadu  | HouseKeeping     |  25000 |
| EM03   | Ria Arun           | 1508423884 | New Delhi,Delhi     | Beverage manager |  35000 |
| EM04   | Divya Sharma       | 6364682127 | Mumbai,Maharashtra  | Chef             |  40000 |
| EM05   | Samyogita Bhandari | 9150467979 | Chennai,Tamil Nadu  | Receptionist     |  33000 |
+--------+--------------------+------------+---------------------+------------------+--------+
5 rows in set (0.10 sec)
```

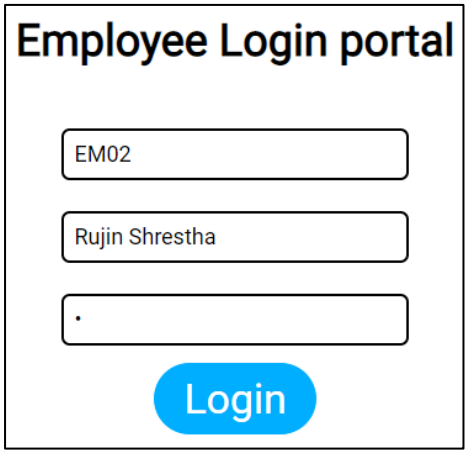
Only the manager is allowed to access the employee login page.

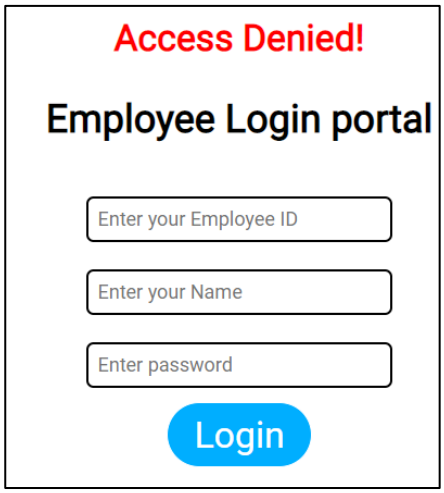


ACCESS DENIED CASE:

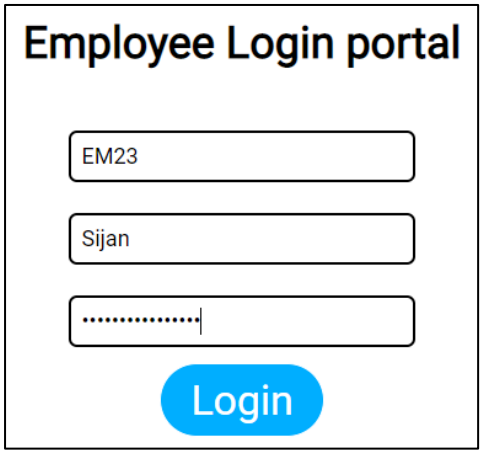
The employee with ID “EM02” and name “Rujin Shrestha” is not a manager hence access is denied.

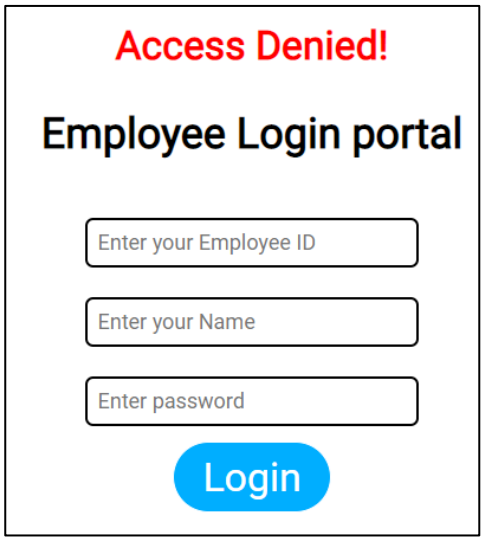
Front-end:





The employee ID “EM23” and name “Sijan” is not even an employee, hence access is denied.





Back-end:

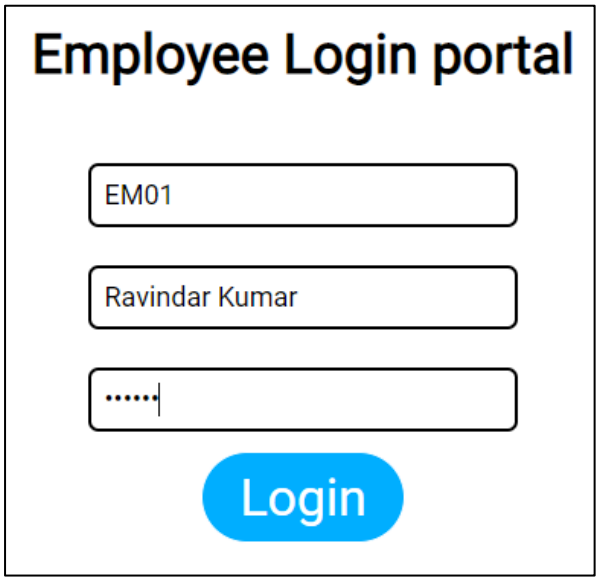
```
mysql> select designation
    -> from employee
    -> where EMP_ID='EM02' and NAME='Rujin Shrestha';
+--------------+
| designation  |
+--------------+
| HouseKeeping |
+--------------+
1 row in set (0.00 sec)
```

```
mysql> SELECT Emp_ID
    -> FROM employee
    -> WHERE Emp_ID='EM23' AND Name ='SIJAN';
Empty set (0.00 sec)
```

Successful Login Case:

The employee with employee ID “EM01” and Name “Ravindar Kumar” is a manager and the password is correct (“123456”), hence access is granted and is prompted to the employee page.

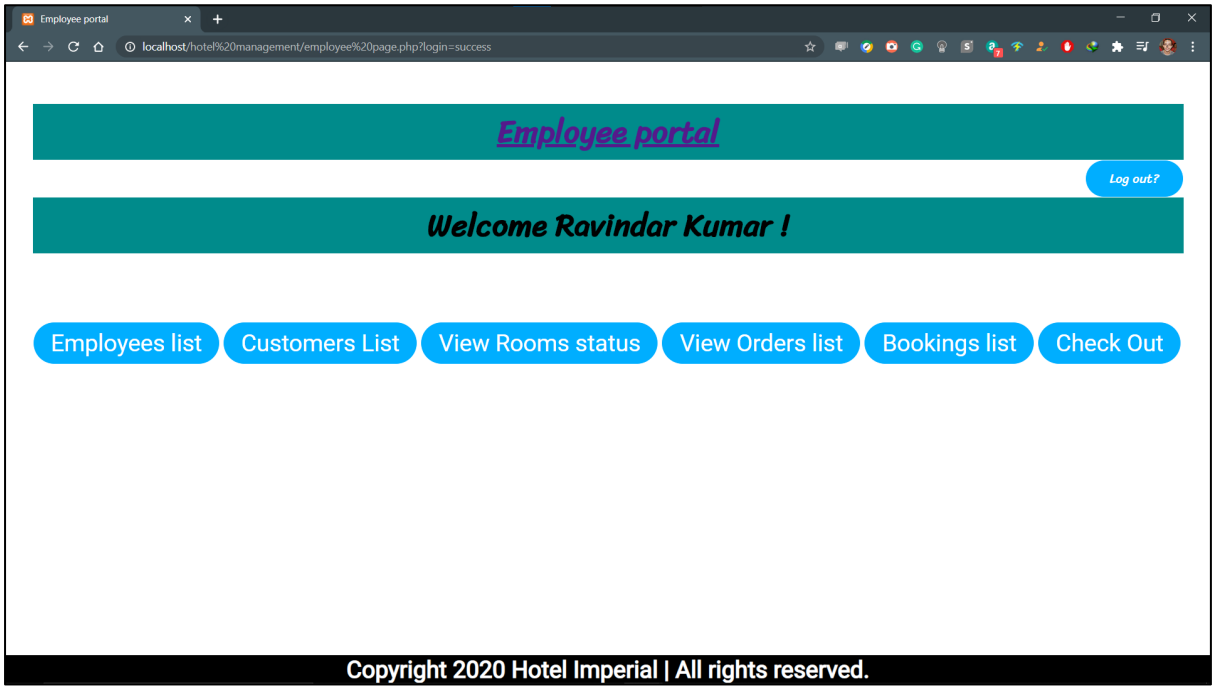
Front-end:



Back-end:

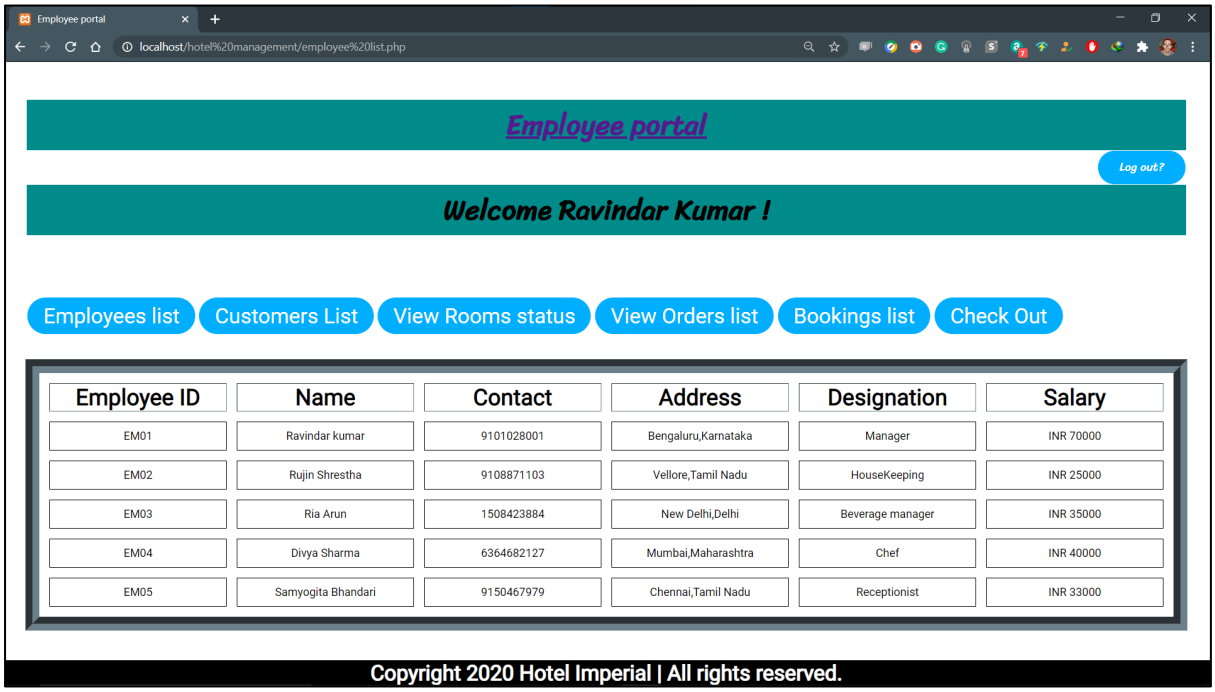
```
mysql> Select designation
    -> from employee
