Jewel Hotel

Ain Shams University
Faculty of Engineering
Computer and Systems Engineering Department

CSE 321: Software Engineering

A Hotel Management System

Team members:

ابراهيم جمال ابراهيم عبد الراضى
(1600007)
تقي محمد احمد حفني اسماعيل
(1700387)
جهاد هشام شداد فريد
(1700400)
خالد السيد محمد رمضان
(1600500)
عمر ابراهيم اسماعيل محمد
(1600849)
كريم طارق عبدالعظيم أمين
(1701002)
مجاهد عبدالله عبد الوهاب عبدالوهاب
(14w0091)
محمود حسن احمد داوود
(1501341)

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Abstract

Nowadays, hotel management isn't limited to just a few responsibilities. It includes a wide range of roles, and responsibilities; as it covers staff management, finance, marketing, hotel services, and more. It is challenging; as there are always new strategies, technologies, and most importantly the customers' high and changing expectations which managers should keep track of. With the quick progress we witness in hotel industry, it becomes hard to keep a hotel in business making profits. Believing that, we tried to help making it easier by providing an application to manage a series of five star hotels "Jewel Hotel". Using this application helps a lot in marketing; as more people will know about the hotel, its exclusive services, and offers. Customers can easily make reservations, and services requests. Staff will also easily keep track of tasks assigned to them. Managers can monitor everything going on regarding the staff performance, and guests' stays.

Table of Contents:

1. Introduction:

1.1. Purpose:
This document explains the scope of the project, software requirements, and the system's design in detail. It is made for all the stakeholders of the project including staff members, managers, admin, guests, and developers who work on the project.

1.2. List of Definitions:
The following table clarifies all terms used

Term	Definition
Admin	The person who manages and monitors processes in all branches starting from adding a branch in the application.
Manager	The person who manages a branch.
Staff	People who work in a branch. Each branch has a receptionist, and a housekeeper as staff members.
Fine	It is 100$ charged to a user if they cancelled a reservation within 15 days prior to the check-in date.
Event	It includes any social activity happens in the hotel for example: a conference, and a city tour.
Offer	They are meant to attract people, and to increase bookings usually by giving an amount off the overall bill.

Table-1: It shows the definitions of used terms

1.3. Scope:
This web application is made for a series of hotels under the name of "Jewel Hotel". It helps with promoting the hotel, monitoring and controlling the deals between the guest and the staff including booking a room, services requests, paying fees, and finally checking out, providing a customer and staff database, organizing schedules for the staff members, and allowing the manager to supervise them and the hotel overall performance. There is an admin who manages the processes in the application for the whole series.

1.4. Overview:
In this document, we explain the details of the system starting with explaining why it was made, and what to expect from it using requirements specification, and traceability matrix, moving on to clarify how it works using different UML diagrams. A user guide is also included. Finally, a cost analysis is provided; to cover all aspects of the project.

2. General Description:

2.1. Product Perspective:
This system is a self-contained software product which was produced; to overcome the problems that have occurred due to the manual system. The system will provide an easy access to the system, and it will contain user friendly functions with attractive interfaces. The system will give better options for the problem of handling large scale of physical file system, and all the other required tasks that has been specified by the client. The final outcome of this project will increase the efficiency of hotel management which will guarantee that the hotel stays in business making profits.

2.2. General Capabilities:
The system allows stakeholders to add hotels to the system including all their information and staff, monitor each branch by providing statistical information, make online reservations and services' requests, and allows managers to assign tasks to the staff members and monitor them.

2.3. General Constraints:
All users must have national ID to guarantee that they are trusted and can have a credit card to complete payments.
For the programming languages, we used MySQL for database, python with django, HTML, JavaScript, and CSS.

2.4. User Characteristics:
Admin:
The admin has access to whole system. He manages all branches' resources and staff, and manages reservation processes. The admin also views statistical information provided by the system, adds new hotels, rooms, staff, events, services, staff’s tasks, gives staff the access to the system, and follows up complaints.
Manager:
Hotel manager can update information about the hotel. The manager also sends to the admin all the new offers, events, and new services, organizes housekeeping schedules, and follows up surveys and complaints.
Guest:
Guest can create account, make reservation, request services, make complaints, rate and review, cancel reservation, and choose payment method.
Staff:
They receive tasks in the form of a to-do list, so they can mark the finished tasks. Receptionist checks in and checks out guests.

2.5. Environment Description:
Web-access devices should be used such as desktop computers, or mobile phones.

2.6. Assumption and Dependencies:
We assume that money transaction from the guest's credit card to the hotel account happens when the guest is fined or chooses visa payment for their stay. Also, it’s assumed the guest won’t be asked about the method of payment (cash or visa) during reservation in website, but after the confirmation of check-out.

2.7. Other resources needed:
For database, we used Navicat for MySQL.

3. System Requirements:

3.1. Functional Requirements:

1- New hotels can be added with all their details.
2- New bookings can be added.
3- Clients booking can be accepted or denied.
4- Organize housekeeping tasks and schedules.
5- System will provide statistical information.
6- New services can be added.
7- Marketing information (events and offers) can be added to the system.
8- New accounts can be added.
9- Available bookings and other hotel services can be viewed on the website.
10- Bookings, housekeeping and car rental can be requested.
11- Hotel services reservations can be made on the system.
12- Check in and check out can be done on the system.
13- Expenses can be paid on the system.
14- Credit card or cash options will be available.
15- Hotel ratings and reviews will be available to view.
16- Ratings and reviews can be added.
17- Additional amenities can be added according to the guest's choice.
18- Finished tasks for the staff can be marked done.
19- The guest can get recommendations for the best rooms suitable for their request.
20- A fine will be applied to the guest if he cancelled the reservation within 15 days prior to the check-in date.
21- Complaints can be made on the system.
22- Admin can add housekeeping requests to the staff schedule.
23- Admin, staff, and manager can review complaints.

3.2. Non-functional Requirements:

1- The system will keep all user's information private.
2- Minimum internet speed for this website is 512 Kbps.
3- The website will be available for anyone around the world.
4- Users should be able to complete his/her main action without any required skills.
5- Website will follow international laws for privacy of information and intellectual property.

4. Requirement Validation:

	Admin	Guest	Developer	Manager	Receptionist	Staff	Project Manager	Executive manager
1	✔			✔				
2	✔							
3	✔							
4	✔							
5	✔							
6	✔							

7	✔							
8	✔	✔						
9		✔						
10		✔			✔	✔		
11		✔						
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21		✔						
22		✔						
23	✔			✔	✔			
24	✔	✔		✔	✔			
25	✔							
26							✔	
27			✔					
28							✔	
29			✔				✔	
30								✔

Table-2: It shows the traceability matrix

5. Use Case Diagram:

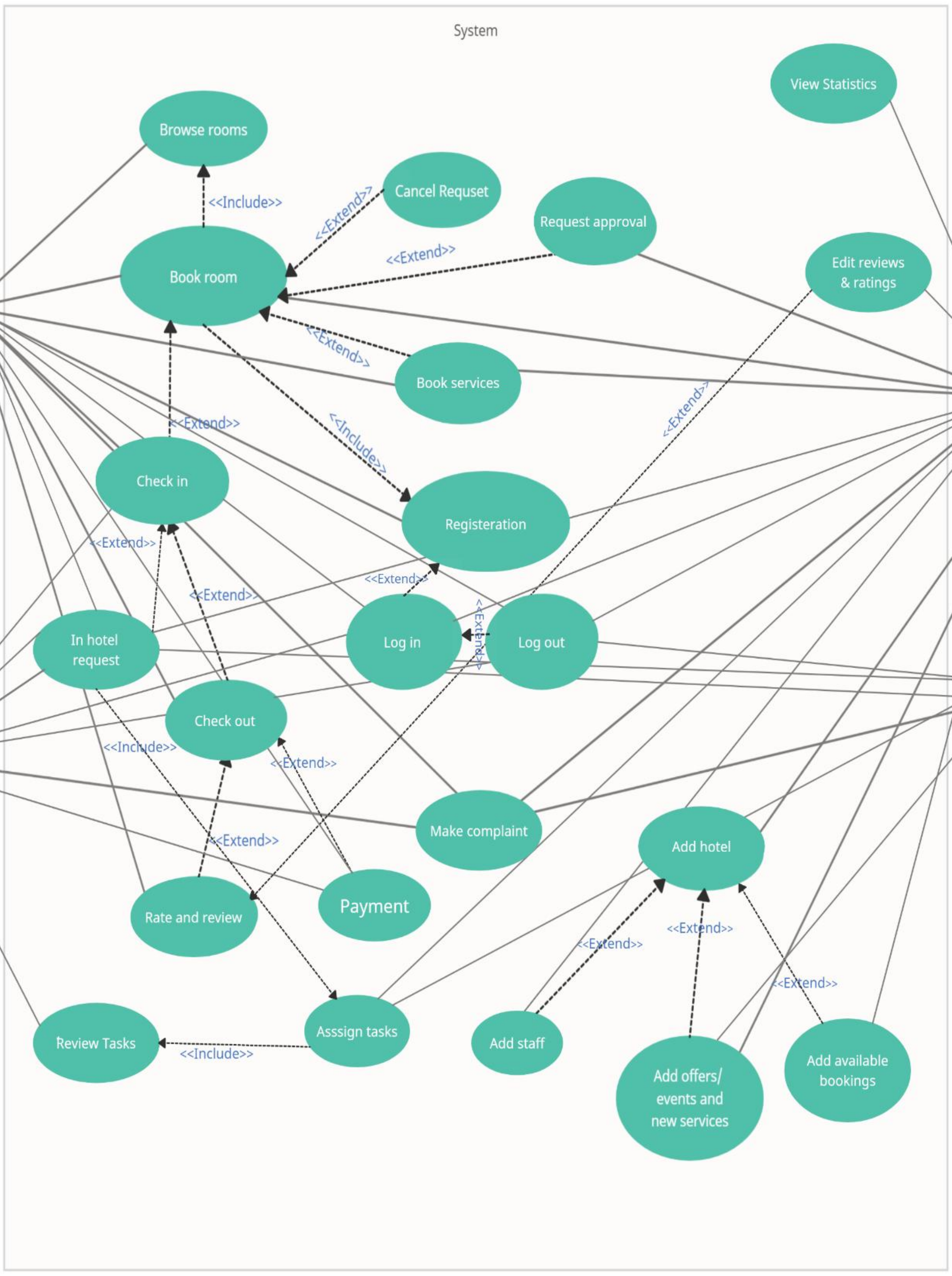


Figure-1: It shows the use case diagram

6. Narrative Description and Swimlane Diagram of Use Cases:

Narrative Description:

Use Case Name	**Book room**
Related Requirements	Requirement 3, 10, 20
Goal In Context	A guest wants to book a room in one of the hotel branches.
Preconditions	The guest must have an account.
Successful End Condition	A room (or more) is booked for the guest.
Failed End Condition	The booking request is rejected by the admin.
Primary Actors	The guest, and the admin.
Trigger	A guest wants to make a reservation.
Included Cases	Browse Rooms, Registration.
Main Flow	step Action
	1 The guest browses available rooms in a branch.
	2 The guest chooses a room and submits the booking request.
	3 The booking request is reviewed by the admin.
	4 If the request is approved, the guest can make any pre-check-in service request.
	5 The reservation is made under the guest's name.
Extensions	step Branching action
	3.1 The admin accepts or rejects the booking request.
	5.1 If the guest cancels the reservation within 15 days prior to the check-in date, a fine is withdrawn from his payment card, if not there is no fine.

Use Case Name	**Browse Room**
Related Requirements	Requirement 2.
Goal In Context	The guest checks available rooms.
Preconditions	The system should be connected to view available rooms.
Successful End Condition	The guest can see all available room.
Failed End Condition	Available rooms page couldn’t be accessed.
Primary Actors	The guest.
Secondary Actors	None.
Trigger	The guest wants to choose a room.
Main Flow	Step Action
	1 The guest reaches available room’s page.
	2 The guest checks available rooms.
	3 The guest can use filters to minimize the available choices.

Use Case Name	**Registration**
Related Requirements	Requirement 8.
Goal In Context	A guest wants to create an account.
Preconditions	The guest must have an ID card, and a payment card.
Successful End Condition	An account is created for the guest.
Failed End Condition	An account isn’t created.
Primary Actors	The guest.
Secondary Actors	None.
Trigger	The guest wants to use the application in making booking requests.

Base Case	Book Room	
Main Flow	Step	Action
	1	The guest chooses to register.
	2	The guest is asked to enter their personal information.
	3	The personal information is reviewed by database.
	4	An account is created.
Extensions	Step	Branching action
	3.1	The account can’t be created if the guest doesn't enter all information required or entered wrong information.
	4.1	The guest can log in after the registration.
	4.2	Manager and staff can log in to their accounts.
	4.3	Admin can log in to manage website.

Use Case Name	**Log In**	
Related Requirements	Requirement 8.	
Goal In Context	Guest, staff, admin and manager want to log in.	
Preconditions	Guest, staff, admin and manager must have an account.	
Successful End Condition	Guest, staff, admin and manager logged in.	
Failed End Condition	System gives an error warning.	
Primary Actors	Guest, manager, admin and staff.	
Secondary Actors	None.	
Trigger	The guest wants to log into website, manager and guest want to log into their accounts.	
Main Flow	Step	Action
	1	Guest, manager, staff and admin choose to log in.
	2	They are asked to enter username and password.
	3	The information entered by guest is compared to that he entered before while registration by database.
	4	The information entered by admin, manager and staff is compared in database to that created by admin.
	5	They logged in successfully.
Extensions	Step	Branching action
	3.1	If the entered information isn’t right, the system gives a false information warning.
	4.1	If the entered information isn’t right, the system gives a false information warning.
	5.1	The guest, admin, manager and staff can log out.

Use Case Name	**Check-in**	
Related Requirements	Requirement 12	
Goal In Context	A guest can check-in.	
Preconditions	The guest has a reservation under their name.	
Successful End Condition	The guest is marked as checked-in and can access in-hotel requests.	
Failed End Condition	The guest isn’t marked as checked-in.	
Primary Actors	A receptionist, and the guest.	
Trigger	A guest wants to check-in.	
Main Flow	step	Action

	1	A receptionist checks the guest in.
	2	The guest is asked for a confirmation.
	3	The guest confirms check-in.
	4	The guest can access in-hotel requests.

Use Case Name	**Check-out**	
Related Requirements	Requirement 12, 13, 14	
Goal In Context	A guest can check-out.	
Preconditions	The guest is already checked-in.	
Successful End Condition	The guest is marked as checked-out.	
Failed End Condition	The guest isn’t marked as checked-out.	
Primary Actors	A receptionist, and the guest.	
Trigger	A guest wants to check-out.	
Main Flow	step	Action
	1	A receptionist checks the guest out.
	2	The guest is asked for a confirmation.
	3	The guest confirms check-out.
	4	The guest is asked whether the payment is visa, or cash.
	5	The guest pays fees.
	6	The guest is marked as checked out.
Extensions	step	Branching action
	4.1	If the guest chooses visa, the total fee will be withdrawn from the payment card.
	4.2	If the guest chooses cash, the guest must pay to the receptionist.

Use Case Name	**Rate and Review**	
Related Requirements	Requirement 15, 16	
Goal In Context	A guest can add rate, or review about their stay.	
Preconditions	The guest must check-out.	
Successful End Condition	A rate, review, or both are posted on the branch page under the guest's name.	
Failed End Condition	The rate, or review isn't posted.	
Primary Actors	The guest.	
Trigger	A guest wants to add rate, or review about their stay.	
Main Flow	step	Action
	1	The guest is given a survey after checking-out.
	2	The guest answers it, and adds rate, review or both.
	3	The rate, review, or both are posted on the branch page.
Extensions	step	Branching action
	2.1	The admin can edit the rate, and review if needed.

Use Case Name	**Make Complaint**
Related Requirements	Requirement 21
Goal In Context	A guest wants to make a complaint.
Preconditions	The guest must have an account.
Successful End Condition	A complaint is made under the guest's name.
Failed End Condition	The complaint isn’t made.

Primary Actors	The guest.	
Secondary Actors	The admin, the staff, and the manager.	
Trigger	A guest wants to make a complaint about a problem they faced concerning their reservation in one of the branches.	
Main Flow	step	Action
	1	The guest goes to the complaint form.
	2	The guest submits the complaint.
	3	The complaint is reviewed by the admin, the staff, and the manager to resolve it depending on its object.

Use Case Name	**In Hotel Request**	
Related Requirements	Requirement 6.	
Goal In Context	The guest requests a service while he is in hotel.	
Preconditions	The guest is marked as checked-in.	
Successful End Condition	Services are added and reached to staff.	
Failed End Condition	Services aren’t added.	
Primary Actors	The guest.	
Secondary Actors	A receptionist, admin and manager.	
Trigger	The guest wants to request another service while staying in the hotel.	
Main Flow	Step	Action
	1	Guest request new service.
	2	The service reaches to the admin, manager and receptionist.
Extensions	Step	Branching action
	2.1	Admin and manager add the new service to staff’s tasks.

