THIS FORM IS FOR BOTH THE GENERAL & MEDICAL INFORMATICS PROGRAMMES

SE-I COURSE PROJECT (PHASE 1 COVER SHEET)

Discussions Scheduled for Week 8 *(more details will be announced later)*.

- Print 1 copy of this cover sheet and attach it to a printed copy of the documentation *(SRS, … etc.)*. You must also submit softcopies of all your documents *(as PDFs)*; details will be announced later.
- Please write all your names in Arabic.
- Please make sure that your students' IDs are correct.
- Handwritten Signatures for the attendance of all team members should be filled in before the discussion.
- Please attend the discussion on time *(announced separately)*, late teams will lose 5 grades.

Project Name: _____

Team Information ***(typed not handwritten, except for the attendance signature)*:**

	ID [Ordered by ID]	Full Name [In Arabic]	Attendance [Handwritten Signature]	Final Grade
1	20210341	روان عزت محمد		
2	20211032	هدير محمد سلامة		
3	20210369	زياد عمرو مصطفي		
4	20210376	زياد محمد محمد عبد القوي		
5	20210041	احمد حماده احمد		
6	20210042	احمد حمدي ذكي محمد		
7	20210785	محمد سيد عبدالعزيز محمود		

Grading Criteria:

10 Items		Grade	Notes
1. Functional Requirements	**1**		
2. Non-Functional Requirements	**1**		
3. Use-Case Diagram(s) *including general use-cases for the system, and the detailed use-cases description*	**2**		

4. System Architecture – *including applied Architectural Pattern(s)*	**1**		
5. Activity Diagrams	**2**		
6. Database Specification *(ERD, Tables)*	**2**		
7. Class Diagram *(Interfaces, Classes, Relations)* – An initial version based on the requirements and Use-Case/Activity diagrams.	**2**		
8. Object Diagrams *(Including object diagrams that illustrate the preconditions and the post-conditions of selected functions)*	**1**		
9. Package Diagram(s)	**1**		
10. Sequence Diagrams *including* ***System Sequence Diagrams (SSDs)***	**2**		

Teaching-Assistant's Signature: _____

_____
15

System Requirements Specification For Digital Health Care Application

Purpose:

The purpose of this document is to present a detailed description of the Digital Health care System. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, This document is intended for both the stakeholders and the developers of the system

Scope:

This application is a digital healthcare booking platform and practice management software (that is, automated physician, clinic, and hospital bookings, thus making healthcare easily accessible). The application includes reviews, and patients can search, compare, and book the best doctors. Doctors also provide Patients with seamless healthcare experiences through our clinic management software. The application operates in multiple countries. Users can search by Speciality, Location or name.

System Requirements:

Functional Requirements :

1) The system must allow users to create an account with details name, phone number, Birthdate, gender, password, and email.

2) The system must allow users at first time to log in to the system to book, order, and use other services.

3) The System must Allow users to login in the system with an account created before with email and password.

4) The system enables users to search according (Price – Location – Rate - Doctor's Name)

5) The system must allow users To book a doctor appointment

6) The System must allow users to confirm booking by entering some information such as (name, email, mobile number)

7) The Clinic shall allow users to give reviews about doctors

8) The Patient choose their insurance

9) The Clinic must allow users to filter the choices of the doctors according to Rate from high to low

10) The Clinic must allow users to filter the choices of the doctors according to Price from high to low

11) The Clinic must allow users to filter the choices of the doctors according to Specialty from high to low

12) The system must allow users to determine whether he is a subscriber to insurance.

13) The system must allow users to pay for a visa or cash.

14) The system must allow users to add visa info.

15) The system can allow users to feedback and rate clinic.

16) The system must allow users to cancel their reservation.

17) The system must allow users to switch between languages (Arabic, English).

18) The system enables users to select a state from(Egypt,Kuwait,Morocco).

19) The clinic must allow correct and comprehensive information about doctors.

20) Clinic allow doctor to see his appointment & price.

21) The clinic must allow users to know whether the doctor is available or not.

22) The system shall send an approval request after the user enters personal information.

23) The system shall provide users to edit their information (name ,password,email,etc).

24) The system shall provide users to edit reservations and can cancel it.

25) The system shall provide help to guide the user.