    -> where EMP_ID='EM01' and NAME='Ravindar Kumar';
+-------------+
| designation |
+-------------+
| Manager     |
+-------------+
1 row in set (0.01 sec)
```

Employee page:



View Employees list:

Front-end:



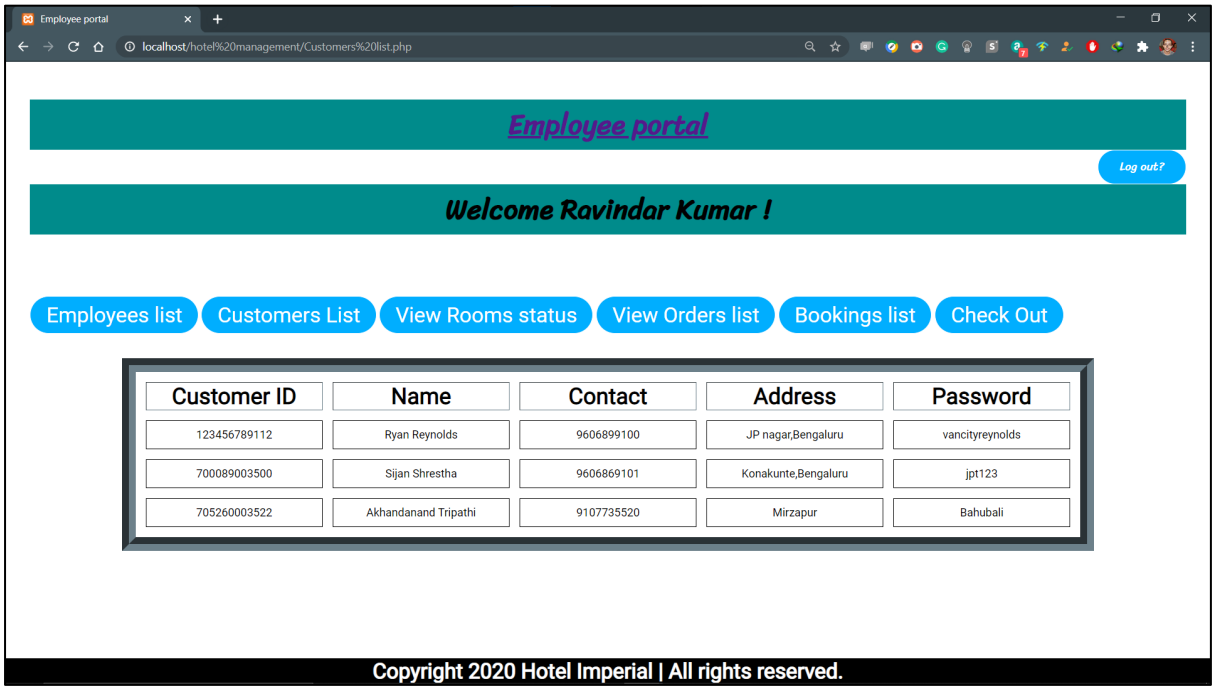
Employee ID	Name	Contact	Address	Designation	Salary
EM01	Ravindar kumar	9101028001	Bengaluru,Karnataka	Manager	INR 70000
EM02	Rujin Shrestha	9108871103	Vellore,Tamil Nadu	HouseKeeping	INR 25000
EM03	Ria Arun	1508423884	New Delhi,Delhi	Beverage manager	INR 35000
EM04	Divya Sharma	6364682127	Mumbai,Maharashtra	Chef	INR 40000
EM05	Samyogita Bhandari	9150467979	Chennai,Tamil Nadu	Receptionist	INR 33000

Back-end:

```
mysql> Select * from employee;
+--------+--------------------+------------+---------------------+------------------+--------+
| Emp_ID | Name               | Contact    | Address             | Designation      | Salary |
+--------+--------------------+------------+---------------------+------------------+--------+
| EM01   | Ravindar kumar     | 9101028001 | Bengaluru,Karnataka | Manager          |  70000 |
| EM02   | Rujin Shrestha     | 9108871103 | Vellore,Tamil Nadu  | HouseKeeping     |  25000 |
| EM03   | Ria Arun           | 1508423884 | New Delhi,Delhi     | Beverage manager |  35000 |
| EM04   | Divya Sharma       | 6364682127 | Mumbai,Maharashtra  | Chef             |  40000 |
| EM05   | Samyogita Bhandari | 9150467979 | Chennai,Tamil Nadu  | Receptionist     |  33000 |
+--------+--------------------+------------+---------------------+------------------+--------+
5 rows in set (0.00 sec)
```

View Customers list:

Front-end:

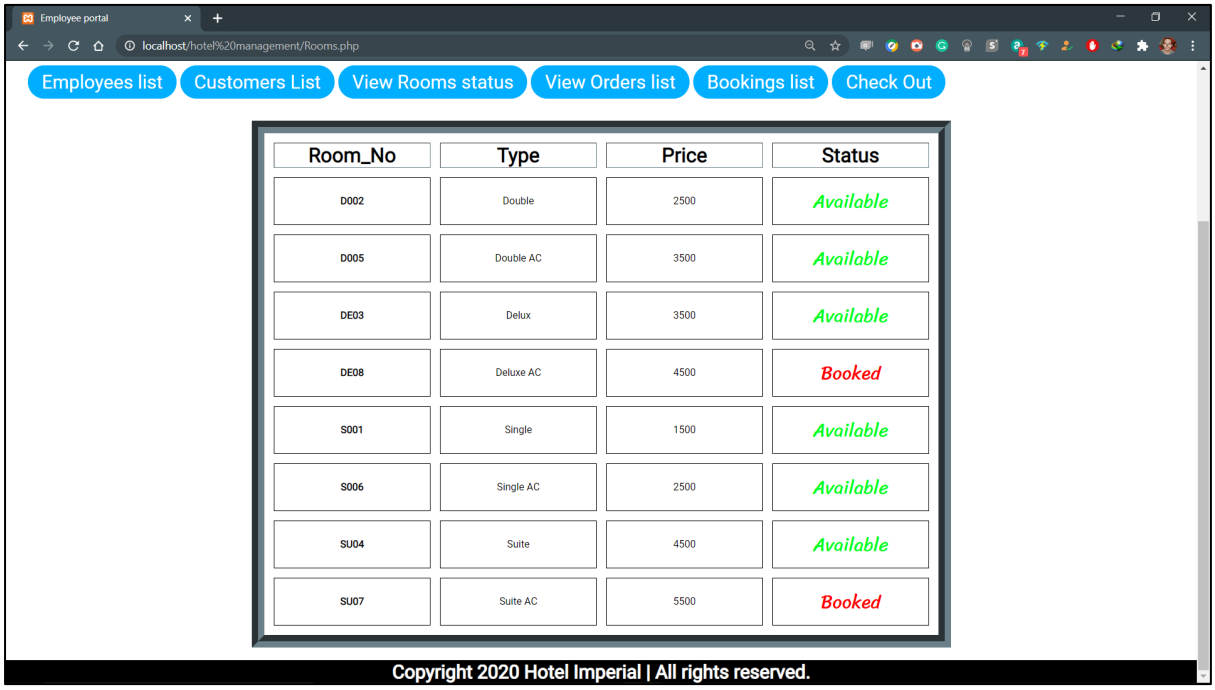


Back-end:

```
mysql> select * from customer;
+--------------+---------------------+------------+---------------------+-----------------+
| Customer_ID  | Name                | Contact    | Address             | Password        |
+--------------+---------------------+------------+---------------------+-----------------+
| 123456789112 | Ryan Reynolds       | 9606899100 | JP nagar,Bengaluru
 | vancityreynolds |
| 700089003500 | Sijan Shrestha      | 9606869101 | Konakunte,Bengaluru | jpt123          |
| 705260003522 | Akhandanand Tripathi | 9107735520 | Mirzapur            | Bahubali        |
+--------------+---------------------+------------+---------------------+-----------------+
3 rows in set (0.00 sec)
```

View Room status:

Front-end:

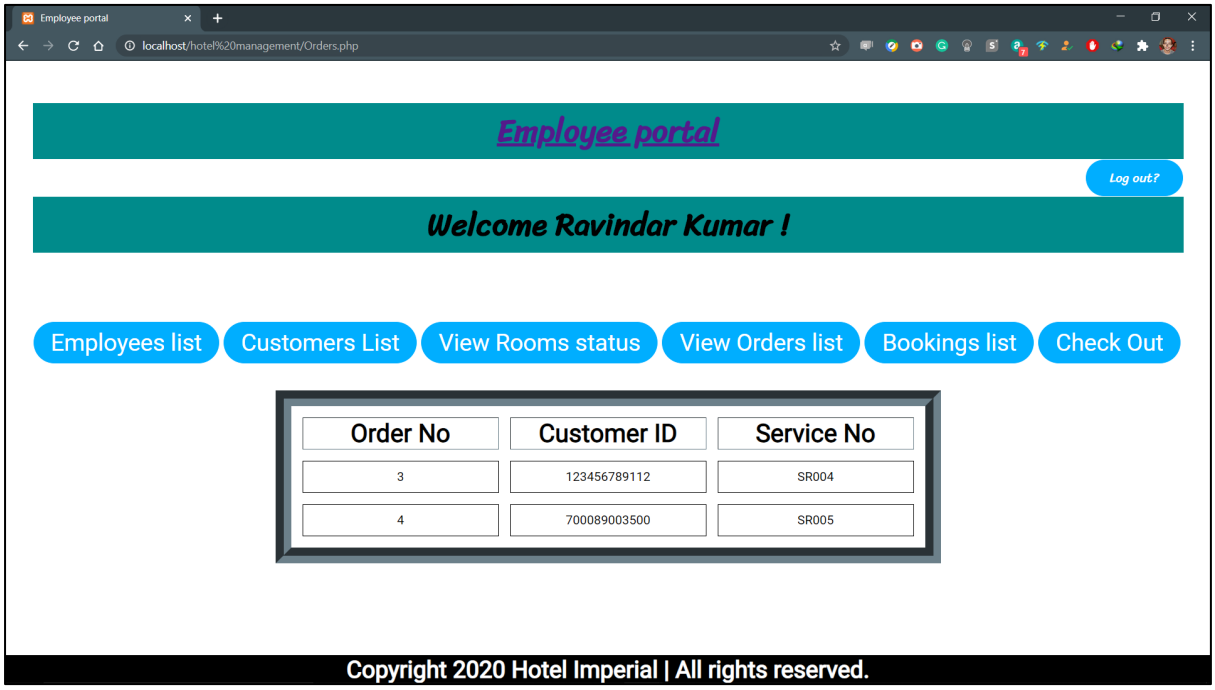


Back-end:

```
mysql> select * from rooms;
+---------+-----------+-------+-----------+
| Room_No | Type      | Price | Status    |
+---------+-----------+-------+-----------+
| D002    | Double    |  2500 | Available |
| D005    | Double AC |  3500 | Available |
| DE03    | Delux     |  3500 | Available |
| DE08    | Deluxe AC |  4500 | Booked    |
| S001    | Single    |  1500 | Available |
| S006    | Single AC |  2500 | Available |
| SU04    | Suite     |  4500 | Available |
| SU07    | Suite AC  |  5500 | Booked    |
+---------+-----------+-------+-----------+
8 rows in set (0.00 sec)
```

View Orders:

Front-end:

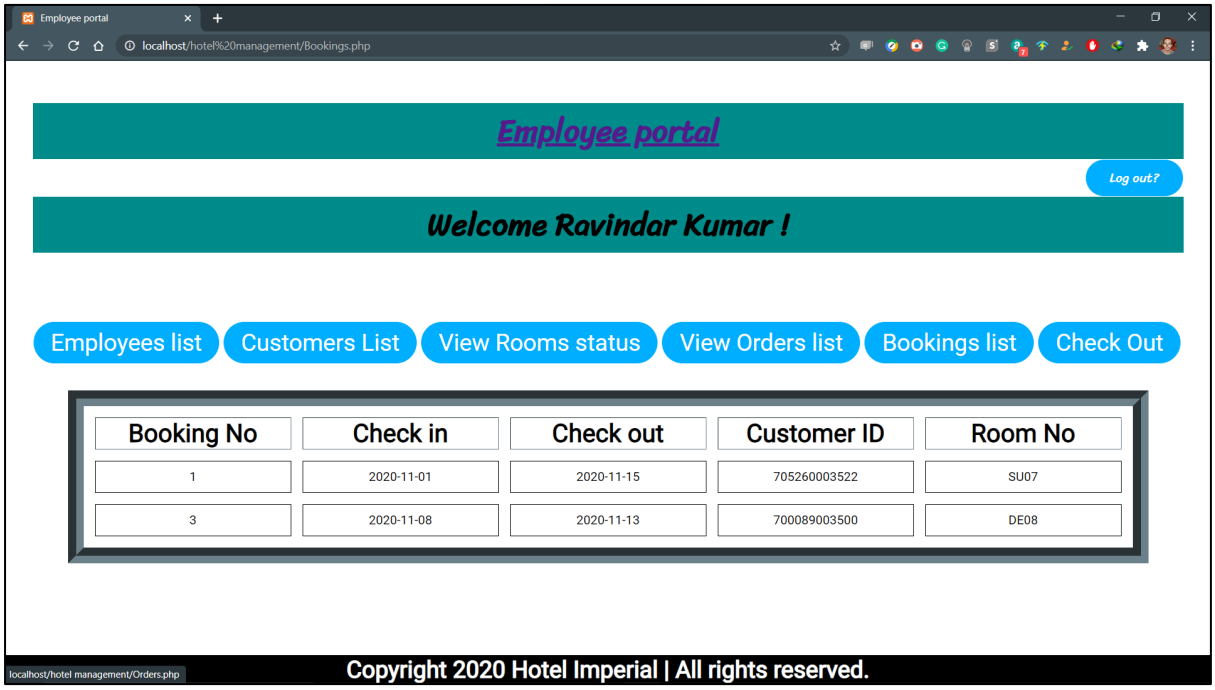


Back-end:

```
mysql> select * from orders;
+----------+--------------+------------+
| Order_No | Customer_ID  | Service_No |
+----------+--------------+------------+
|        3 | 123456789112 | SR004      |