Use Case Name	**Assign Tasks**	
Related Requirements	Requirement 4, 22	
Goal In Context	The staff members get their schedules, and the manager can check them also.	
Preconditions	Only the admin, the manager, or a receptionist (for specific staff members) can do it.	
Successful End Condition	The schedules are made and updated if any new request is made.	
Failed End Condition	The schedules aren't made.	
Primary Actors	The admin, the manager, and (a receptionist for some members).	
Trigger	There are tasks that need to be done by the staff members.	
Included Cases	Review tasks.	
Main Flow	step	Action
	1	The admin, manager and receptionist access any schedule.
	2	They add new tasks to it.
	include::Review Tasks	
	3	The staff members can see their schedules, and mark finished tasks.

Use Case Name	**Review Tasks**
Related Requirements	Requirement 18
Goal In Context	A staff member can review their assigned tasks, and mark them if they are done.

Preconditions	Only a staff member can do it.	
Successful End Condition	The schedule is viewed, and finished tasks are marked if any.	
Failed End Condition	The staff can't find the schedule or fail to mark finished tasks.	
Primary Actors	The staff member.	
Trigger	The staff member wants to know their schedule for a day, and mark finished tasks.	
Base Use Case	Assign tasks.	
Main Flow	step	Action
	1	The staff member log into their account.
	2	They go to their schedule.
Extensions	step	Branching action
	2.1	They can mark any finished task.

Use Case Name	**Add Hotel**	
Related Requirements	Requirement 1, 2, 6, 7, 8	
Goal In Context	A new hotel branch is added to the system.	
Preconditions	The information about the hotel branch is provided.	
Successful End Condition	The branch has a page in the application which includes all information, rooms, bookings, and services in it.	
Failed End Condition	The branch is not found in the application.	
Primary Actors	The admin.	
Trigger	A new branch is added to the hotel series.	
Main Flow	step	Action
	1	The admin creates a page for the hotel.
	2	Then, adds all information about it including history, photos, services, rooms, and available bookings.
Extensions	step	Branching action
	2.1	The admin updates available bookings.
	2.2	The admin creates profiles for all staff members.
	2.3	The admin adds events, offers, new services requested by the manager.

Use Case Name	**View Statistics**	
Related Requirements	Requirement 5	
Goal In Context	The admin views statistical information provided by the system about any branch.	
Preconditions	Only the admin can view them.	
Successful End Condition	The admin views the information.	
Failed End Condition	The admin can't access the information.	
Primary Actors	The admin.	
Trigger	The admin wants to collect statistical information about a hotel branch.	
Main Flow	step	Action
	1	The admin goes to the statistics files of the branches.
	2	The admin views the information needed.

Swimlane Diagram:

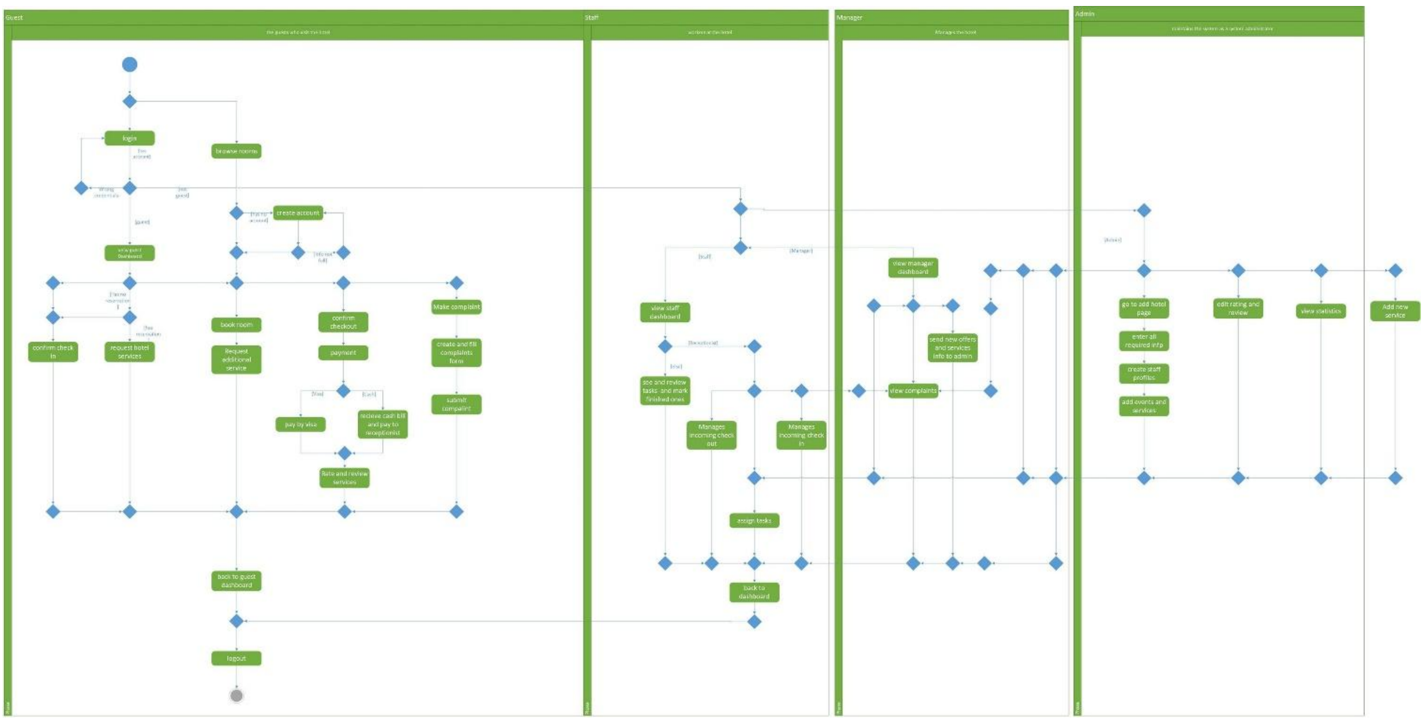


Figure-2: It shows swimlane diagram

7. Noun Extraction and CRC Cards:

Noun extraction:

Through this application, we try to present a new way which can help the admin supervising the staff members, providing better services and performance speed, and finally marketing their hotels. Where new hotels and services can be added.

Customer can sign up, browse rooms and get recommendations, book rooms, make payments, ask for a service, check-in and check-out, make a complaint, rate or make a review.

Staff review their assigned tasks by manager as a todo list and check them.

- Class candidates: **Hotel, Services, Rooms, Guest, Manager, Staff, Receptionist, Payment, Complaint, Rate & Review, Admin.**

CRC cards:

(1)

Class
Hotel

Responsibility
1. Includes rooms
2. Includes services
3. Includes a locations

Collaborations
1. Class **Services**
2. Class **Rooms**
3. Class **Manager**
4. Class **Admin**

(2)

Class
Services

Responsibility
1. Includes car rental service
2. Includes room services

Collaborations
1. Class **Hotel**
2. Class **Staff**
3. Class **Rooms**
4. Class **Guest**
5. Class **Manager**
6. Class **Admin**

(3)

Class
Rooms

Responsibility
1. Includes a number
2. Includes a view
3. Includes a maximum number of people

Collaborations
1. Class **Guest**
2. Class **Staff**
3. Class **Admin**

(4)

Class
Guest

Responsibility
1. Browse hotel rooms
2. Books room
3. Registers
4. Logs in, out
5. Makes payment
6. Cancel booking
7. Books services
8. Make in hotel request
9. Checks in, out
10. Make a complaint
11. Rate and review

Collaborations
1. Class **Hotel**
2. Class **Services**
3. Class **Rooms**
4. Class **Staff**
5. Class **Manager**
6. Class **Admin**

(5)

Class
Manager

Responsibility

1. Logs in, out
2. Make a complaint
3. Assign tasks

Collaborations

1. Class **Hotel**
2. Class **Services**
3. Class **Rooms**
4. Class **Guest**
5. Class **Staff**
6. Class **Admin**

(6)

Class
Admin

Responsibility

1. View statistics
2. Review ratings
3. Review complaints
4. Approve, cancel booking requests
5. Assign tasks
6. Adds, remove staff accounts
7. Add, remove manage accounts
8. Add, remove hotel
9. Add, remove offers
10. Add, remove events
11. Add, remove services
12. Add available bookings

Collaborations

1. Class **Hotel**
2. Class **Services**
3. Class **Rooms**
4. Class **Guest**
5. Class **Manager**
6. Class **Staff**
7. Class **Receptionist**
8. Class **Complaint**
9. Class **Rate & Review**

(7)

Class
Receptionist

Responsibility

1. Checks in ,out
2. Logs in, out
3. Review tasks
4. Checks tasks as done
5. Checks guest in & out
6. Receive payment

Collaborations

1. Class **Hotel**
2. Class **Services**
3. Class **Rooms**
4. Class **Guest**
5. Class **Manager**
6. Class **Staff**
7. Class **Payment**

(8)

Class
Staff

Responsibility

1. Checks in ,out
2. Logs in, out
3. Review tasks
4. Checks tasks as done

Collaborations

1. Class **Services**
2. Class **Rooms**
3. Class **Guest**
4. Class **Manager**
5. Class **Admin**

(9)

Class
Payment

Responsibility

1. Includes visa option for payment
2. Includes Cash
3. Calculates charged amount for services
4. Calculates fees

Collaborations

1. Class **Guest**
2. Class **Receptionist**
3. Class **Services**
4. Class **Rooms**
5. Class **Admin**

(10)

Class
Complaint

Responsibility

1. Includes a complaint text for guest to fill
2. Sends complaint to admin

Collaborations

1. Class **Admin**
2. Class **Guest**

(11)

Class
Rate & Review

Responsibility

1. Includes rating from 1 to 10
2. Includes review about the hotel
3. Includes review about the room
4. Includes review about the given services
5. Sends data to admin