26) system shall enable the user to get a discount using Insurance

27) The clinic shall add suppliers

28) The Clinic shall view patient's reservations.

29) The Clinic shall modify the system according to feedback of users.

30) The clinic shall create an invoice for users.

31) The clinic shall determine Doctor's salary.

32) The clinic shall determine the Working time.

33) The clinic shall determine vacation

34) The clinic shall set up discounts of doctors

35) The clinic shall determine it's branches

36) The system shall allow recommendations for patients

37) The system allow user to log out.

Non-Functional Requirements :

1.Usability:

should be user-friendly and easy to navigate, with a clear and intuitive interface.

2.Performance:

The platform should be fast and responsive, with minimal latency and downtime.

3.Security:

Should implement industry-standard security measures to protect user data and prevent unauthorized access.

4.Scalability:

The platform should be designed to handle a large number of users and healthcare providers, with the ability to scale up or down as needed.

5.Compatibility:

should be compatible with a wide range of devices and browsers, including desktop and mobile devices.

6.Reliability:

The platform should be reliable and available at all times, with minimal disruptions or errors.

7.Accessibility:

should be accessible to users with disabilities, including those who use screen readers or other assistive technologies

8.Data integrity:

system shall be described by accuracy, completeness, and consistency of data mean safety of data and security.

9.Availability:

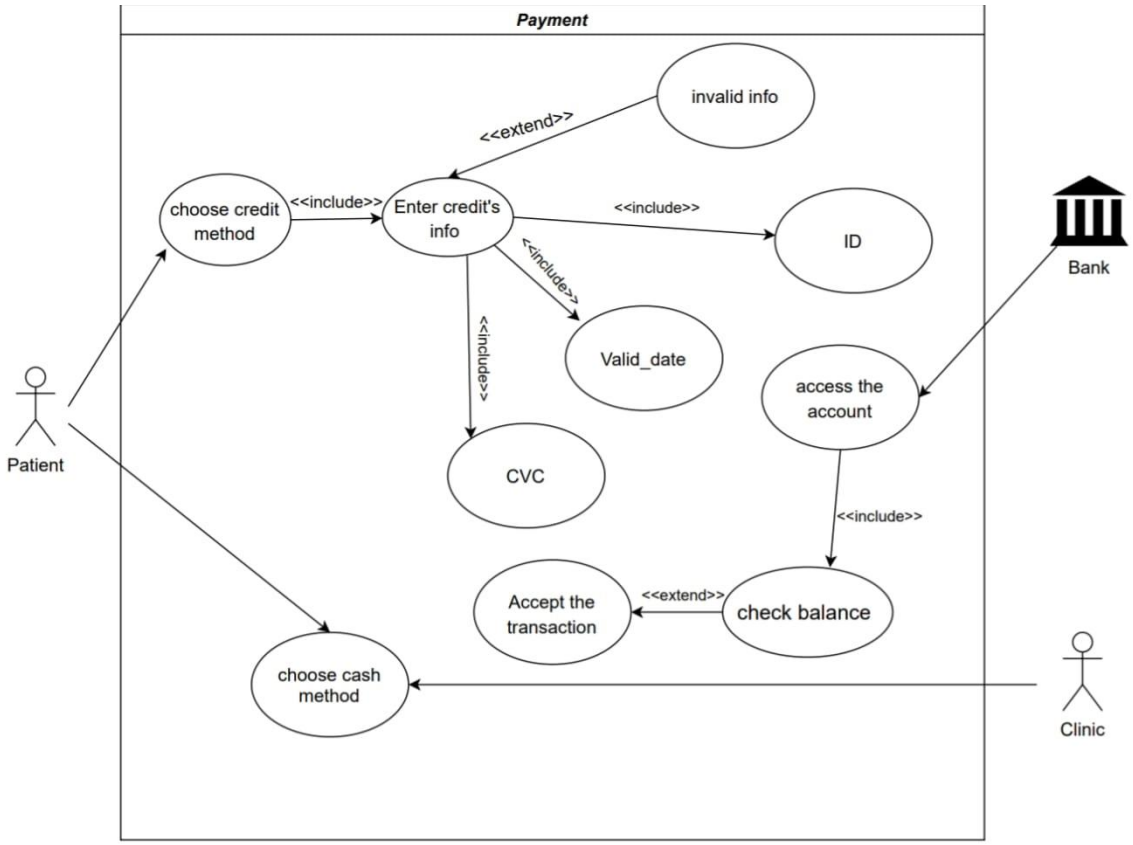
The system shall be available 24 hours in a day