|        4 | 700089003500 | SR005      |
+----------+--------------+------------+
2 rows in set (0.00 sec)
```

View Bookings:

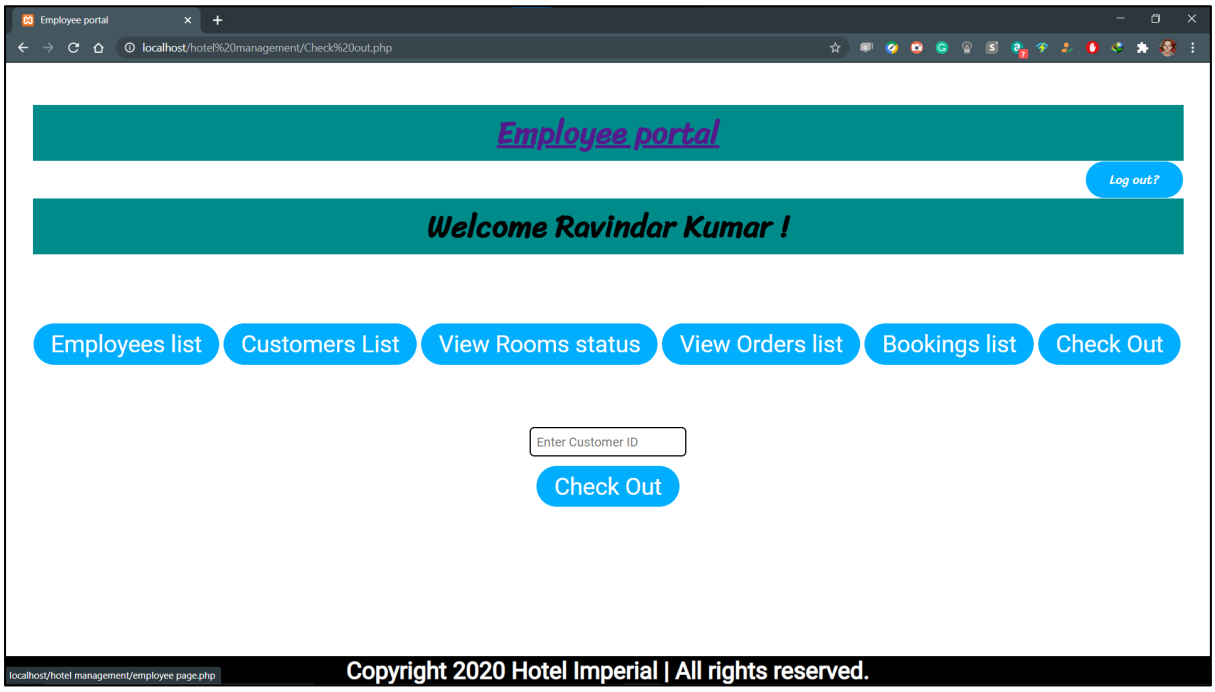
Front-end:



Back-end:

```
mysql> select * from booking;
+------------+------------+------------+--------------+---------+
| Booking_No | Check_in   | Check_out  | Customer_ID  | Room_No |
+------------+------------+------------+--------------+---------+
|          1 | 2020-11-01 | 2020-11-15 | 705260003522 | SU07    |
|          3 | 2020-11-08 | 2020-11-13 | 700089003500 | DE08    |
+------------+------------+------------+--------------+---------+
2 rows in set (0.00 sec)
```

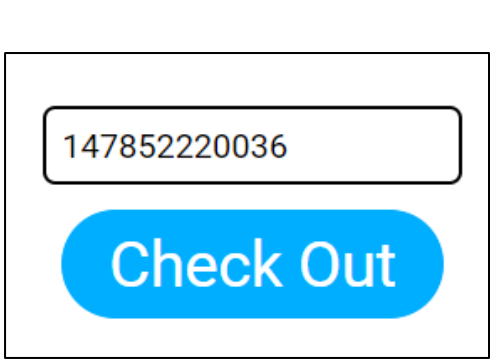
Check out page:

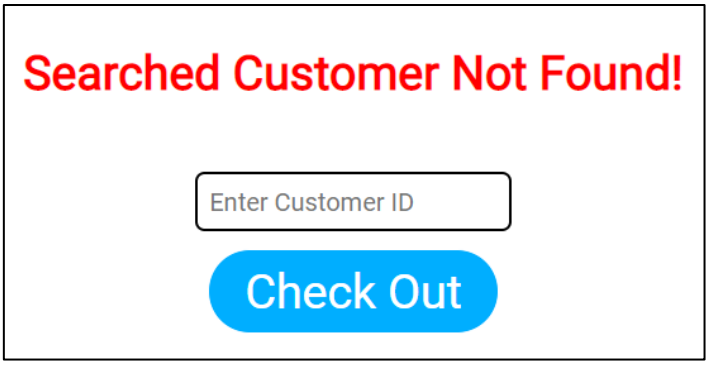


Customer ID not Found Case

The searched customer with customer ID “147852220036” is not found in the payment table in the database, hence a “Customer not found” message is displayed.

Front-end:





Back-end:

Checks if there the customer is still checked in by checking the pending payment.

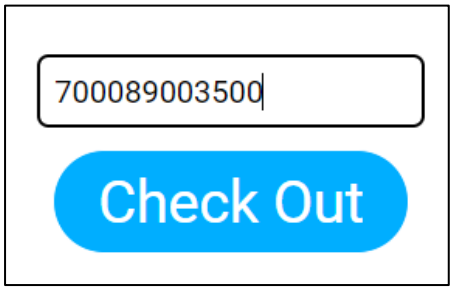
```
mysql> select Customer_ID
    -> FROM payment
    -> WHERE customer_ID='147852220036';
Empty set (0.00 sec)
```

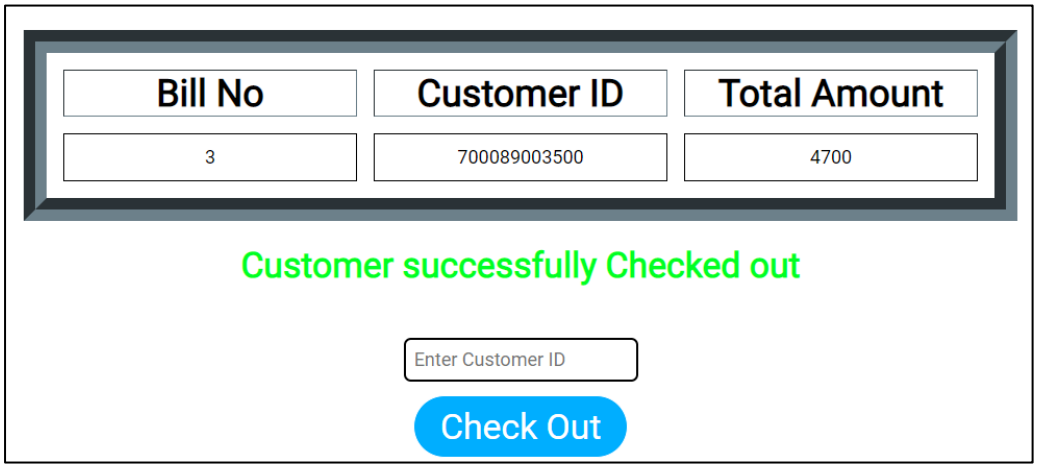
Customer ID found and successful checking out

The customer with Customer ID “700089003500” is found in the payment table, and hence the following events take place:

- The bill for the customer is displayed and record deleted,
- The status of room booked by the particular customer is changed to available,
- Record is deleted from the booking table,
- All the orders made by that particular customer is deleted.