Collaborations

1. Class **Admin**
2. Class **Rooms**
3. Class **Guest**
4. Class **Services**

8. Class Model:

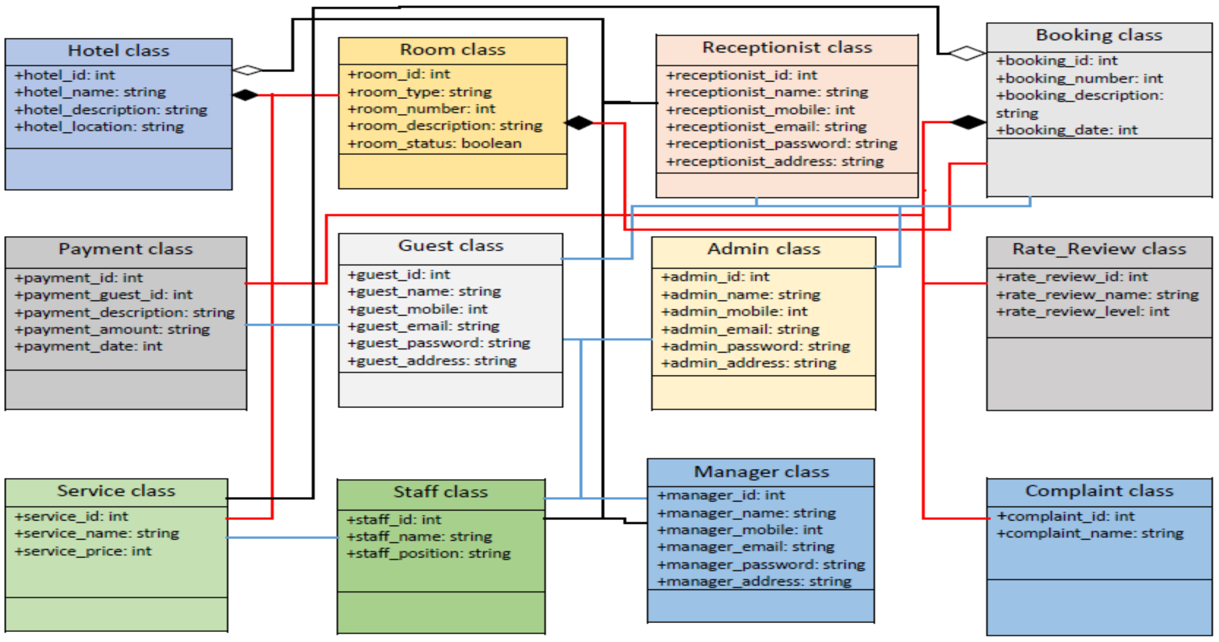


Figure -3: Class model

9. State Diagram:

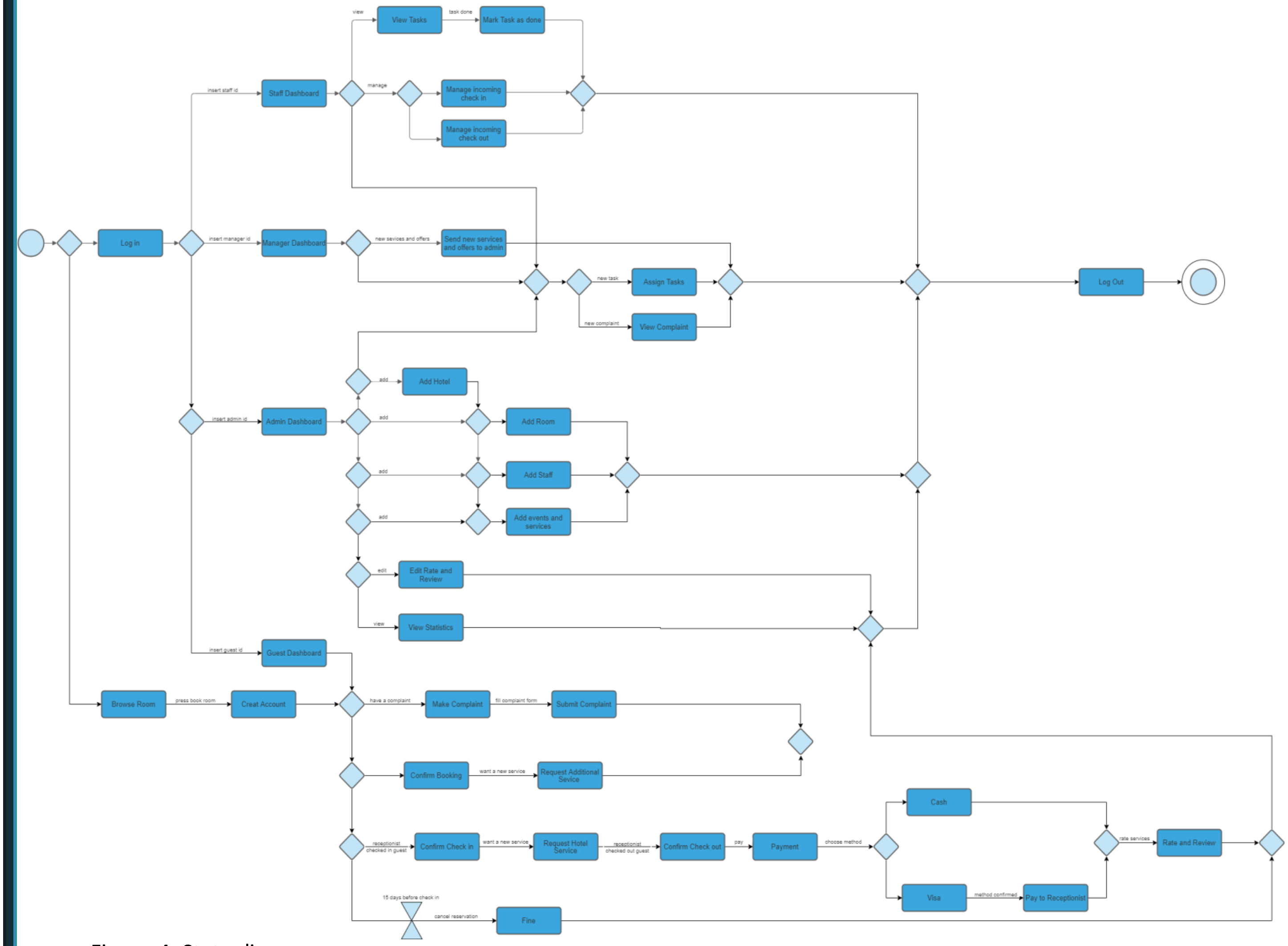


Figure-4: State diagram

10. Interaction Diagram:

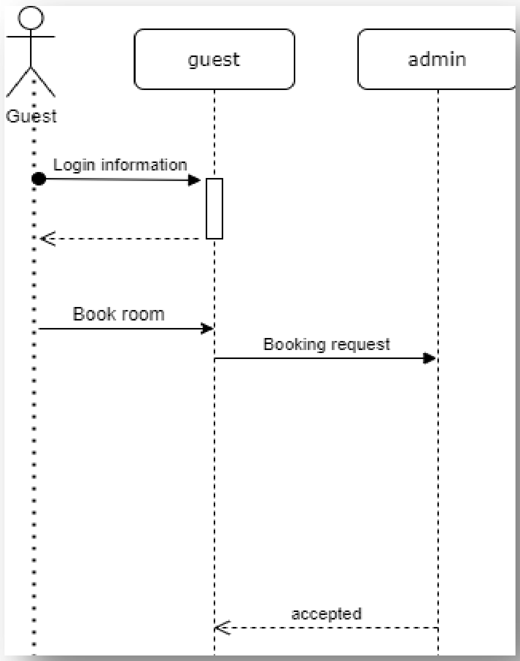


Figure-5: Book room use case

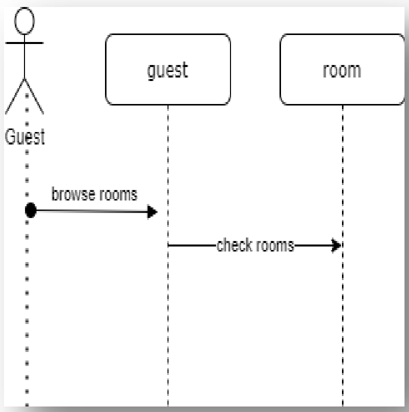


Figure-6: Browse rooms use case

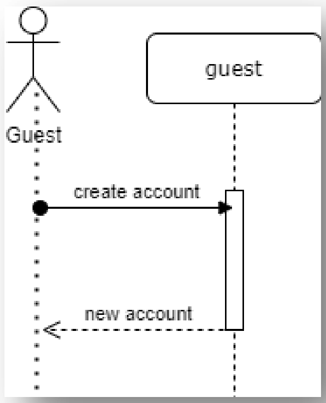


Figure-7: Registration use case

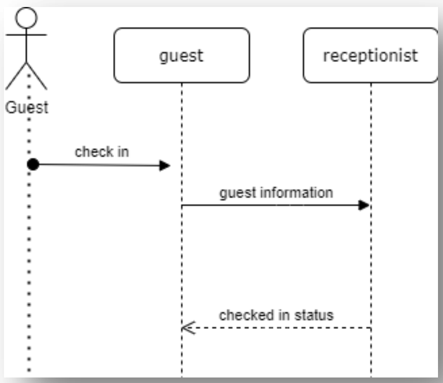


Figure-8: check in

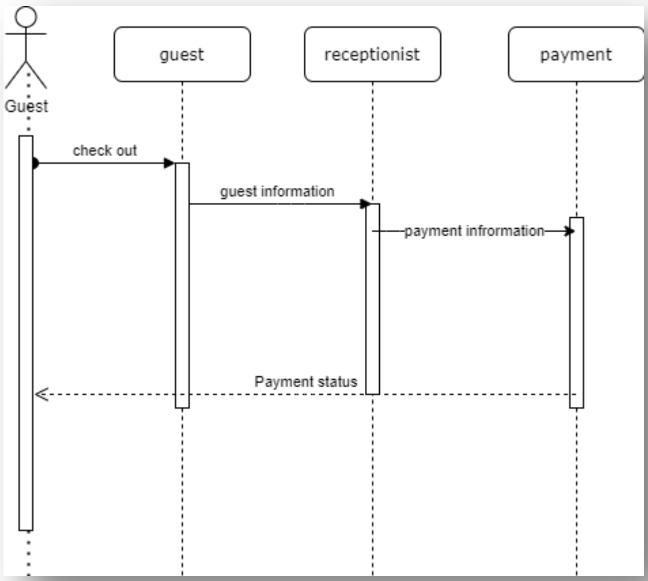


Figure-9: Check out use case

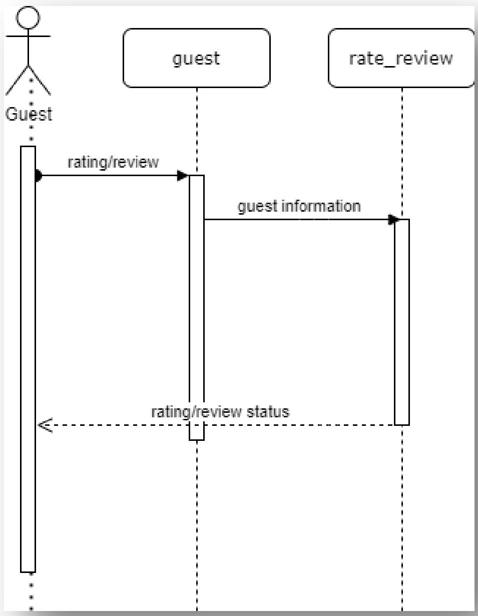


Figure-10: Rate and review use case

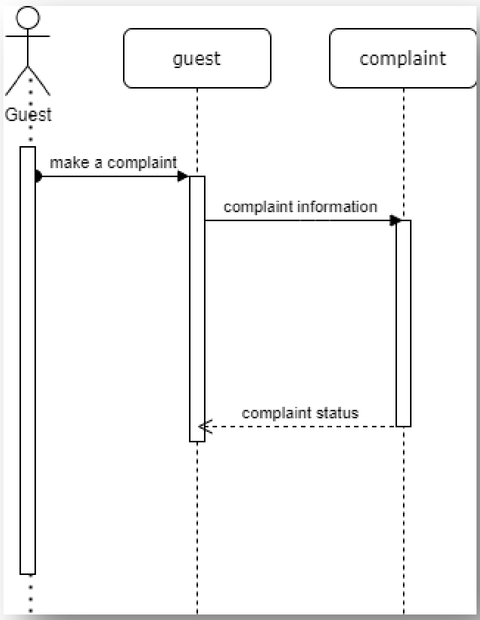


Figure-11: Complaint Use Case

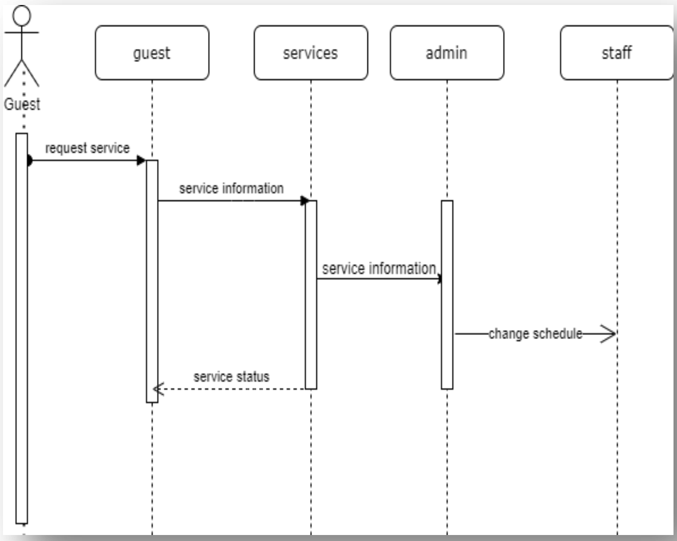


Figure-12: Request Service

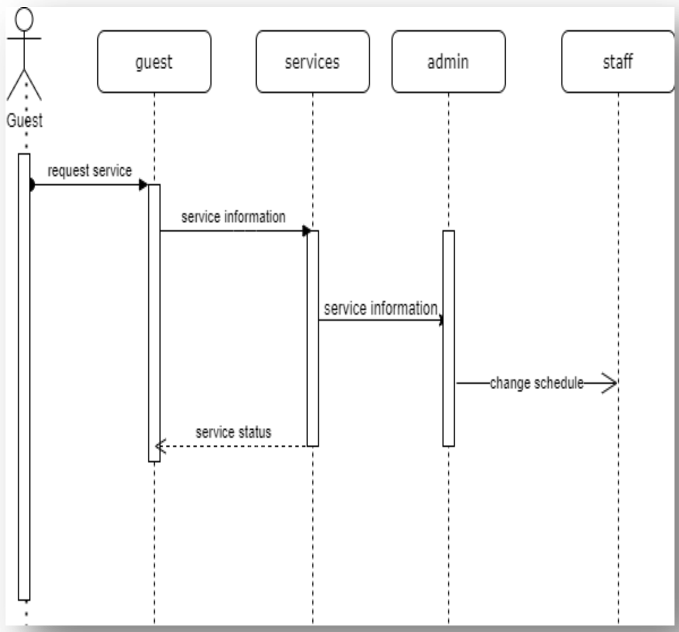


Figure-13: Add Hotel Use Case

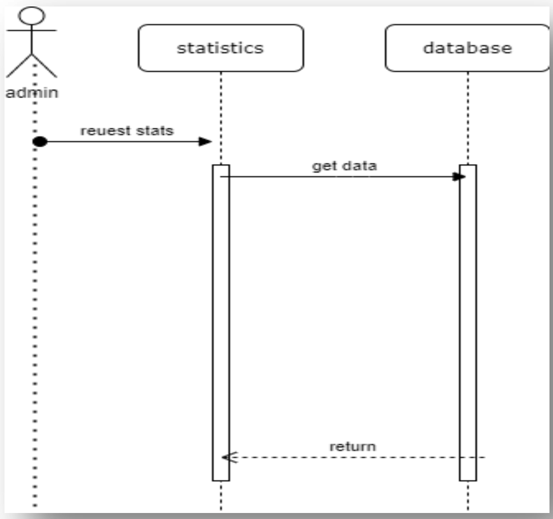


Figure-14: Review Statistics Use Case

11. Detailed Class Diagram:

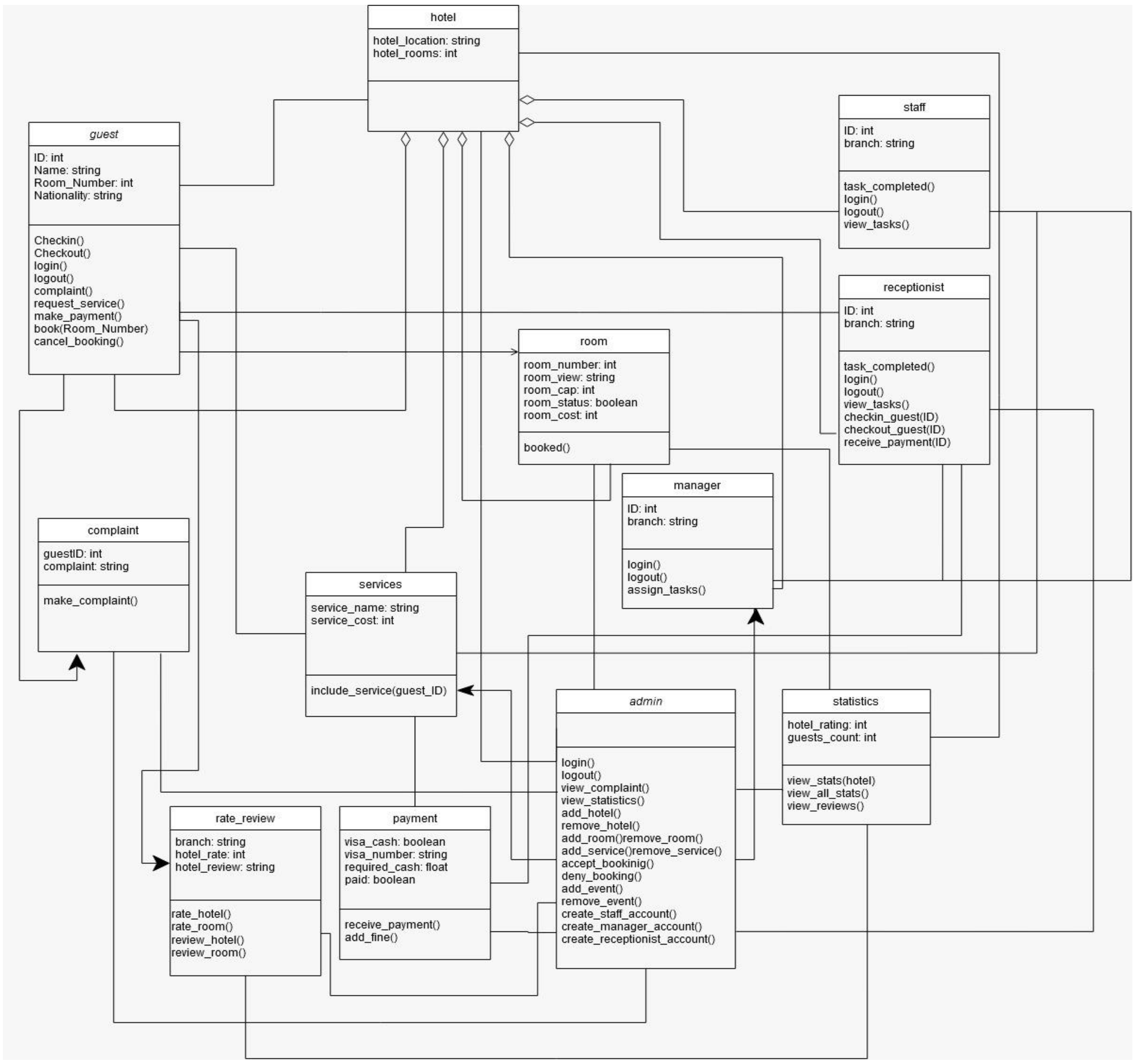


Figure-15: Detailed Class Diagram

12. Client – Object Relation Diagram:

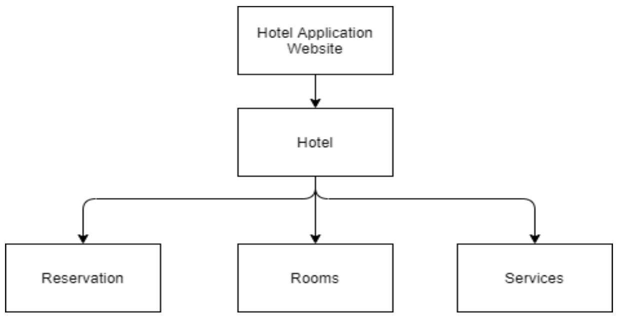


Figure-16: Client – Object Relation Diagram

13. Architectural Model:

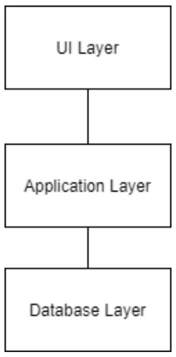


Figure-17: Architectural Model

Layer architecture design was used since it has an advantage of modularity as if an interface of a layer is changed the only part of the system that need modifications is the one connected by that interface and we had no need for a connection between layers that are not adjacent.
Also it has an advantage of portability since layer can be changed as far as their interfaces to other layers don't change.