10.look and feel:

The system shall be painted in comfortable colors for the eyes

Use Case


System
login
<<include>>
verify password
<<extend>>
error massege
<<Cancel>>
cancel resrevation
Book appointment
<<include>>
confirm resrevation
View Appointment
Accept appointment
reject appointment
Call Clinic
Search for Clinic
View appointment requests
Rate and review clinic
Make discount
manage profile
Add and Remove doctor
set location
view doctors
payment
view patients
set insurance
Patient
Clinic


Payment
invalid info
<<extend>>
choose credit method
<<include>>
Enter credit's info
<<include>>
ID
Bank
<<include>>
<<include>>
Valid_date
access the account
Patient
CVC
<<include>>
Accept the transaction
<<extend>>
check balance
choose cash method
Clinic

Login description

Identifier and name:	Login
Initiator:	patient
Goal:	Login to the system to book , order , and use other service
Precondition:	Has a valid account
Postcondition:	Login successfully and use all services of the system
Main success scenario:	1. Patient enters his account and password 2. The system verifies login parameters 3. Login done
Extensions:	1. if it is first time patient must login first 2. invalid info 3. the system will display an error message 4. the system asks the patient to enter his information again

Add doctor description

Identifier and name:	Add doctor
Initiator:	clinic
Goal:	Add doctor to the clinic
Precondition:	The doctor login to the clinic system and has a valid account
Postcondition:	Login successfully and add the doctor to the clinic system
Main success scenario:	1. The doctor login to the clinic system 2. The doctor has a valid account 3. Login successfully , add the doctor to the clinic system and use all services of the system
Extensions:	1. If the doctor login 2. The doctor has a valid account 3. Login successfully and add the doctor to the clinic system 4. If the doctor login and invalid information 5. the system will display an error message 6. the system asks the doctor to enter his information again

Book appointment description

Identifier and name:	Book appointment
Initiator:	patient
Goal:	Book to the system to cancel reservation or confirm reservation
Precondition:	The patient makes an appointment
Postcondition:	The patient confirms or cancel the appointment
Main success scenario:	1. The patient makes an appointment 2. The patient confirms or cancel the appointment
Extensions:	1. If the patient makes an appointment and confirm it 2. Reservation done 3. If the patient makes an appointment and cancel it 4. No reservation

Choose credit method description

Identifier and name:	Choose credit method
Initiator:	patient
Goal:	Choose credit method to payment
Precondition:	Enter credit's info from patient
Postcondition:	valid info and successfully
Main success scenario:	1. Choose credit method 2. Enter credit's info from patient 3. valid info and successfully
Extensions:	1. if Enter credit's info from patient 2. valid info 3. mission passed 4. if Enter credit's info from patient 5. invalid info 6. the system asks the patient to enter info again

View appointment requests description

Identifier and name:	View appointment requests
Initiator:	clinic
Goal:	View appointment requests from patient to the clinic
Precondition:	The patient makes an appointment
Postcondition:	View appointment requests to the clinic
Main success scenario:	1. The patient makes an appointment 2. Reservation done 3. View appointment requests to the clinic
Extensions:	1. If the patient makes an appointment and confirm it 2. Reservation done 3. View appointment requests to the clinic 4. If the patient makes an appointment and cancel it 5. No reservation 6. The appointment requests will not be shown

Rate and review clinic description

Identifier and name:	Rate and review clinic
Initiator:	patient
Goal:	The patient can rate and review the clinic
Precondition:	The patient must be logged in to the system
Postcondition:	The patient rated the clinic
Main success scenario:	1. The patient must be logged in to the system 2. The patient rates the clinic

View appointment description

Identifier and name:	View appointment
Initiator:	patient
Goal:	View appointment to the patient
Precondition:	The patient makes an appointment
Postcondition:	View appointment to the patient
Main success scenario:	1. The patient makes an appointment 2. Reservation done 3. View appointment to the patient
Extensions:	1. If the patient makes an appointment and confirm it 2. Reservation done 3. View appointment to the patient 4. If the patient makes an appointment and cancel it 5. No reservation 6. The appointment will not be shown