Front-end:





Back-end:

BEFORE CHECKOUT:

Finds the rooms booked to a customer with ID “700089003500”;

```
mysql> SELECT rooms.Room_No
    -> FROM Customer
    -> JOIN booking ON customer.Customer_ID = booking.Customer_ID
    -> JOIN rooms ON booking.Room_No = rooms.Room_No
    -> WHERE customer.Customer_ID = '700089003500';
+---------+
| Room_No |
+---------+
| DE08    |
+---------+
1 row in set (0.00 sec)
```

```
mysql> select * from rooms;
+---------+-----------+-------+-----------+
| Room_No | Type      | Price | Status    |
+---------+-----------+-------+-----------+
| D002    | Double    |  2500 | Available |
| D005    | Double AC |  3500 | Available |
| DE03    | Delux     |  3500 | Available |
| DE08    | Deluxe AC |  4500 | Booked    |
| S001    | Single    |  1500 | Available |
| S006    | Single AC |  2500 | Available |
| SU04    | Suite     |  4500 | Available |
| SU07    | Suite AC  |  5500 | Booked    |
+---------+-----------+-------+-----------+
8 rows in set (0.00 sec)
```

AFTER CHECKOUT:

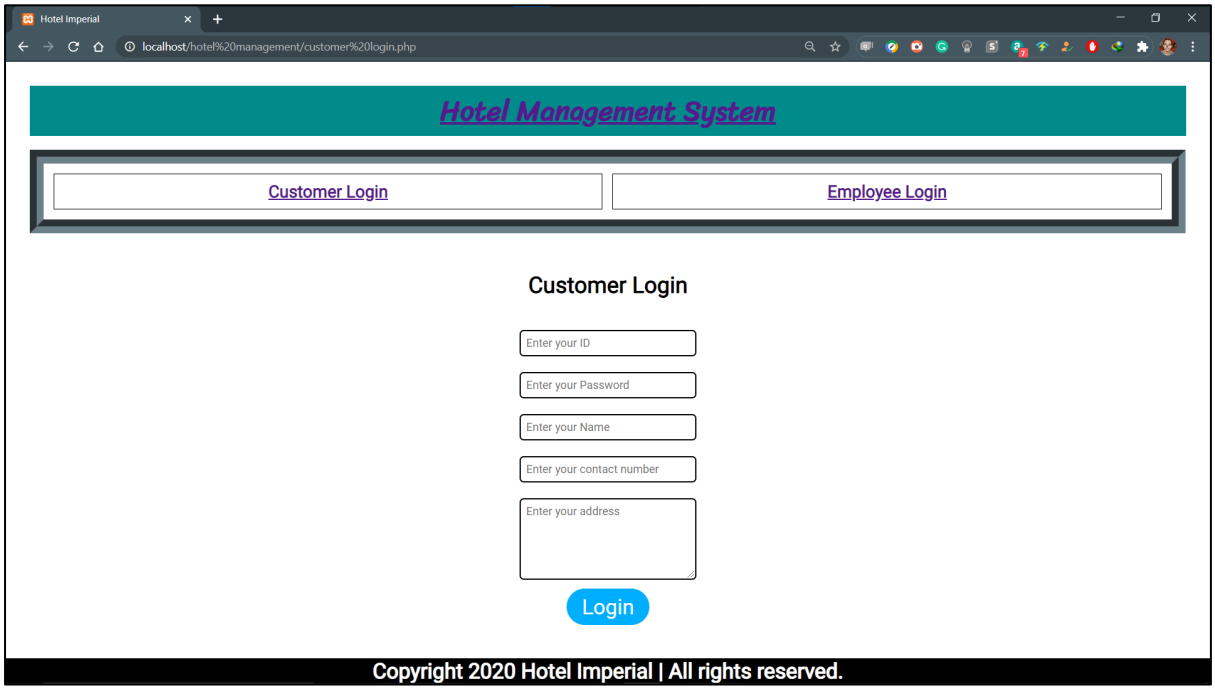
```
mysql> SELECT rooms.Room_No
    -> FROM Customer
    -> JOIN booking ON customer.Customer_ID = booking.Customer_ID
    -> JOIN rooms ON booking.Room_No = rooms.Room_No
    -> WHERE customer.Customer_ID = '700089003500';
Empty set (0.01 sec)

mysql> select * from rooms;
+---------+-----------+-------+-----------+
| Room_No | Type      | Price | Status    |
+---------+-----------+-------+-----------+
| D002    | Double    |  2500 | Available |
| D005    | Double AC |  3500 | Available |
| DE03    | Delux     |  3500 | Available |
| DE08    | Deluxe AC |  4500 | Available |
| S001    | Single    |  1500 | Available |
| S006    | Single AC |  2500 | Available |
| SU04    | Suite     |  4500 | Available |
| SU07    | Suite AC  |  5500 | Booked    |
+---------+-----------+-------+-----------+
8 rows in set (0.00 sec)
```

Customer Login Page:

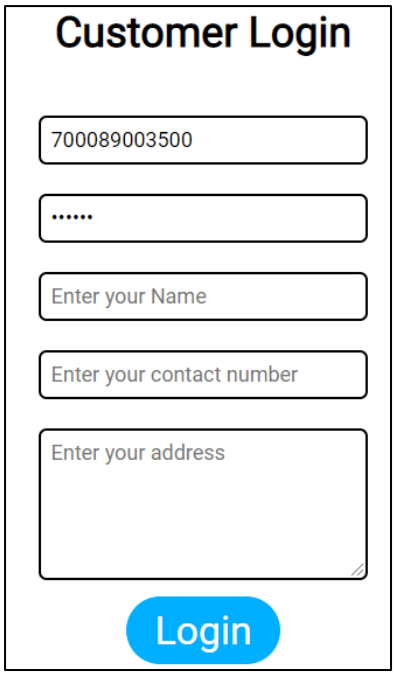
Customers list (SQL) :

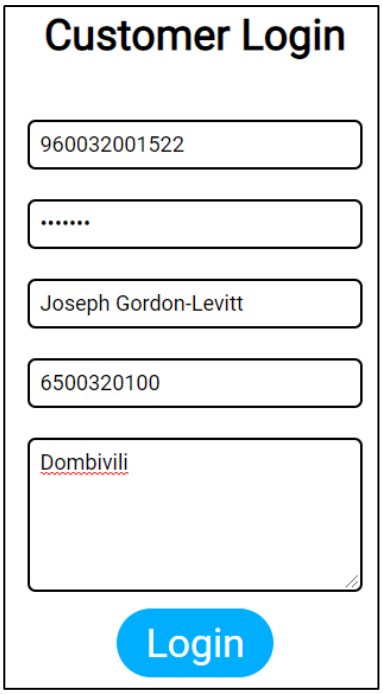
```
mysql> select * from customer;
+--------------+---------------------+------------+---------------------+-----------------+
| Customer_ID  | Name                | Contact    | Address             | Password        |
+--------------+---------------------+------------+---------------------+-----------------+
| 123456789112 | Ryan Reynolds       | 9606899100 | JP nagar,Bengaluru
 | vancityreynolds |
| 700089003500 | Sijan Shrestha      | 9606869101 | Konakunte,Bengaluru | jpt123          |
| 705260003522 | Akhandanand Tripathi | 9107735520 | Mirzapur            | Bahubali        |
+--------------+---------------------+------------+---------------------+-----------------+
3 rows in set (0.00 sec)
```

Returning Customers may just input their ID number and their password, and they will be granted access.
Whereas new customers need to put in their details, and sign up.



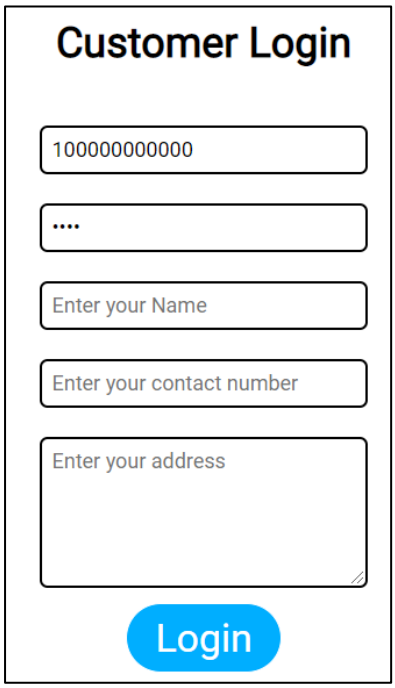
Returning Customer and New Customer

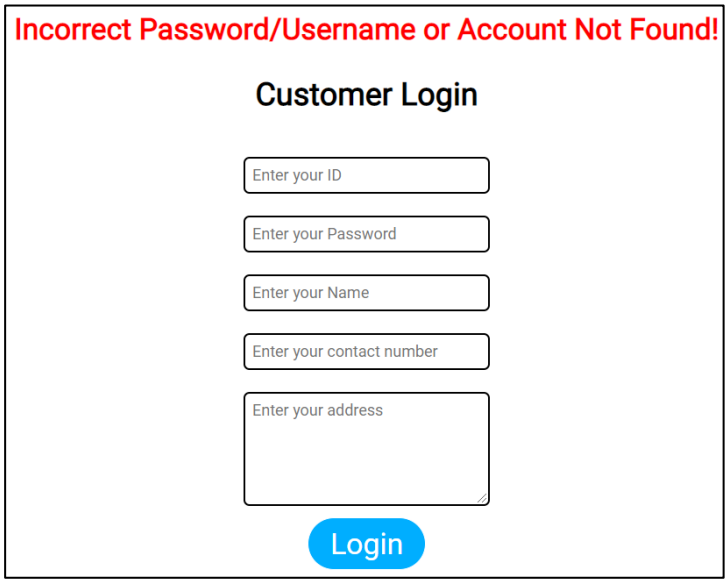




Since in the first case we have a returning customer, they are simply required to input their ID and their password, once it is verified, they will be redirected to the customer page.