14. Component Diagram:

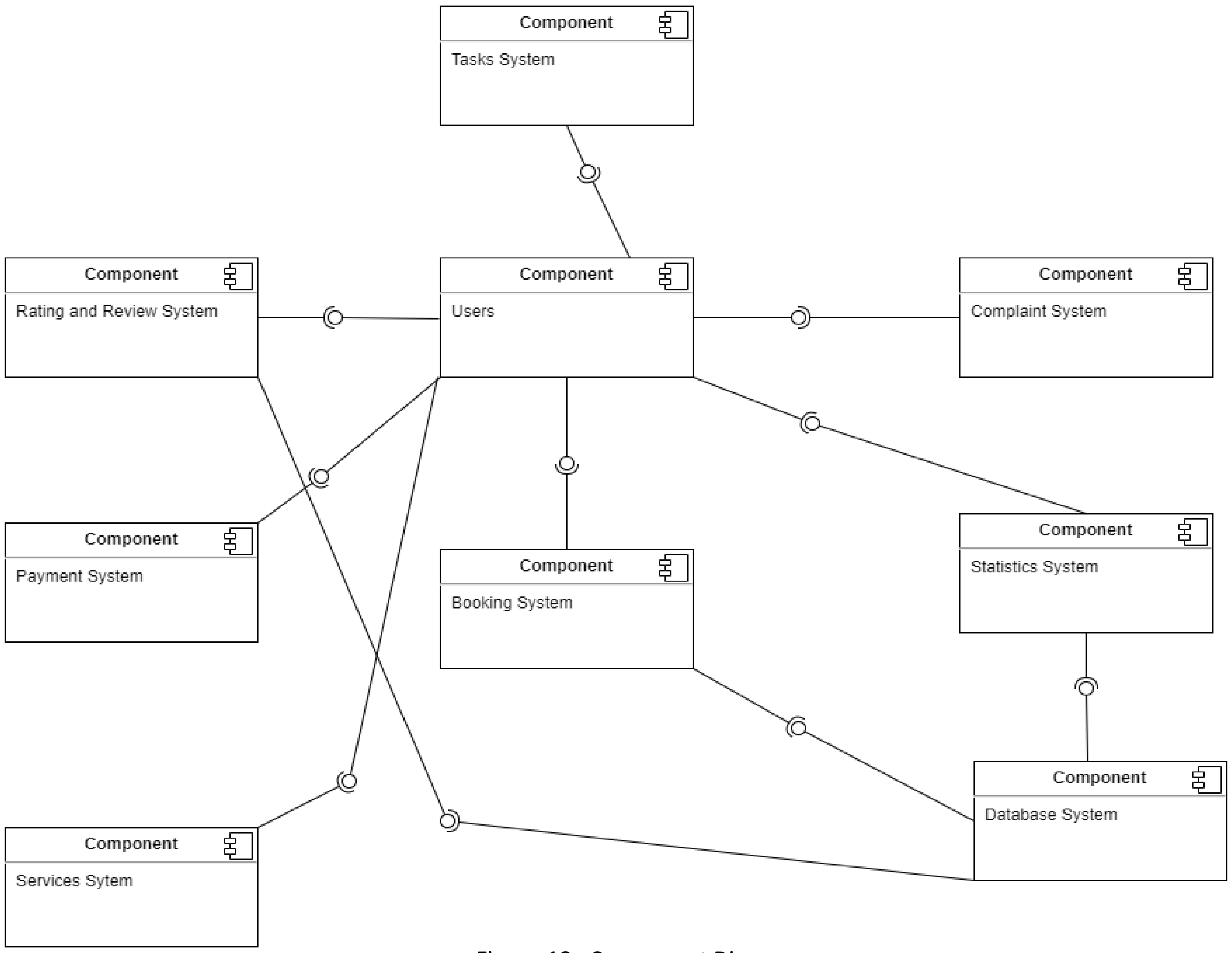
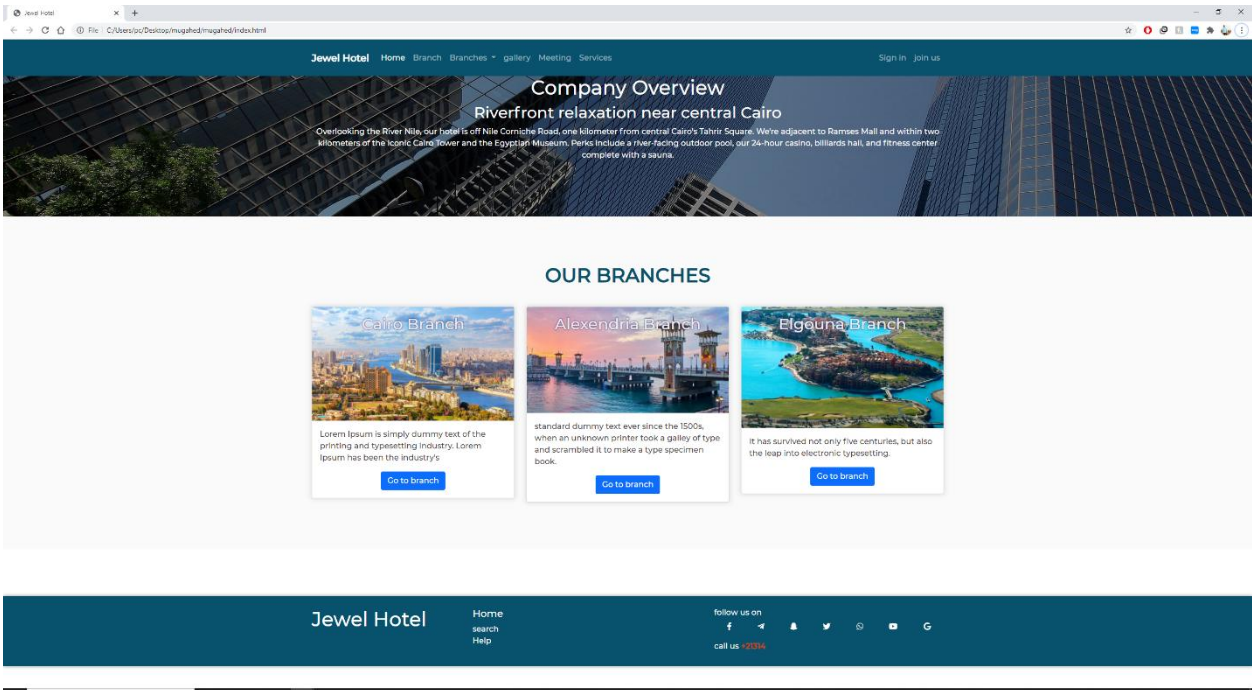


Figure-18: Component Diagram

15. User Interface Design:

Home page

The main page is very clear and user friendly



Company Overview

Riverfront relaxation near central Cairo

Overlooking the River Nile, our hotel is off Nile Corniche Road, one kilometer from central Cairo's Tahrir Square. We're adjacent to Ramses Mall and within two kilometers of the iconic Cairo Tower and the Egyptian Museum. Perks include a river-facing outdoor pool, our 24-hour casino, billiards hall, and fitness center complete with a sauna.

OUR BRANCHES

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's

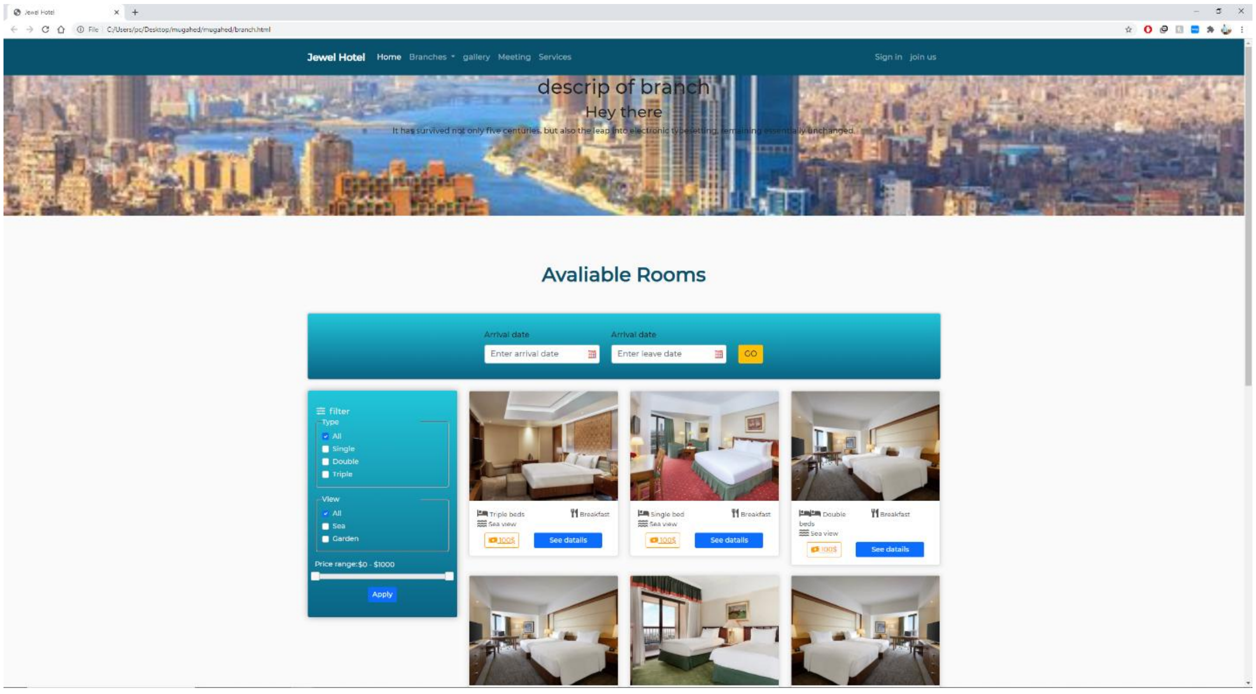
standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book.

It has survived not only five centuries, but also the leap into electronic typesetting.

Figure-19: Home page

Branch page

Very user friendly with organized cards and icons showing the room details. A sidebar for filters and for search option with clear functions and adjustments.



descrip of branch

Hey there

It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged.

Avaliable Rooms

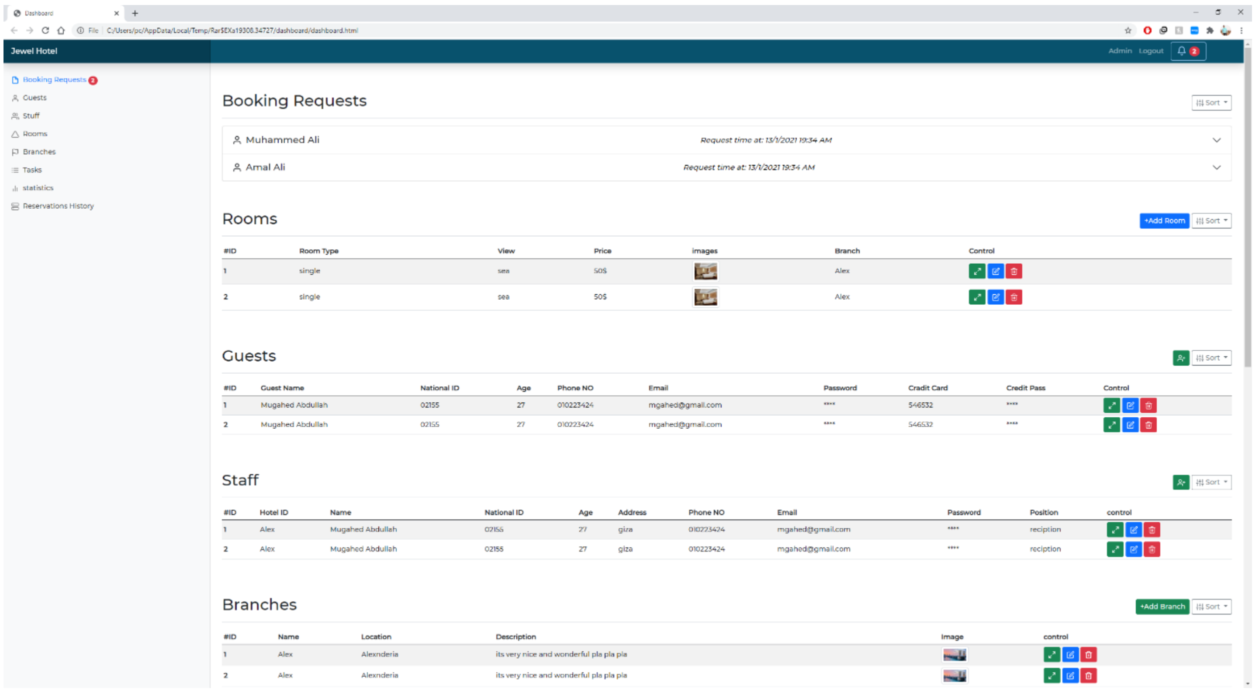
Figure-20: Branch page

Admin Dashboard

Available only for the admin.

Details are shown with icons with chosen color showing every detail and purpose helping the user understand the information, and minimize any clutter.

A sidebar used for easy access for the user to all functions and information.



Booking Requests

Muhammed Ali — *Request time at: 13/1/2021 19:34 AM*

Amal Ali — *Request time at: 13/1/2021 19:34 AM*

Rooms

#ID	Room Type	View	Price	images	Branch	Control
1	single	sea	50$		Alex	
2	single	sea	50$		Alex	

Guests

#ID	Guest Name	National ID	Age	Phone NO	Email	Password	Cradit Card	Credit Pass	Control
1	Mugahed Abdullah	02155	27	010223424	mgahed@gmail.com	****	546532	****	
2	Mugahed Abdullah	02155	27	010223424	mgahed@gmail.com	****	546532	****	

Staff

#ID	Hotel ID	Name	National ID	Age	Address	Phone NO	Email	Password	Position	control
1	Alex	Mugahed Abdullah	02155	27	giza	010223424	mgahed@gmail.com	****	reciption	
2	Alex	Mugahed Abdullah	02155	27	giza	010223424	mgahed@gmail.com	****	reciption	

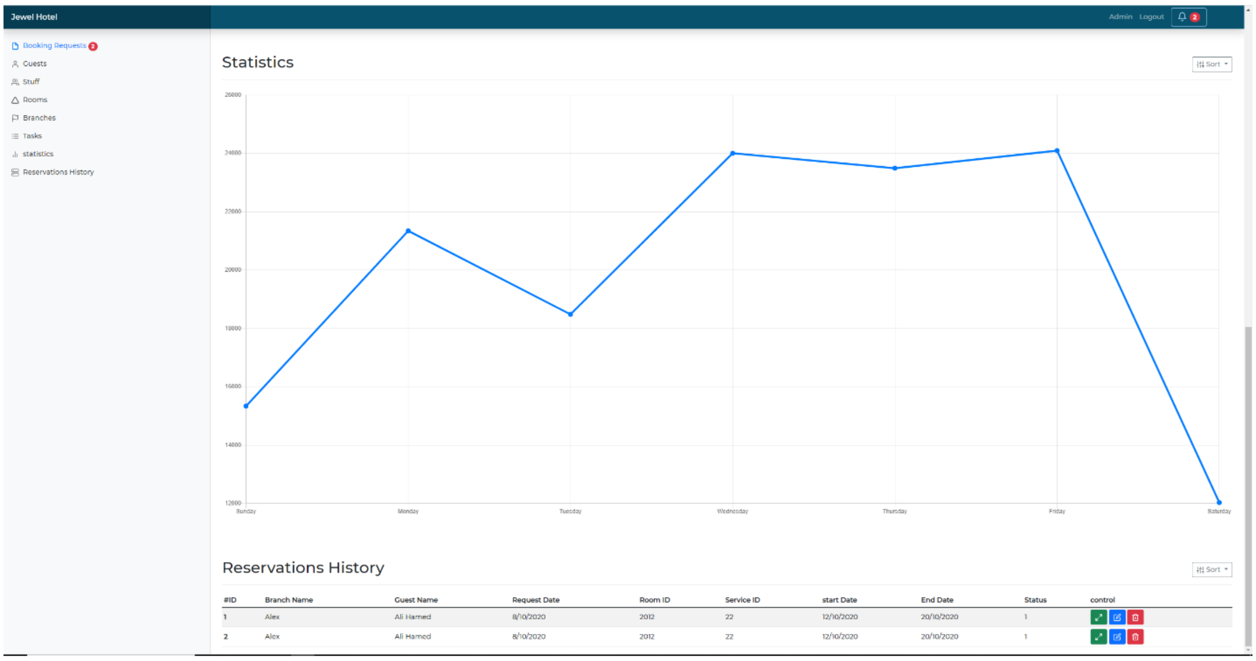
Branches

#ID	Name	Location	Description	Image	control
1	Alex	Alexnderia	its very nice and wonderful pla pla pla		
2	Alex	Alexnderia	its very nice and wonderful pla pla pla		

Figure-21: Admin dashboard

Admin can view statistical information about a branch as following.

Graphs are used for easier and faster comprehension of the information given with minimal eye confusion or distraction.