Search for clinic description

Identifier and name:	Search for clinic
Initiator:	patient
Goal:	Search for a clinic
Precondition:	No condition to carry out this use case because search is public services that do not need prior steps
Postcondition:	View clinic according to user search
Main success scenario:	1. Patient search for a doctor according to (specialty , country , city , area , insurance , by name of clinic , illness) 2. System provides a clinic's view with details 3. patient decide which clinic will choose according to his need
Extensions:	If no result appears , return to step 1 again

Payment description

Identifier and name:	Payment
Initiator:	patient
Goal:	The patient can pay by visa or cash
Precondition:	The patient must be logged in to the system and have enough balance
Postcondition:	Money will be transferred to the other
Main success scenario:	1. The patient must be logged in to the system 2. The patient enters his account number , the other account number , and the amount of money that will be transferred 3. The system will check this information if his account number is correct , another account number exists or not and his balance allows this transfer or not 4. The user enters his password 5. The system will check the password 6. The system sent an OTP of 8-dig to the patient 7. The patient enters the OTP number 8. The system checks the OTP number 9. The system transfers money

remove doctor description

Identifier and name:	remove doctor
Initiator:	clinic
Goal:	remove doctor to the clinic
Precondition:	The doctor resigned
Postcondition:	The clinic confirm or cancel resignation
Main success scenario:	1. The doctor resigned 2. The clinic confirm or cancel resignation
Extensions:	1. If the doctor resigned and The clinic confirm it 2. Remove doctor 3. If the doctor resigned and The clinic cancel it 4. Doctor will not be deleted 5.

accept appointment description

Identifier and name	accept appointment
Initiator	Clinic
Goal	Make the clinic accept the patient's appointment
Precondition	No condition to carry out this use case because Choice is public services that do not need prior steps
Postcondition	The patient is waiting in the specified Maadi
Main success scenario	1- Accepting the patient's appointment 2- Preparing the clinic to receive the patient on the date

access the account description

Identifier and name	access the account.
Initiator	Bank
Goal	Log in to the customer's account at the bank and make sure that the balance is sufficient
Precondition	The customer must be logged into the system
Postcondition	Verify that the account is working
Main success scenario	1- Login to My Account 2- Make sure you have enough money 3- Successful completion of the process
Extensions	3.1- if confirmation is not done return step 1 and check your information carefully

choose cash method description

Identifier and name	choose cash method
Initiator	Patient - Clinic
Goal	Payment is cash
Precondition	There is no requirement to perform this operation
Postcondition	Pay the workers cash upon interview
Main success scenario	1- Select the cash payment 2-Pay the money at the interview

view patients description

Identifier and name	view patients
Initiator	Clinic
Goal	View patients details such as (account number, name, email and sex).
Precondition	The Clinic must be logged in the system
Postcondition	The Clinic will be able to view all the details of the doctor.
Main success scenario	1- Log in to the system Clinic. 2- The doctor chooses to display the details of the patients. 3- The system enables the supervisor to display all the details of the patients.

view doctors description

Identifier and name	view doctors
Initiator	Clinic
Goal	View doctor details such as (account number, name, email and sex).
Precondition	The Clinic must be logged in the system
Postcondition	The Clinic will be able to view all the details of the doctor.
Main success scenario	1- Log in to the system Clinic. 2- The patients chooses to display the details of the doctor. 3- The system enables the supervisor to display all the details of the doctor

set location description

Identifier and name	set location
Initiator	Patient
Goal	Actors can choose a country successfully
Precondition	No condition to carry out this use case because Choice is public services that do not need prior steps
Postcondition	The patient will be able to choose a country from (Egypt , Kuwait , Morocco)
Main success scenario	1-The patient selects the country view. 2- The system enables the actors to choose the state from among them (Egypt, Kuwait, Morocco).

Manage profile description

Identifier and name	Manage profile
Initiator	Patient
Goal	Putting enough information for the patient to facilitate the reservation process
Precondition	The patient must be logged into the system
Postcondition	The patient adds the information to their account.
Main success scenario	1. The patient has logged into the system. 2. The patient adds his information to the system.