Whilst in the second case, it is a new customer, and hence all details are needed to be input for access.

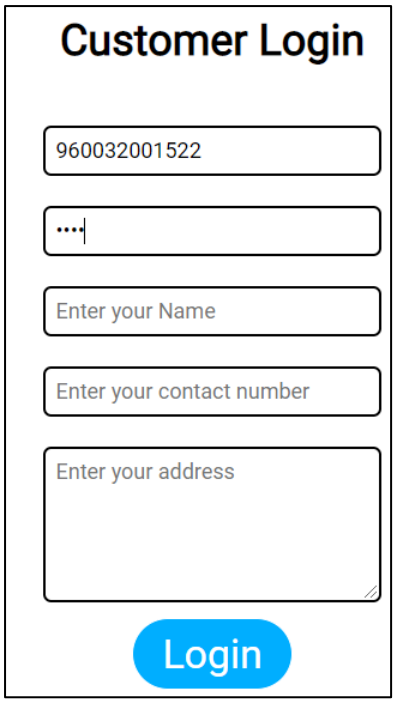
ACCESS DENIED CASE 1:

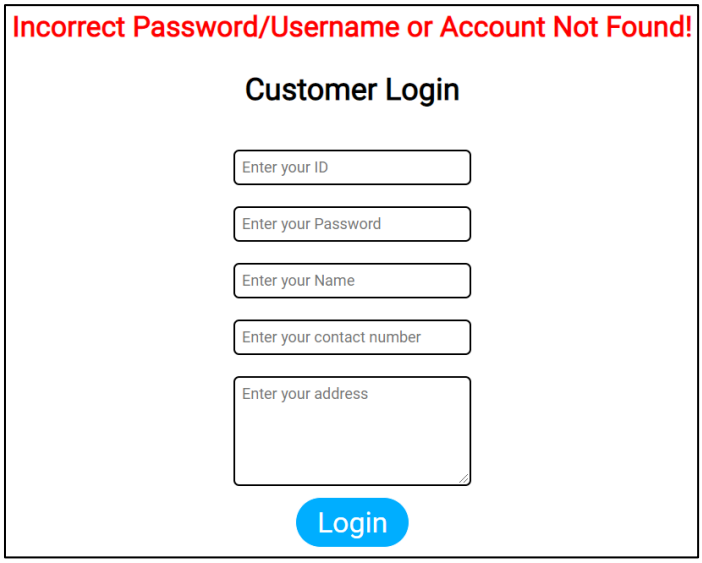




Here the customer with ID “100000000000” is not registered, and hence access is denied.

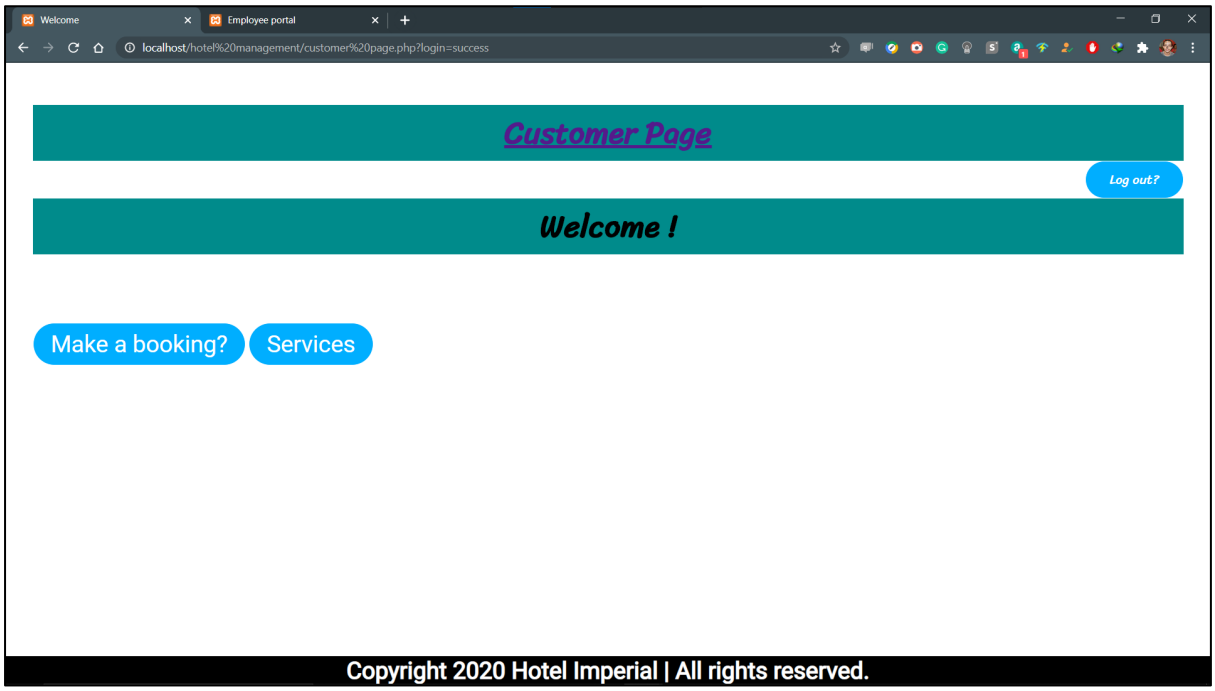
ACCESS DENIED CASE 2:





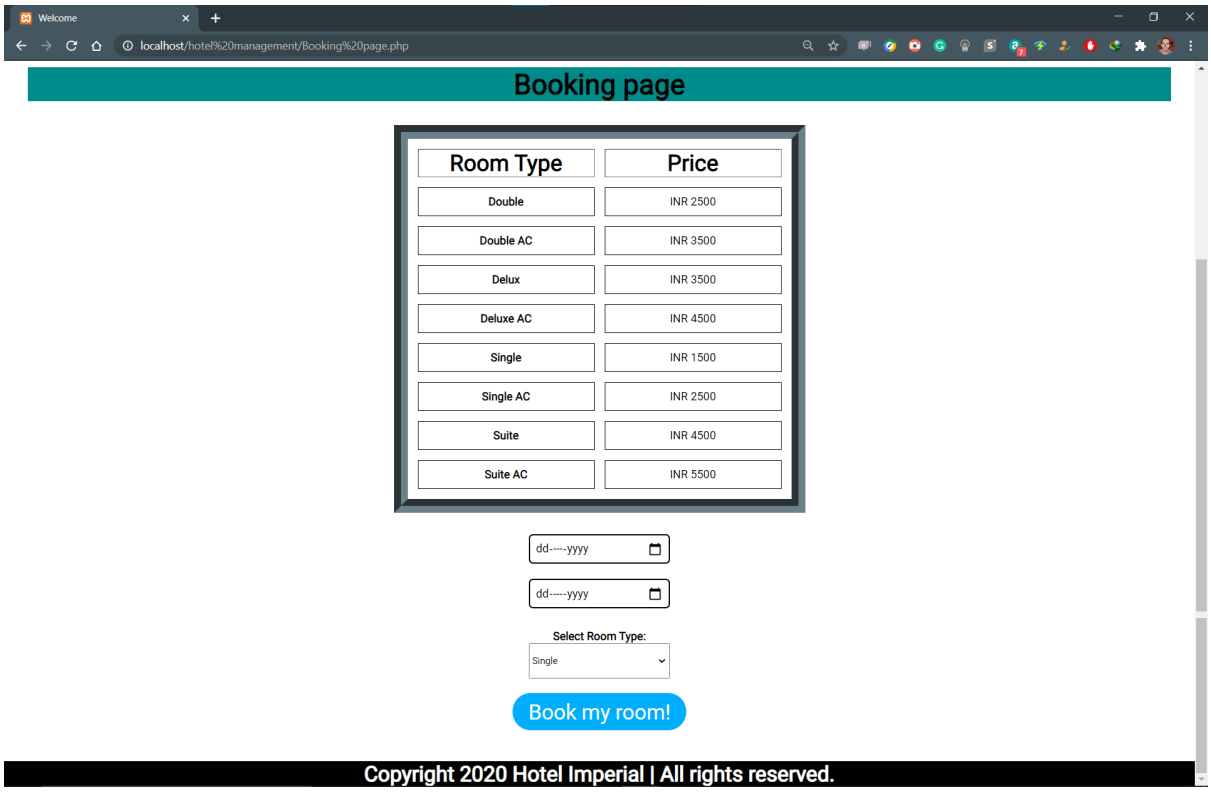
In this case although the customer account with ID “960032001522” exist, the password input is incorrect and hence access is denied.