Reservations History

#ID	Branch Name	Guest Name	Request Date	Room ID	Service ID	start Date	End Date	Status	control
1	Alex	Ali Hamed	8/10/2020	2012	22	12/10/2020	20/10/2020	1	
2	Alex	Ali Hamed	8/10/2020	2012	22	12/10/2020	20/10/2020	1	

Figure-22: Admin viewing statistics

16. Detailed Design:

```
DEFINE FUNCTION loginprocess(request):
IF request.method =='POST':
username= request.POST.get('username')
password= request.POST.get('password')
usern=authenticate(request,username=username,password=password)
IF usern is not None:
login(request, usern)
RETURN redirect(home_view)
RETURN render(request, 'blog/login.html')
DEFINE FUNCTION logoutprocess(request):
logout(request)
RETURN redirect(home_view)
DEFINE FUNCTION profile(request):
RETURN render(request,'blog/profile.html')
DEFINE CLASS signup(CreateView):
   SET form_class TO CustomUserCreationForm
   SET success_url TO reverse_lazy(loginprocess)
   SET template_name TO 'blog/signup.html'
EFINE FUNCTION home_view(request):
hotels=hotel.objects.all()
RETURN render(request,"blog/index.html",{'hotels':hotels})
DEFINE FUNCTION rooms_view(request,hotname):
obj=room.objects.filter(Hotel__exact=hotname)
hotels=hotel.objects.all()
RETURN render(request,"blog/branch.html",{'roomiyes':obj,'hotels':hotels})
```

17. Testing:

For the admin it goes as following:

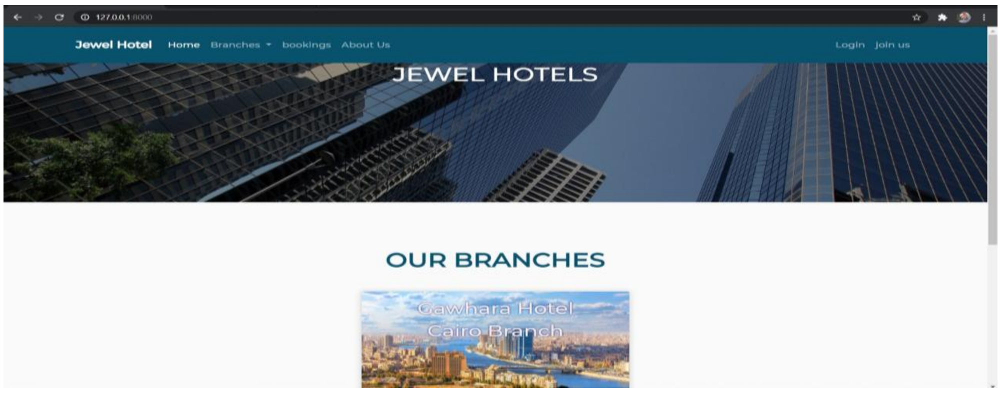


Figure-23: It shows the application home page

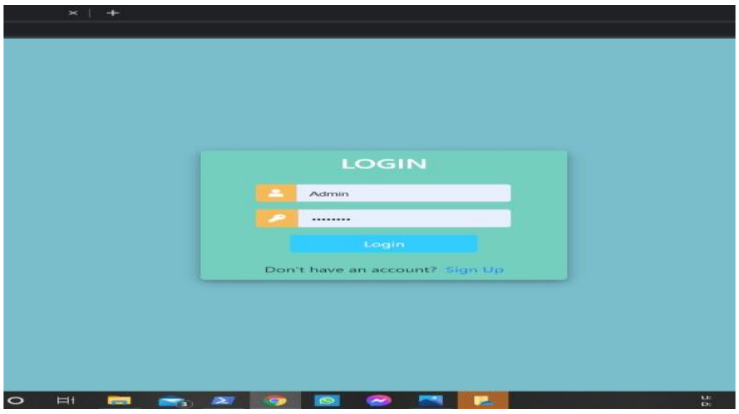


Figure-24: It shows the admin logging in

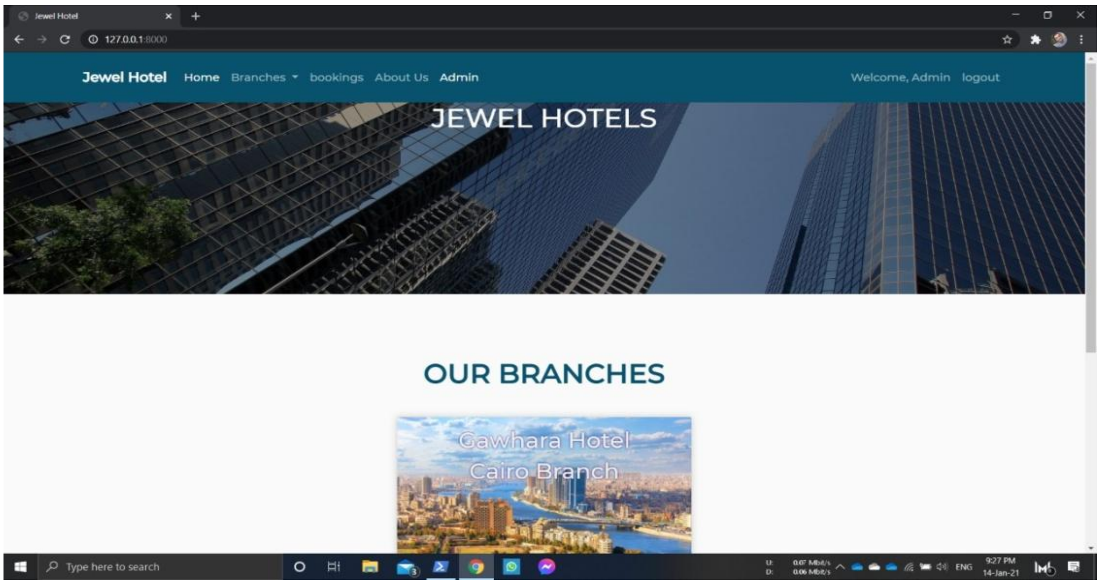
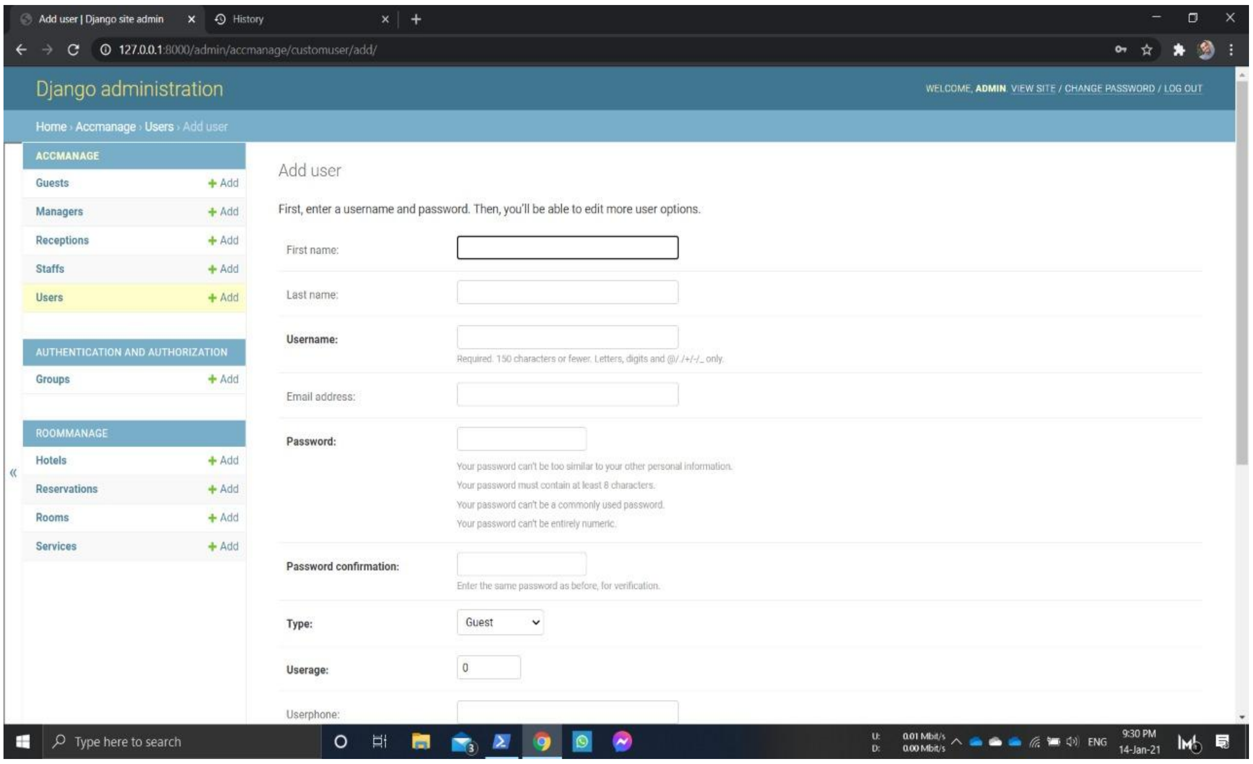


Figure-25: It shows the admin home page


Add user | Django site admin

127.0.0.1:8000/admin/accmanage/customuser/add/

Django administration

WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home › Accmanage › Users › Add user

ACCMANAGE: Guests + Add, Managers + Add, Receptions + Add, Staffs + Add, Users + Add

AUTHENTICATION AND AUTHORIZATION: Groups + Add

ROOMMANAGE: Hotels + Add, Reservations + Add, Rooms + Add, Services + Add

Add user

First, enter a username and password. Then, you'll be able to edit more user options.

First name:

Last name:

Username:
Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Email address:

Password:
Your password can't be too similar to your other personal information.
Your password must contain at least 8 characters.
Your password can't be a commonly used password.
Your password can't be entirely numeric.

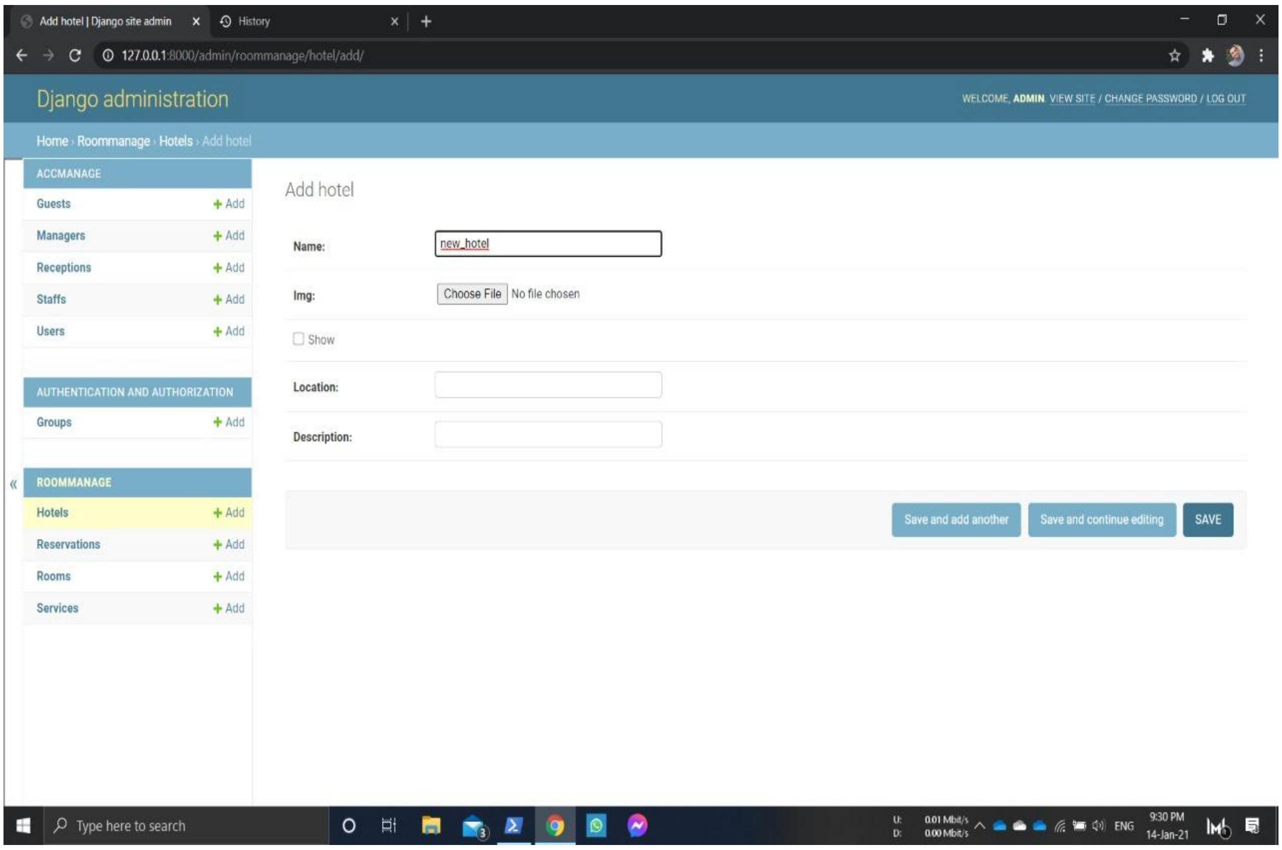
Password confirmation:
Enter the same password as before, for verification.

Type: Guest

Userage: 0

Userphone:

Figure-26: It shows the admin adding a user


Add hotel | Django site admin

127.0.0.1:8000/admin/roommanage/hotel/add/

Django administration

WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home › Roommanage › Hotels › Add hotel

ACCMANAGE: Guests + Add, Managers + Add, Receptions + Add, Staffs + Add, Users + Add

AUTHENTICATION AND AUTHORIZATION: Groups + Add

ROOMMANAGE: Hotels + Add, Reservations + Add, Rooms + Add, Services + Add

Add hotel

Name: new_hotel

Img: Choose File No file chosen

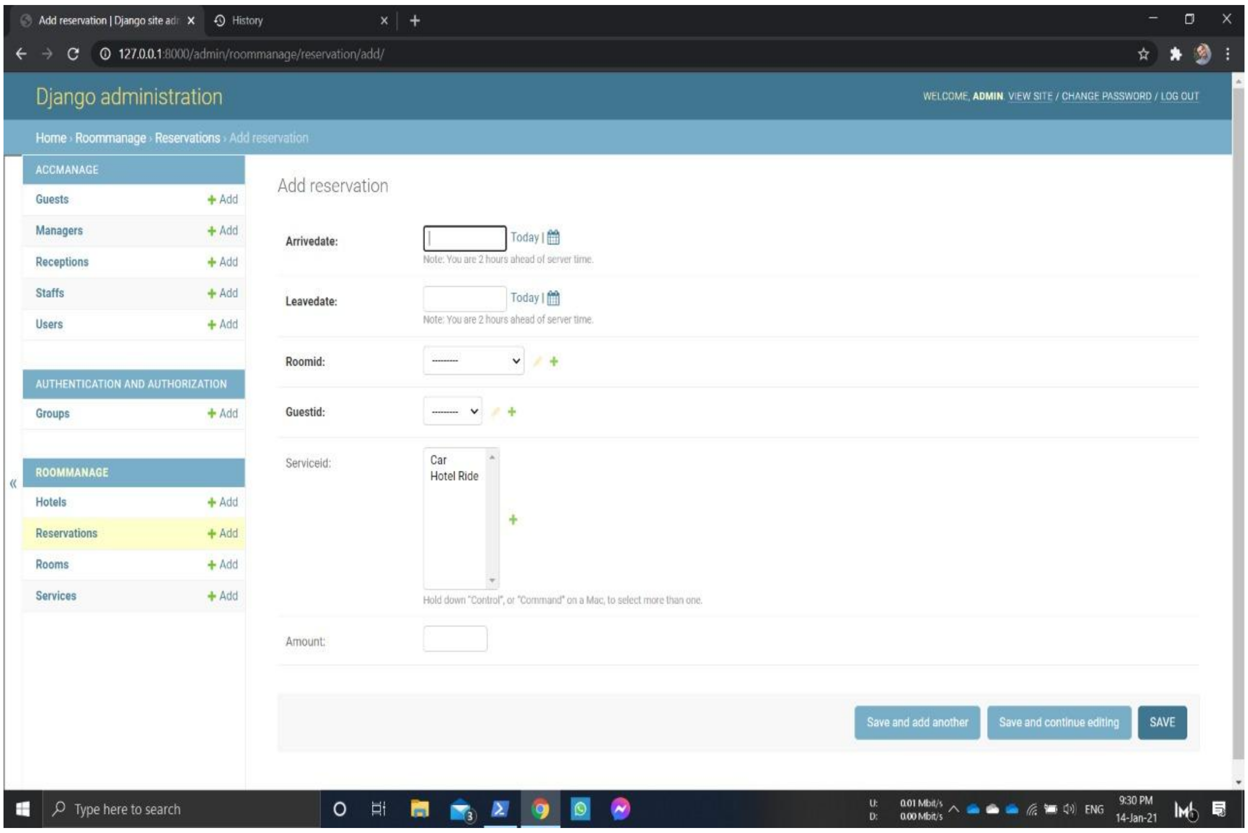
☐ Show

Location:

Description:

Save and add another | Save and continue editing | SAVE

Figure-27: It shows the admin adding a hotel


Add reservation | Django site admin
127.0.0.1:8000/admin/roommanage/reservation/add/

Django administration

WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home › Roommanage › Reservations › Add reservation

ACCMANAGE: Guests + Add; Managers + Add; Receptions + Add; Staffs + Add; Users + Add

AUTHENTICATION AND AUTHORIZATION: Groups + Add

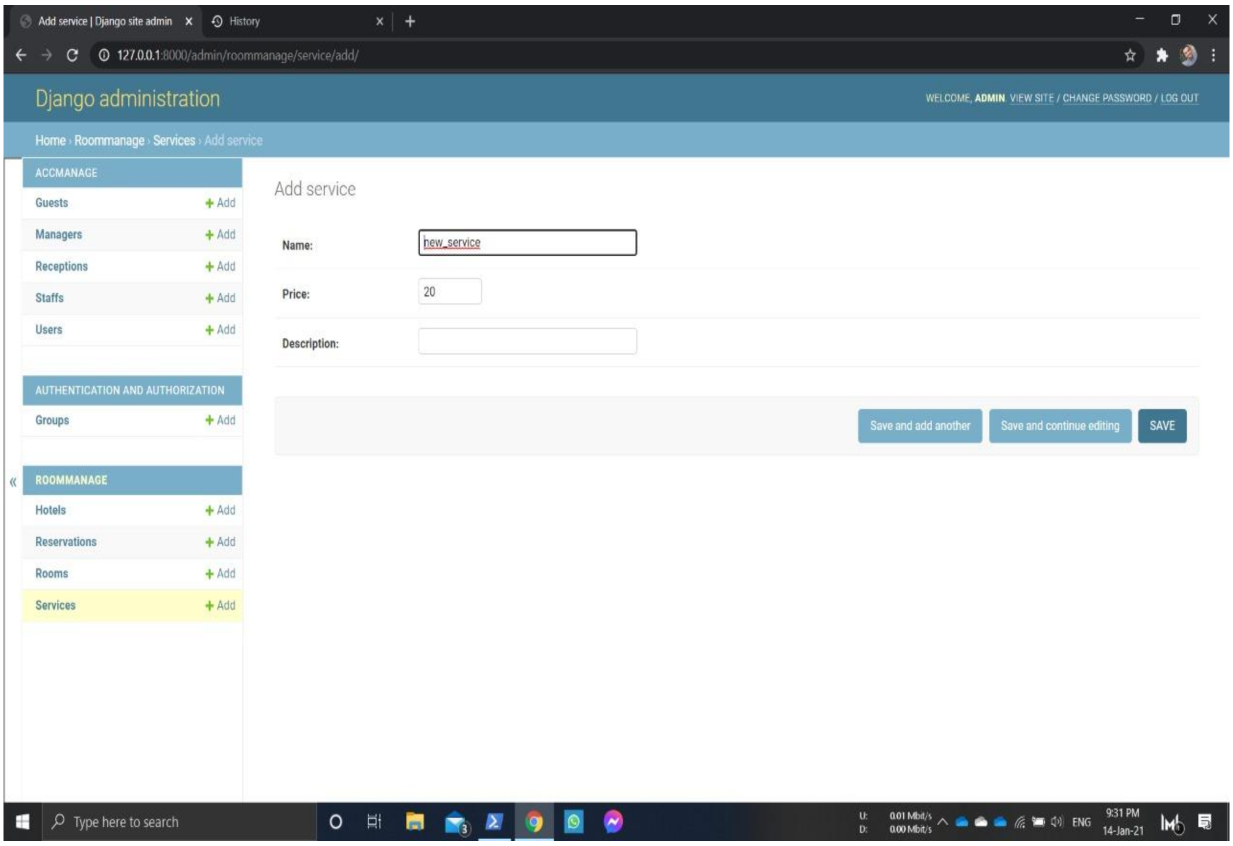
ROOMMANAGE: Hotels + Add; Reservations + Add; Rooms + Add; Services + Add

Add reservation

Arrivedate:	Today | Note: You are 2 hours ahead of server time.
Leavedate:	Today | Note: You are 2 hours ahead of server time.
Roomid:	---------
Guestid:	---------
Serviceid:	Car Hotel Ride Hold down "Control", or "Command" on a Mac, to select more than one.
Amount:	

Save and add another | Save and continue editing | SAVE

Figure-28: It shows the admin adding a reservation.