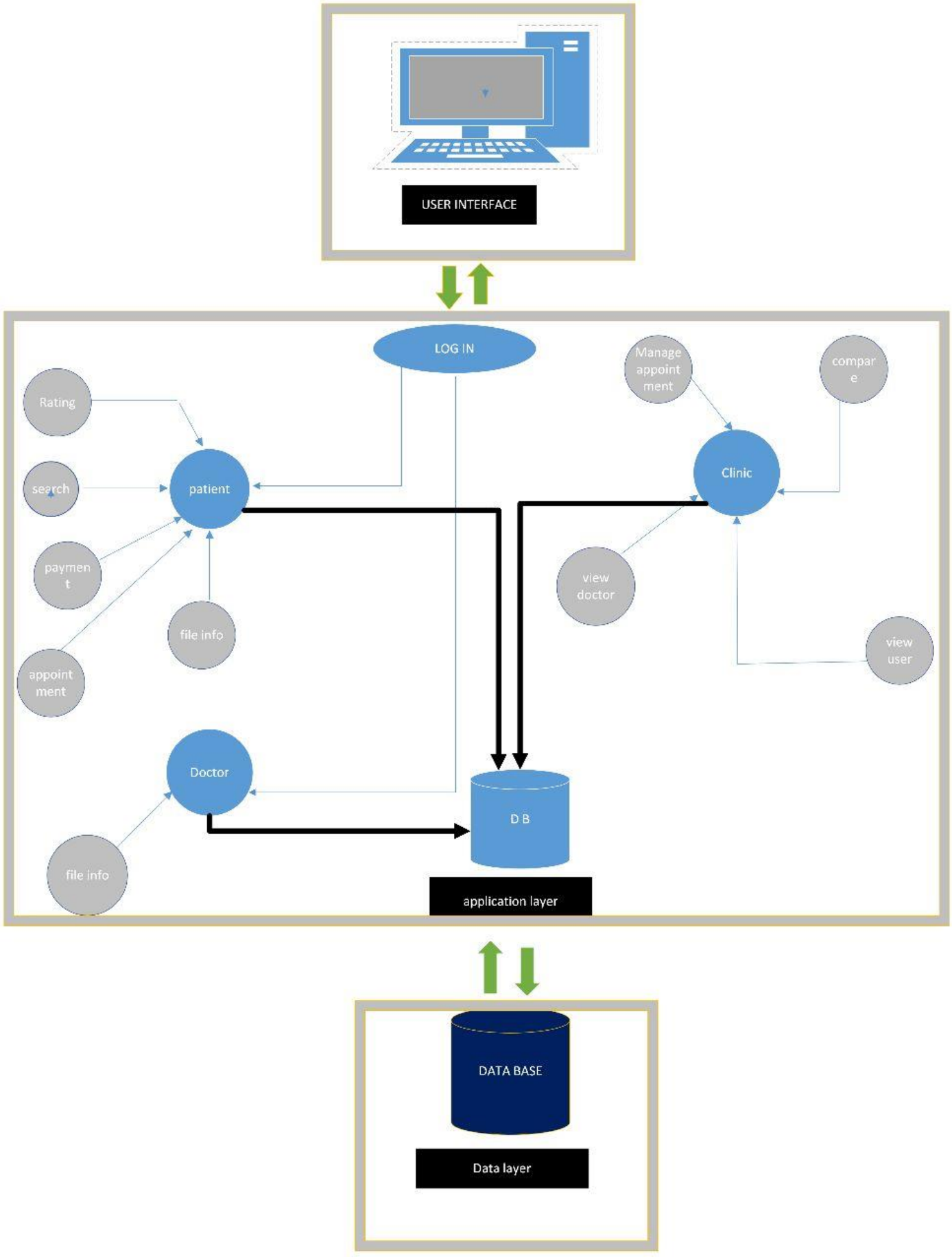
set insurance description

Identifier and name	set insurance
Initiator	Patient
Goal	Determine the patient's insurance that he owns to make a discount
Precondition	Having insurance
Postcondition	Determine the type of insurance
Main success scenario	1- Determine the type of insurance for the patient 2- Enter the required data 3-Successful entry
Extensions	3.1- if confirmation is not done return step 1 and check your information carefully