Customer Page:

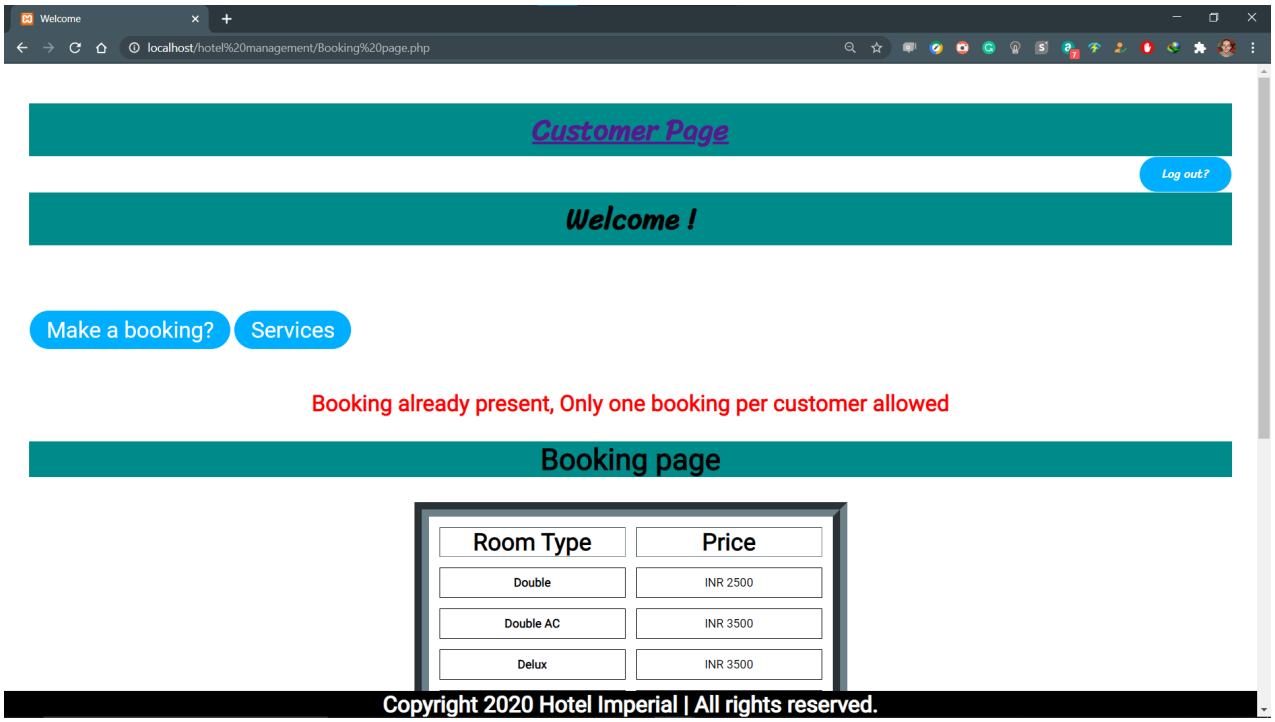


Booking Page:

CASE 1, When no booking has been made:

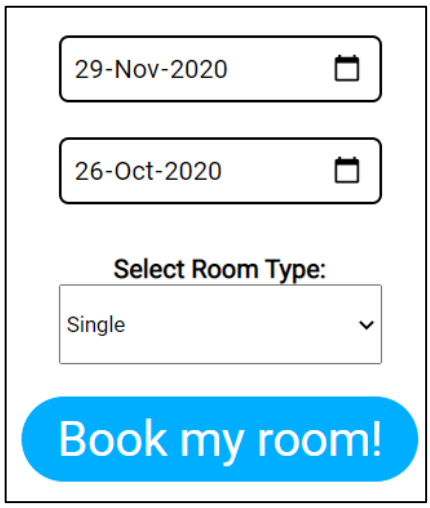


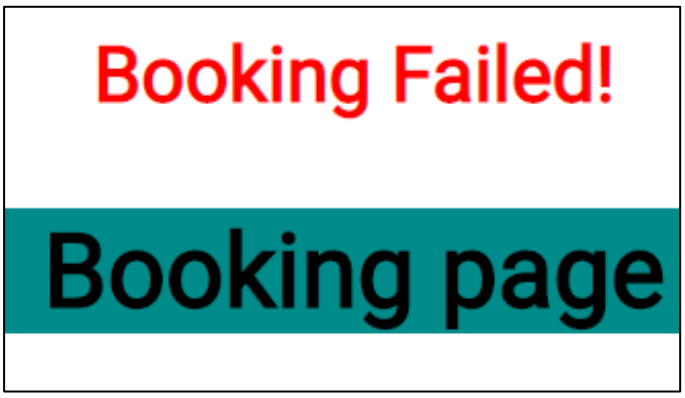
CASE 2, When a booking has already been made by the customer:



Front-end:

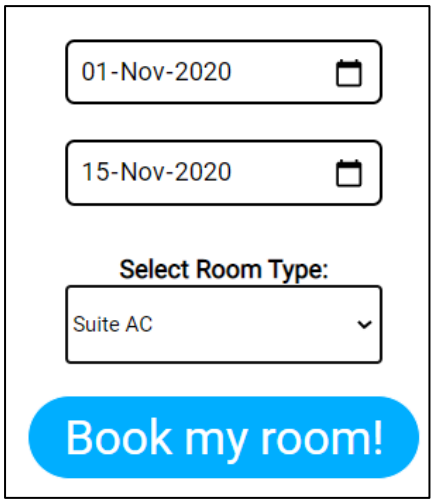
BOOKING FAILED CASE:

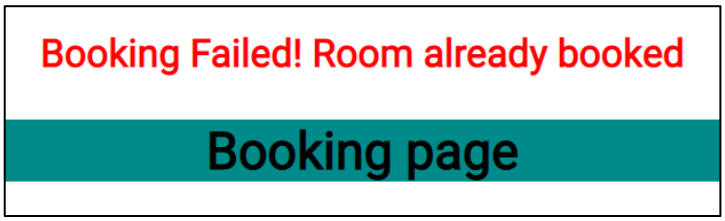




Booking is failed since the check-out date is earlier than the check-in date.

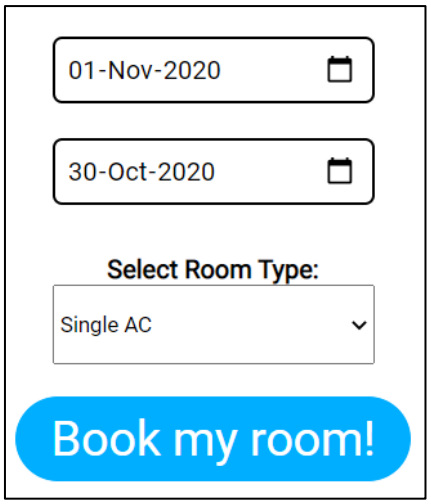
BOOKING FAILED CASE 2:





Booking fails since the room is already booked by another customer.