Add service | Django site admin
127.0.0.1:8000/admin/roommanage/service/add/

Django administration

WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home › Roommanage › Services › Add service

ACCMANAGE: Guests + Add; Managers + Add; Receptions + Add; Staffs + Add; Users + Add

AUTHENTICATION AND AUTHORIZATION: Groups + Add

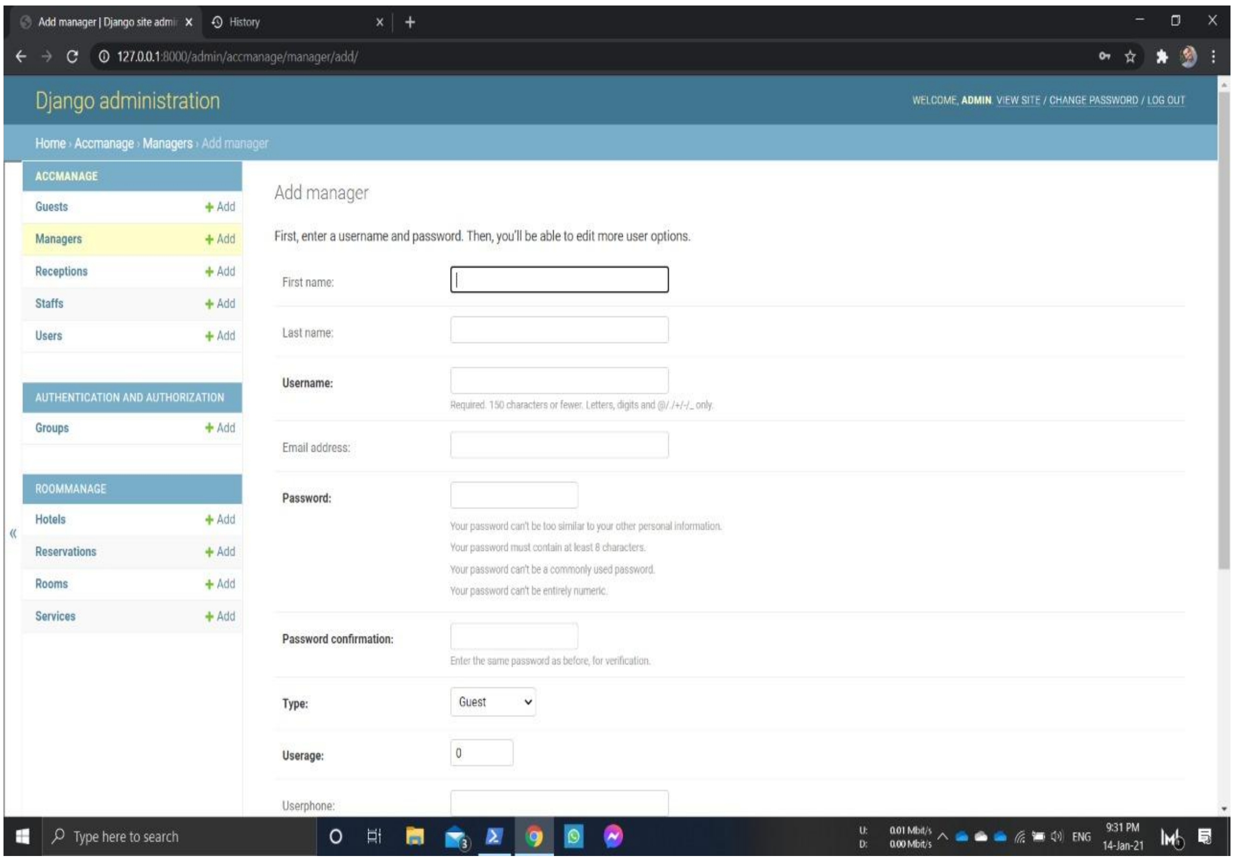
ROOMMANAGE: Hotels + Add; Reservations + Add; Rooms + Add; Services + Add

Add service

Name:	hew_service
Price:	20
Description:	

Save and add another | Save and continue editing | SAVE

Figure-29: It shows the admin adding a hotel service.


Add manager | Django site admin
History
127.0.0.1:8000/admin/accmanage/manager/add/

Django administration

WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home › Accmanage › Managers › Add manager

ACCMANAGE
- Guests + Add
- Managers + Add
- Receptions + Add
- Staffs + Add
- Users + Add

AUTHENTICATION AND AUTHORIZATION
- Groups + Add

ROOMMANAGE
- Hotels + Add
- Reservations + Add
- Rooms + Add
- Services + Add

Add manager

First, enter a username and password. Then, you'll be able to edit more user options.

First name:

Last name:

Username:
Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Email address:

Password:
Your password can't be too similar to your other personal information.
Your password must contain at least 8 characters.
Your password can't be a commonly used password.
Your password can't be entirely numeric.

Password confirmation:
Enter the same password as before, for verification.

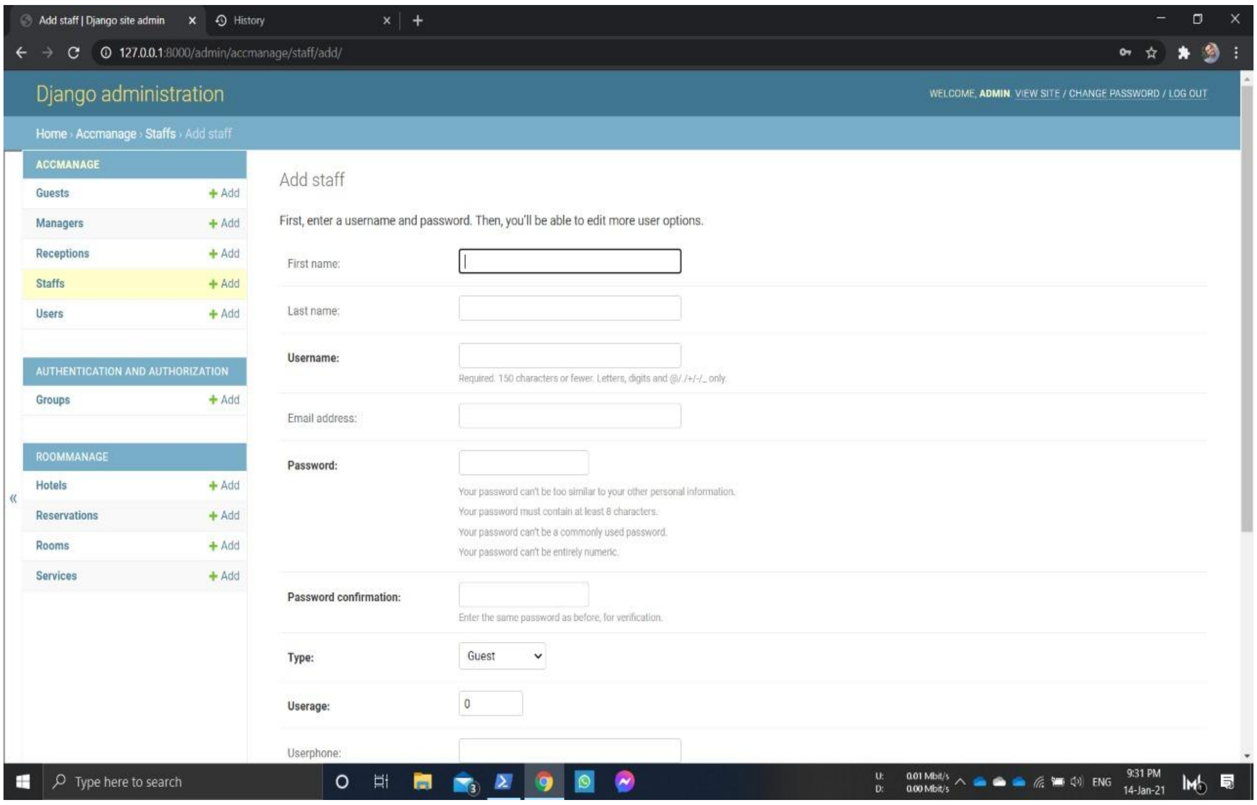
Type: Guest

Userage: 0

Userphone:

Type here to search
9:31 PM 14-Jan-21

Figure-30: It shows the admin adding a hotel manager.


Add staff | Django site admin
History
127.0.0.1:8000/admin/accmanage/staff/add/

Django administration

WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home › Accmanage › Staffs › Add staff

ACCMANAGE
- Guests + Add
- Managers + Add
- Receptions + Add
- Staffs + Add
- Users + Add

AUTHENTICATION AND AUTHORIZATION
- Groups + Add

ROOMMANAGE
- Hotels + Add
- Reservations + Add
- Rooms + Add
- Services + Add

Add staff

First, enter a username and password. Then, you'll be able to edit more user options.

First name:

Last name:

Username:
Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Email address:

Password:
Your password can't be too similar to your other personal information.
Your password must contain at least 8 characters.
Your password can't be a commonly used password.
Your password can't be entirely numeric.

Password confirmation:
Enter the same password as before, for verification.

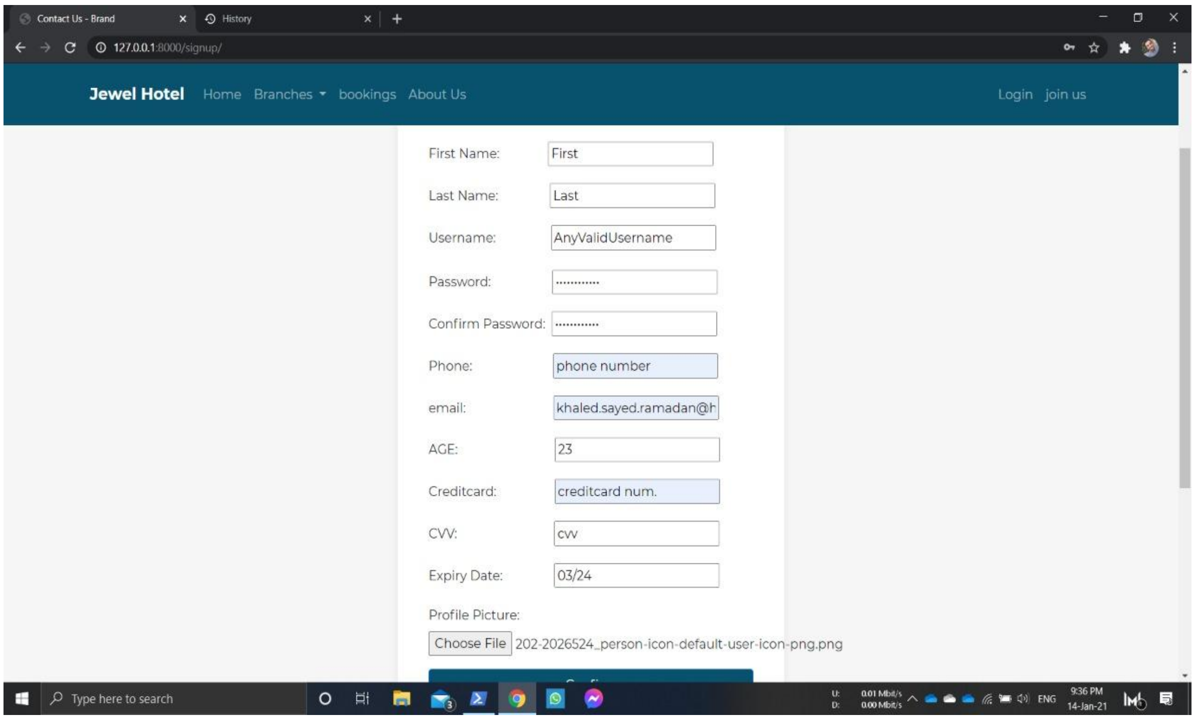
Type: Guest

Userage: 0

Userphone:

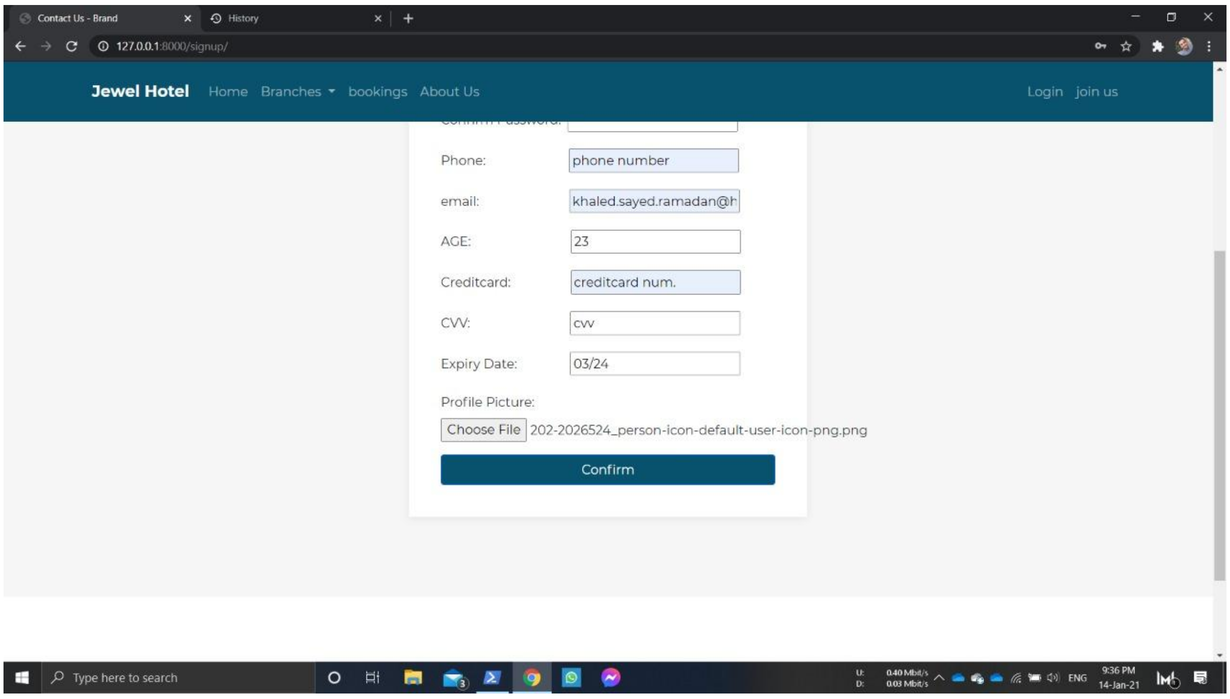
Type here to search
9:31 PM 14-Jan-21

Figure-31: It shows adding a staff member.



First Name:	First
Last Name:	Last
Username:	AnyValidUsername
Password:	············
Confirm Password:	············
Phone:	phone number
email:	khaled.sayed.ramadan@h
AGE:	23
Creditcard:	creditcard num.
CVV:	cvv
Expiry Date:	03/24
Profile Picture:	Choose File 202-2026524_person-icon-default-user-icon-png.png

Figure-32: It shows a user registration, the user chooses join us from the home page to register.



Phone:	phone number
email:	khaled.sayed.ramadan@h
AGE:	23
Creditcard:	creditcard num.
CVV:	cvv
Expiry Date:	03/24
Profile Picture:	Choose File 202-2026524_person-icon-default-user-icon-png.png

Figure-33: It shows the rest of the registration phase.

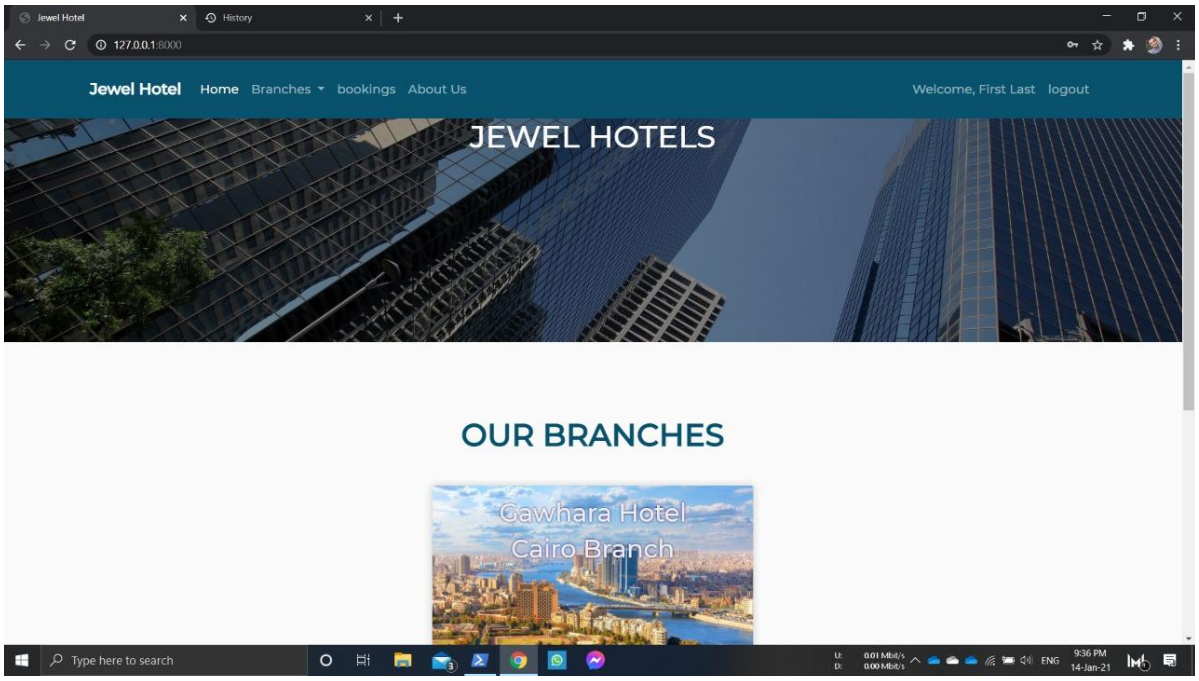


Figure-34: It shows the guest's home page.

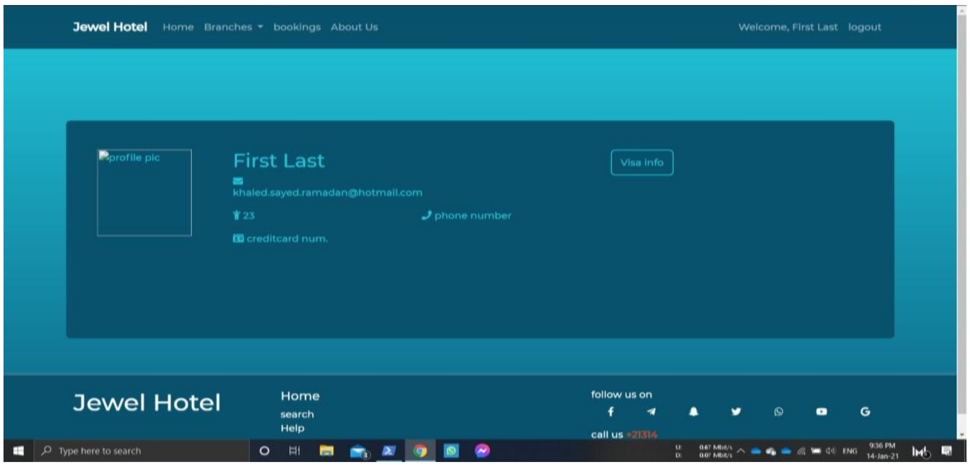


Figure-35: It shows the guest's profile.

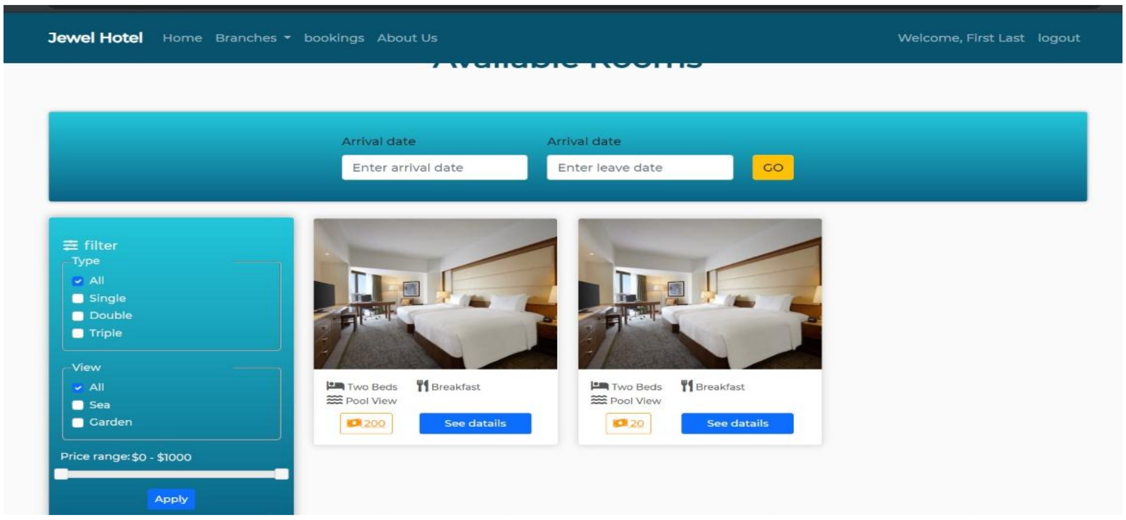
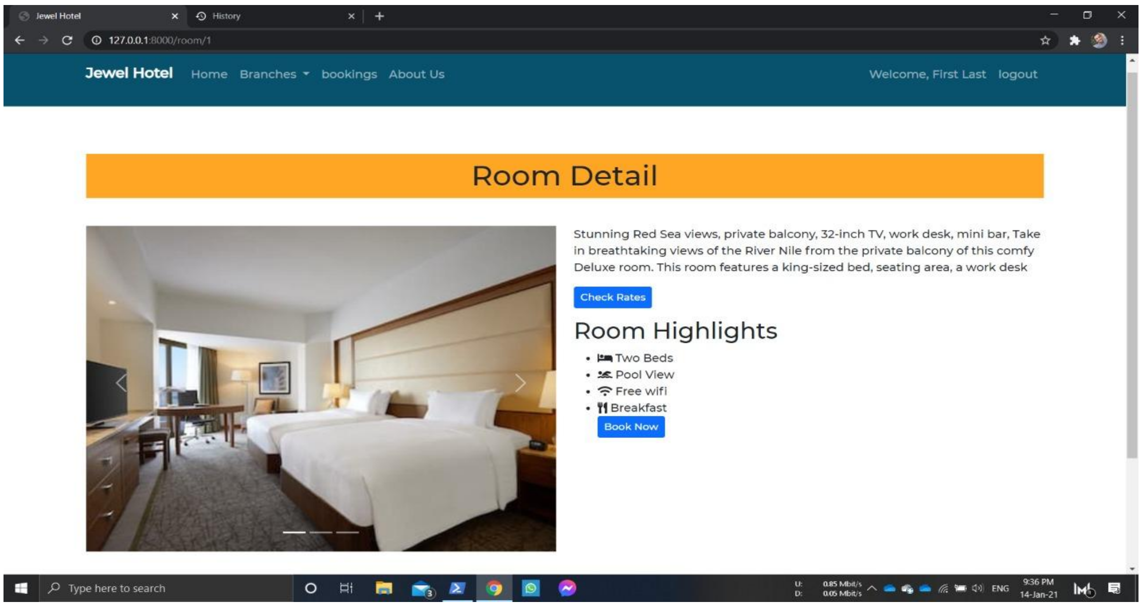


Figure-36: It shows the guest browsing rooms.


Jewel Hotel | History

127.0.0.1:8000/room/1

Jewel Hotel Home Branches bookings About Us Welcome, First Last logout

Room Detail

Stunning Red Sea views, private balcony, 32-inch TV, work desk, mini bar, Take in breathtaking views of the River Nile from the private balcony of this comfy Deluxe room. This room features a king-sized bed, seating area, a work desk

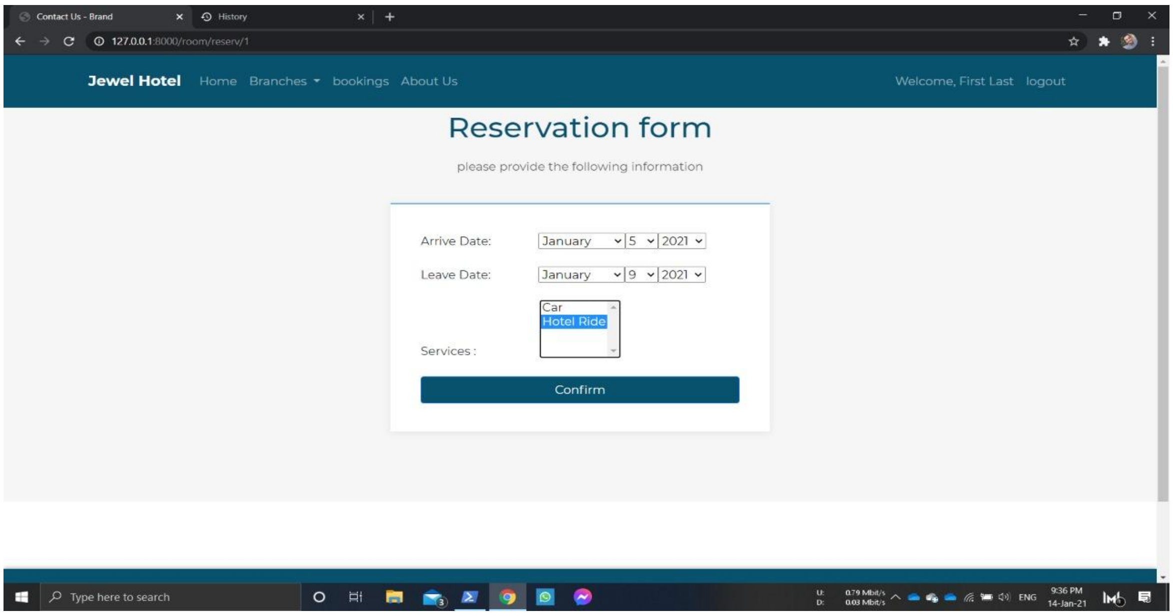
Check Rates

Room Highlights

- Two Beds
- Pool View
- Free wifi
- Breakfast

Book Now

Figure-37: It shows the guest checking one of the rooms.


Contact Us - Brand | History

127.0.0.1:8000/room/reserv/1

Jewel Hotel Home Branches bookings About Us Welcome, First Last logout

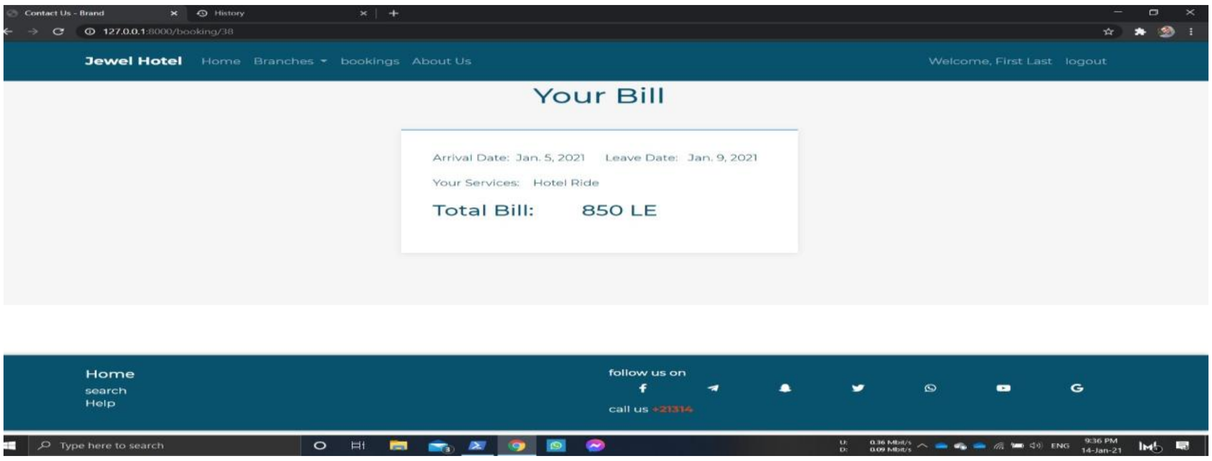
Reservation form

please provide the following information

Arrive Date:	January 5 2021
Leave Date:	January 9 2021
Services :	Car / Hotel Ride

Confirm

Figure-38: It shows the guest making reservation.


Contact Us - Brand | History

127.0.0.1:8000/booking/38

Jewel Hotel Home Branches bookings About Us Welcome, First Last logout

Your Bill

Arrival Date: Jan. 5, 2021 Leave Date: Jan. 9, 2021

Your Services: Hotel Ride

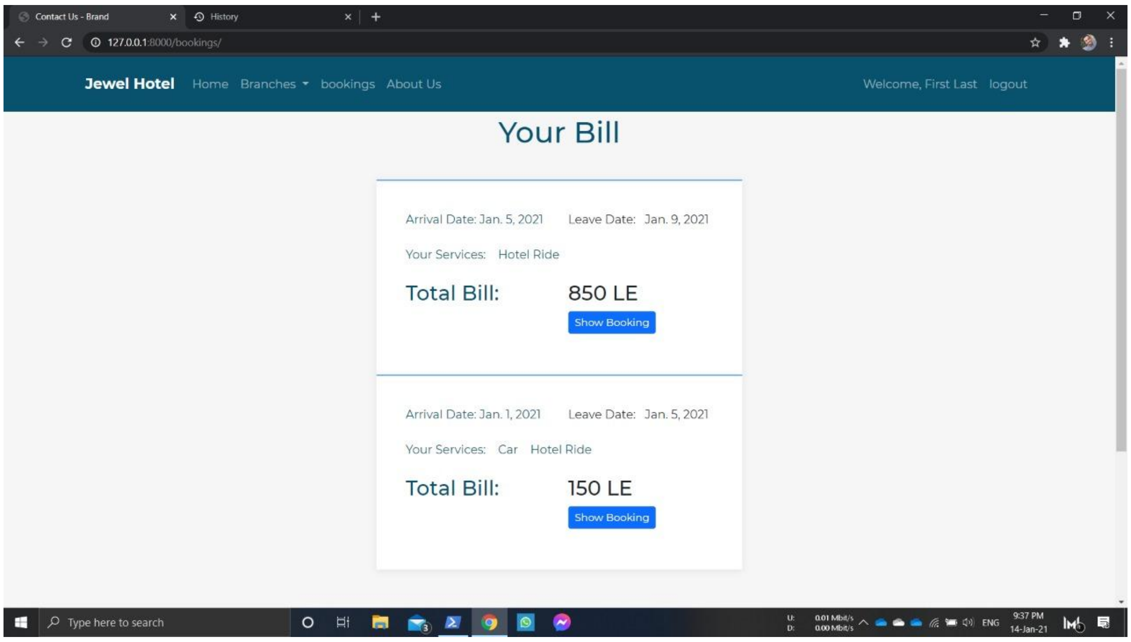
Total Bill: 850 LE

Home
search
Help

follow us on

call us +21314

Figure-39: It shows the guest's bill.