SUCCESSFUL BOOKING CASE:

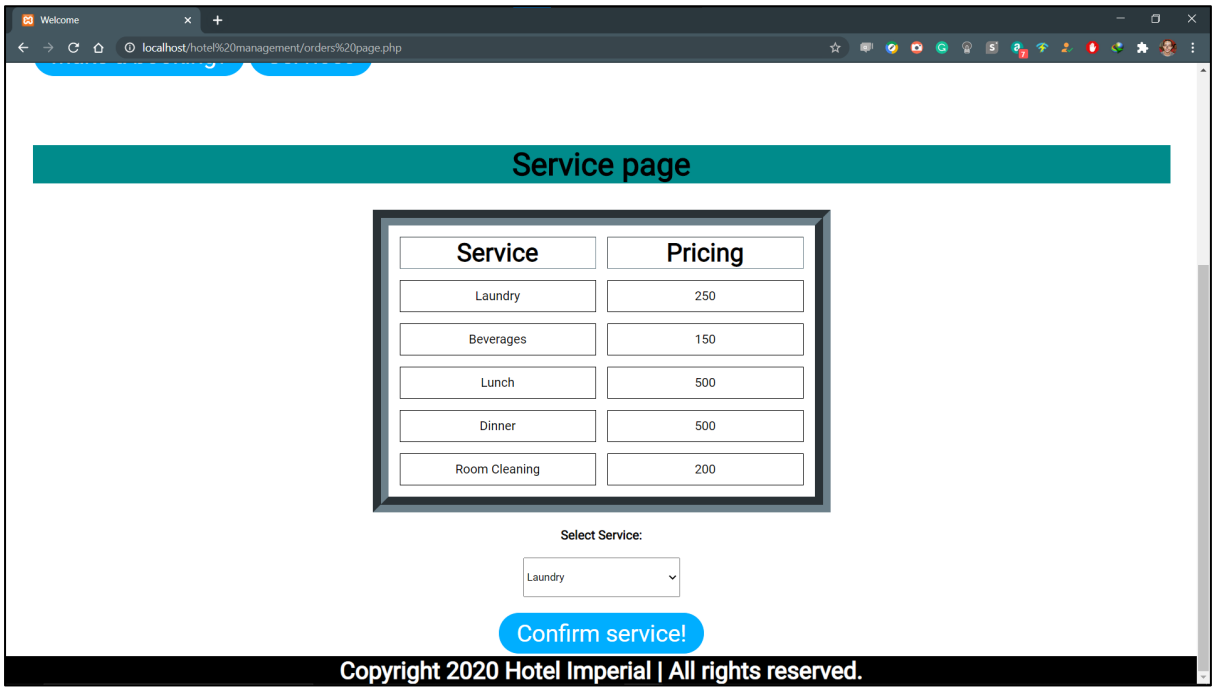


Back-end:

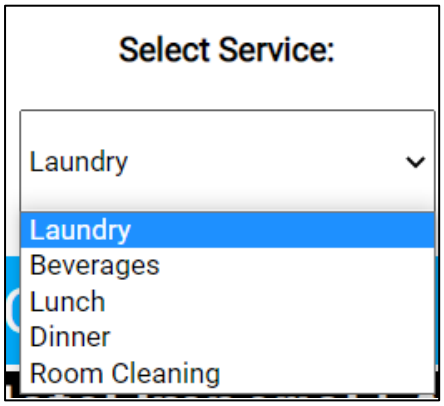
```
mysql> select * from booking;
+------------+------------+------------+--------------+---------+
| Booking_No | Check_in   | Check_out  | Customer_ID  | Room_No |
+------------+------------+------------+--------------+---------+
|          1 | 2020-11-01 | 2020-11-15 | 705260003522 | SU07    |
|          5 | 2020-11-01 | 2020-11-30 | 960032001522 | S006    |
+------------+------------+------------+--------------+---------+
2 rows in set (0.00 sec)

mysql> select * from rooms;
+---------+-----------+-------+-----------+
| Room_No | Type      | Price | Status    |
+---------+-----------+-------+-----------+
| D002    | Double    |  2500 | Available |
| D005    | Double AC |  3500 | Available |
| DE03    | Delux     |  3500 | Available |
| DE08    | Deluxe AC |  4500 | Available |
| S001    | Single    |  1500 | Available |
| S006    | Single AC |  2500 | Booked    |
| SU04    | Suite     |  4500 | Available |
| SU07    | Suite AC  |  5500 | Booked    |
+---------+-----------+-------+-----------+
8 rows in set (0.00 sec)

mysql> select * from payment;
+---------+--------------+--------------+
| Bill_No | Customer_ID  | Total_Amount |
+---------+--------------+--------------+
|       1 | 705260003522 |         5500 |
|       4 | 123456789112 |          500 |
|       6 | 960032001522 |         2500 |
+---------+--------------+--------------+
3 rows in set (0.00 sec)
```

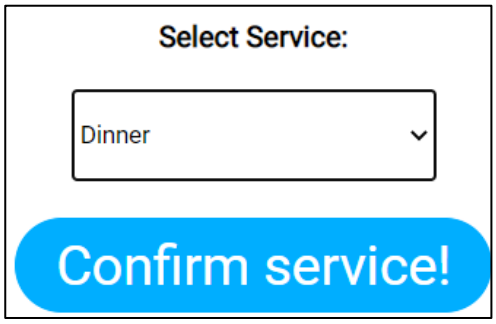
Service Page:

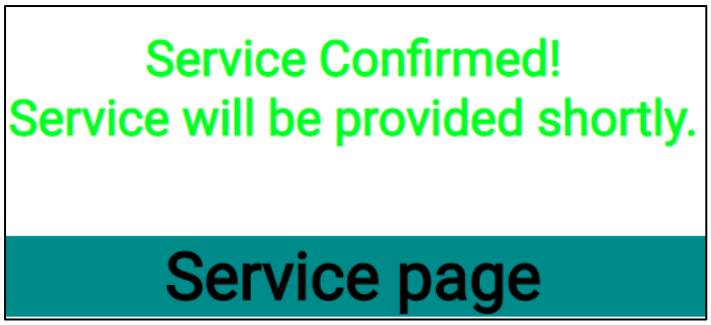
Front-end:



Choosing a service and Confirming:







Back-end:

The customer has opted for “Dinner” service. Once confirmed, the cost of the service will be added to the existing bill of the customer and updated.

```
mysql> select * from services;
+------------+---------------+-------+--------+
| Service_No | Description   | Price | Emp_ID |
+------------+---------------+-------+--------+
| SR001      | Laundry       |   250 | EM02   |
| SR002      | Beverages     |   150 | EM03   |
| SR003      | Lunch         |   500 | EM04   |
| SR004      | Dinner        |   500 | EM04   |
| SR005      | Room Cleaning |   200 | EM02   |
+------------+---------------+-------+--------+
5 rows in set (0.00 sec)

mysql> select * from orders;
+----------+--------------+------------+
| Order_No | Customer_ID  | Service_No |
+----------+--------------+------------+
|        3 | 123456789112 | SR004      |
|        5 | 960032001522 | SR004      |
+----------+--------------+------------+
2 rows in set (0.00 sec)

mysql> select * from payment;
+---------+--------------+--------------+
| Bill_No | Customer_ID  | Total_Amount |
+---------+--------------+--------------+
|       1 | 705260003522 |         5500 |
|       4 | 123456789112 |          500 |
|       6 | 960032001522 |         3000 |
+---------+--------------+--------------+
3 rows in set (0.01 sec)
```

Performance evaluation

Test Case	Expected Outcome	Result
New Customer sign up	New entry added to customer table and redirected to the customer page.	**PASS**
Existing Customer login	Redirect to customer page.	**PASS**
Incorrect Customer login	Display an error message.	**PASS**
Book a room	Add new entry to the bookings table, Change the status of booked room to "Booked" in the rooms table, Generate a new bill.	**PASS**
Book an Occupied room	Display an error message stating that the room is already booked.	**PASS**
Placing an order	Add new entry to the order table, Add service cost customer's bill.	**PASS**
Employee login	Redirect to employee page	**PASS**
Incorrect Employee login	Display a "Access Denied" message.	**PASS**
View employee details	Display list of employees and their details.	**PASS**
View customer details	Display list of customers and their details.	**PASS**
View booking details	Display the bookings list.	**PASS**
View orders	Display all the orders placed by customers.	**PASS**
View Room details	Display room details with their status.	**PASS**
Check out	Record of the customer checking out is deleted from the following tables: 1. Booking table 2. Orders table 3. Payment table Status of room booked by customer updates to "Available". Final bill is displayed.	**PASS**

Conclusion

Daily, hundreds of people check in and out of the hotel, the status of rooms have to be changed ever time there is a booking or a check out, orders made by the customer needs to be noted and need to be added to their bills. All these done manually by hand is quite hectic and can lead to many errors here and there.

Also considering the current pandemic situation, it is health wise not safe to have information manually entered to ensure interaction will be minimum.

That is why this project has been introduced, to ease the manual workload, maintain an error free record and a safe alternative.

The data that were previously stored in bulks of physical files will be stored in the centralized database. Now the data input is less prone to human errors and can be done more efficiently.

With SQL in the back end to maintain the database, and php in the front end to provide a user-friendly interface, the main motive of this project has been to ensure hassle free entry of records and secure storing of data.

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