Jewel Hotel Home Branches bookings About Us Welcome, First Last logout

Your Bill

Arrival Date: Jan. 5, 2021 Leave Date: Jan. 9, 2021

Your Services: Hotel Ride

Total Bill: 850 LE

Show Booking

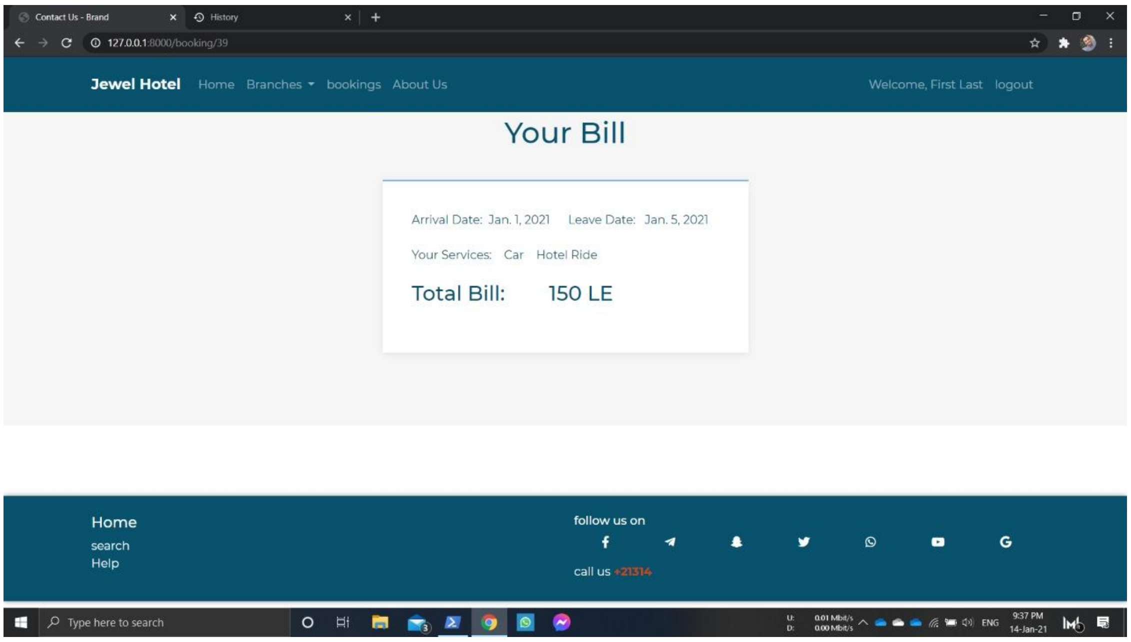
Arrival Date: Jan. 1, 2021 Leave Date: Jan. 5, 2021

Your Services: Car Hotel Ride

Total Bill: 150 LE

Show Booking

Figure-40: It shows the bill.



Jewel Hotel Home Branches bookings About Us Welcome, First Last logout

Your Bill

Arrival Date: Jan. 1, 2021 Leave Date: Jan. 5, 2021

Your Services: Car Hotel Ride

Total Bill: 150 LE

Home search Help follow us on call us +21314

Figure-41: It shows the services' bill.

18. Estimated Project Cost:

COCOMO-II
A = 2.94
B = 1.4
Size = 2.1 KLOC

RCPX	**1.6**
RUSE	**1.5**
PDIF	**1.5**
PREX	**1.6**
PERS	**1.6**
SCED	**1.5**
FCIL	**1.8**

Table-3

PM = A * $Size^{B}$ * M = 2.94 * $2.1^{1,4}$ * 24.8832 = 206 person-month

Functional Points

Number of user inputs = 5*3 + 4*4 + 4*6= 55
Number of user outputs = 2*5 = 10
Number of user inquiries = 0
Number of files = 2 * 10 = 20
Number of ext.interfaces = 1*7 = 7
Count total = 92
FB = 92 * (0.65 + 0.01 * 24) = 81.88 = 82
LOC = FB*AVC = 82 * 16 = 1312

Expert Judgment

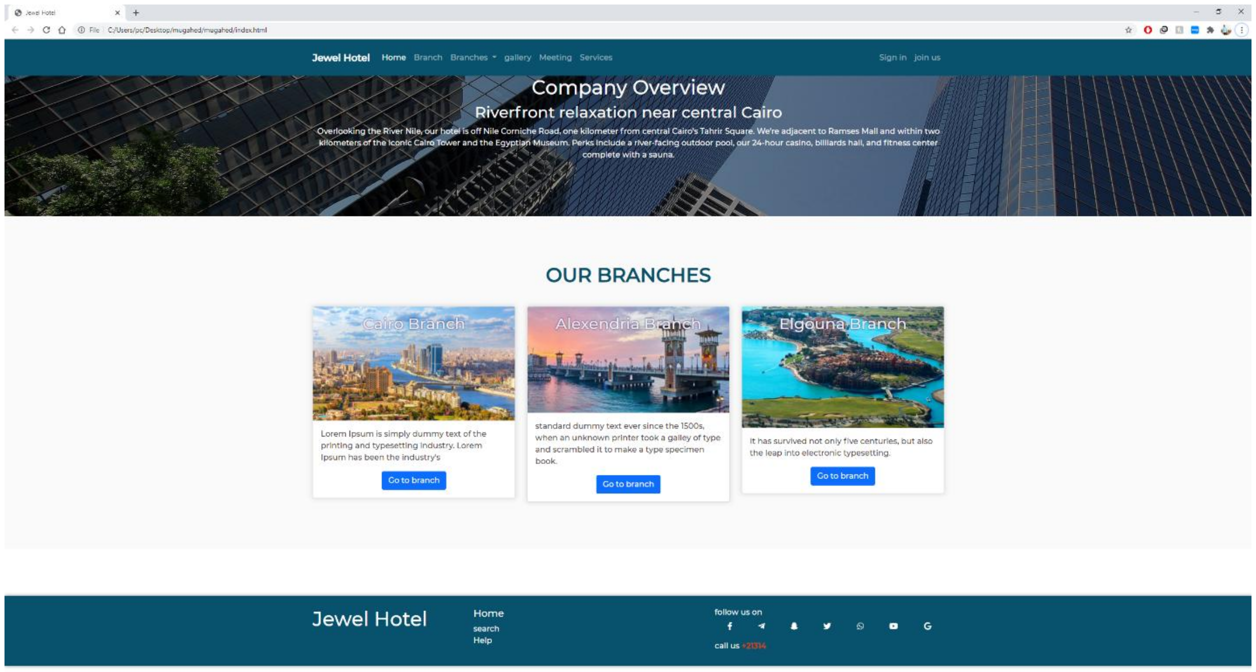
Effort = 500 man-month
Duration = 62

Analysis

1- Expert judgment is very inaccurate since there are no experts.
2- FP ignores quality issues of output and depends on the estimator, hence the LOC was lower than actual.
3- FP has an advantage of being available early as we only need detailed specification.
4- FP has an advantage of being language independent and more accurate than LOC.

19. User Guide:

Home page


Company Overview

Riverfront relaxation near central Cairo

Overlooking the River Nile, our hotel is off Nile Corniche Road, one kilometer from central Cairo's Tahrir Square. We're adjacent to Ramses Mall and within two kilometers of the iconic Cairo Tower and the Egyptian Museum. Perks include a river-facing outdoor pool, our 24-hour casino, billiards hall, and fitness center complete with a sauna.

OUR BRANCHES

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's

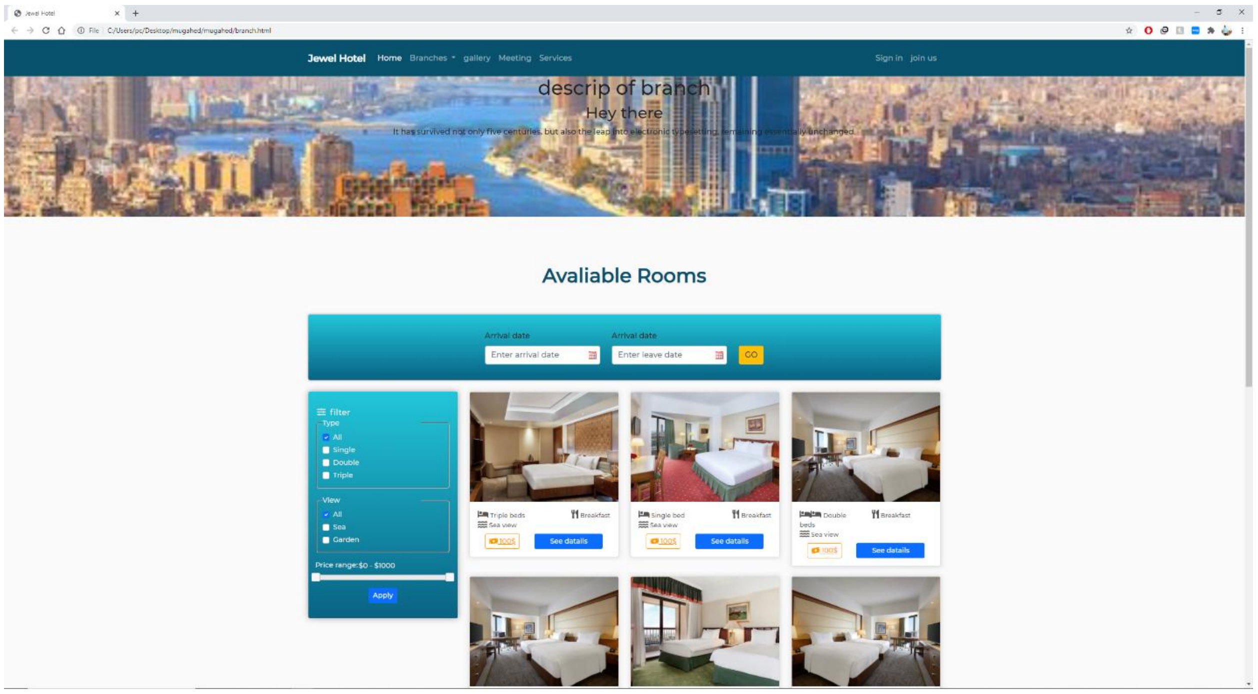
standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book.

It has survived not only five centuries, but also the leap into electronic typesetting.

Figure-42: Home page

Client should choose his desired branch on the home page

Branch page


descrip of branch

Hey there

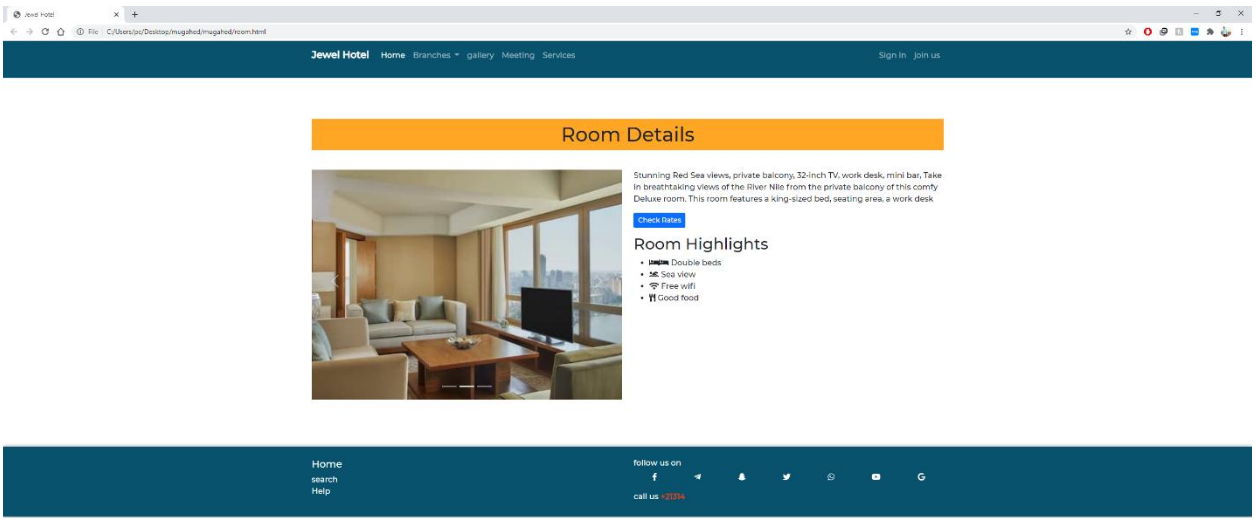
It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged.

Avaliable Rooms

Figure-43: Available rooms in the branch's page

The client has options with the available rooms and can browse the rooms for more details

Room details


Jewel Hotel Home Branches gallery Meeting Services Sign In Join us

Room Details

Stunning Red Sea views, private balcony, 32-inch TV, work desk, mini bar, Take in breathtaking views of the River Nile from the private balcony of this comfy Deluxe room. This room features a king-sized bed, seating area, a work desk

Check Rates

Room Highlights

- Double beds
- Sea view
- Free wifi
- Good food

Home
search
Help

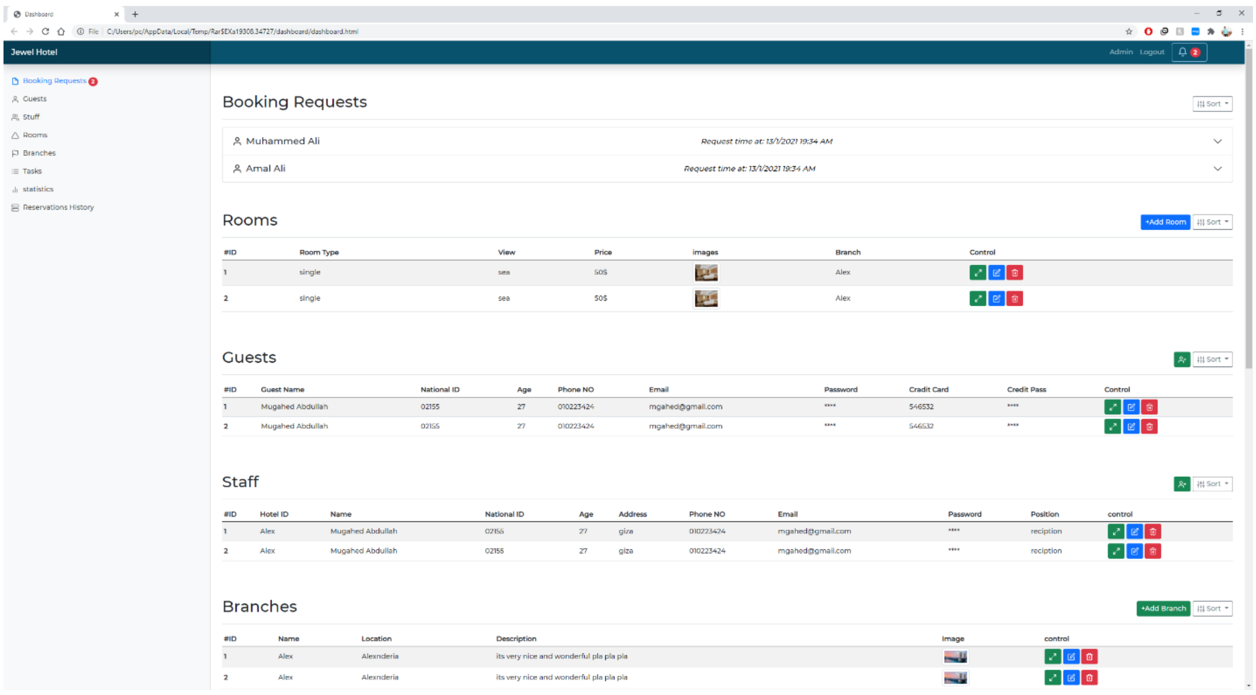
follow us on

call us +21314

Figure-44: Room page

Client is given all information about the room and can book it.

Admin view


Jewel Hotel — Admin Logout

Booking Requests
Guests
Stuff
Rooms
Branches
Tasks
statistics
Reservations History

Booking Requests

Muhammed Ali — Request time at: 13/1/2021 19:34 AM

Amal Ali — Request time at: 13/1/2021 19:34 AM

Rooms

#ID	Room Type	View	Price	images	Branch	Control
1	single	sea	50$		Alex	
2	single	sea	50$		Alex	

Guests

#ID	Guest Name	National ID	Age	Phone NO	Email	Password	Cradit Card	Credit Pass	Control
1	Mugahed Abdullah	02155	27	010223424	mgahed@gmail.com	****	546532	****	
2	Mugahed Abdullah	02155	27	010223424	mgahed@gmail.com	****	546532	****	

Staff

#ID	Hotel ID	Name	National ID	Age	Address	Phone NO	Email	Password	Position	control
1	Alex	Mugahed Abdullah	02155	27	giza	010223424	mgahed@gmail.com	****	reciption	
2	Alex	Mugahed Abdullah	02155	27	giza	010223424	mgahed@gmail.com	****	reciption	

Branches

#ID	Name	Location	Description	Image	control
1	Alex	Alexnderia	its very nice and wonderful pla pla pla		
2	Alex	Alexnderia	its very nice and wonderful pla pla pla		

Figure-45: Admin dashboard

Admin has all information in his dashboard and all access to his functions.

Note:

-Repository Link: https://github.com/KhaledSRamadan/Hotel-Management-System

-To run this application, you need have python, django, and pillow. Also, you need the command directory to be in new/src/SWP
and run

```
pip install django
pip install pillow
python manage.py migrate
python manage.py makemigrations
python manag.py migrate
python manage.py run server
```