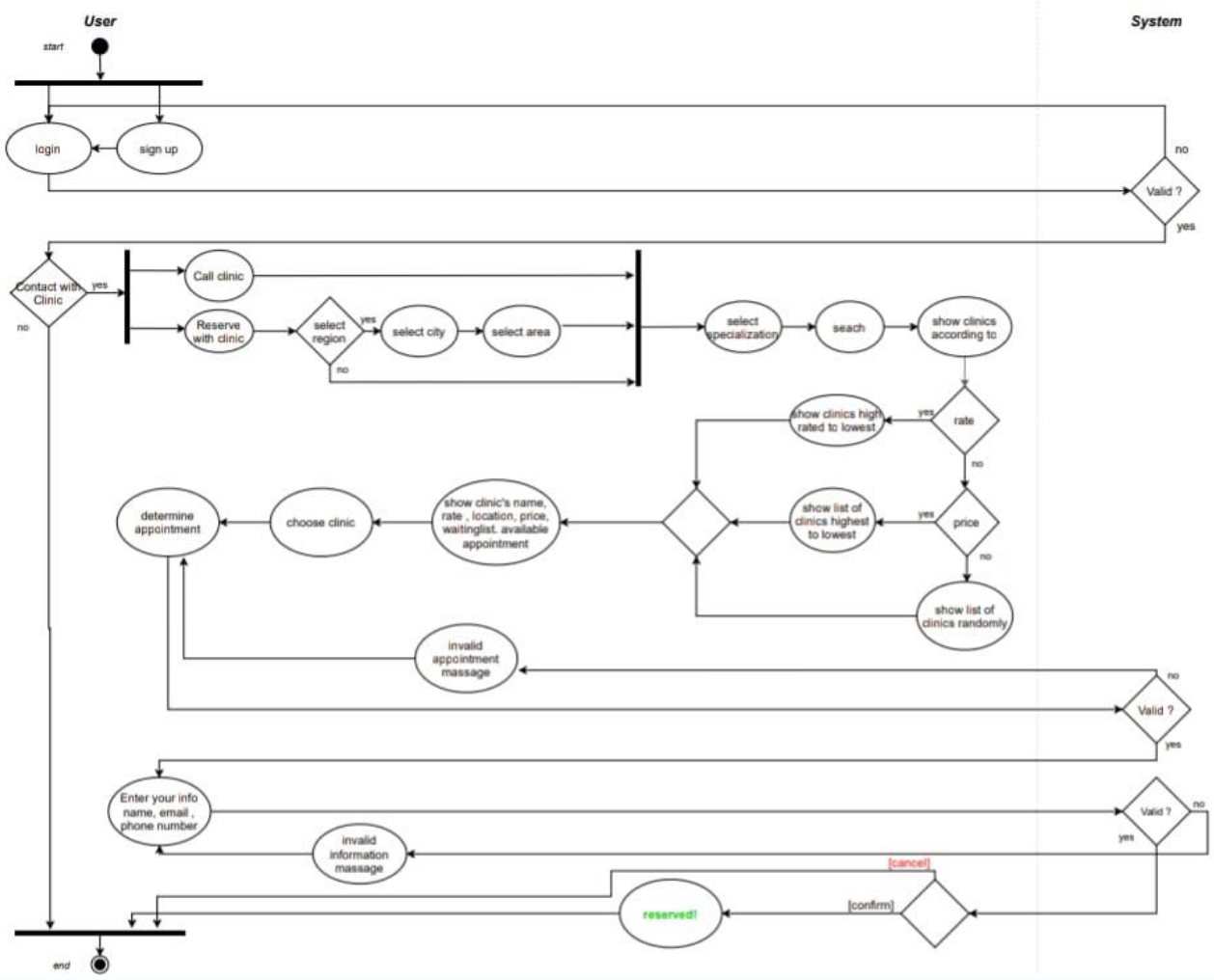
Make discount description

Identifier and name	Make discount
Initiator	Clinic
Goal	Add appointments where there is a discount.
Precondition	The clinic must add a specific time when the reservation is at a discount in the system.
Postcondition	The clinic will be able to view all discounted appointments. Patients receive the discount.
Main success scenario	1- The clinic adds discount appointments to the system. 2- The system enables the supervisor to view all appointments. 3- The patient gets a discount.

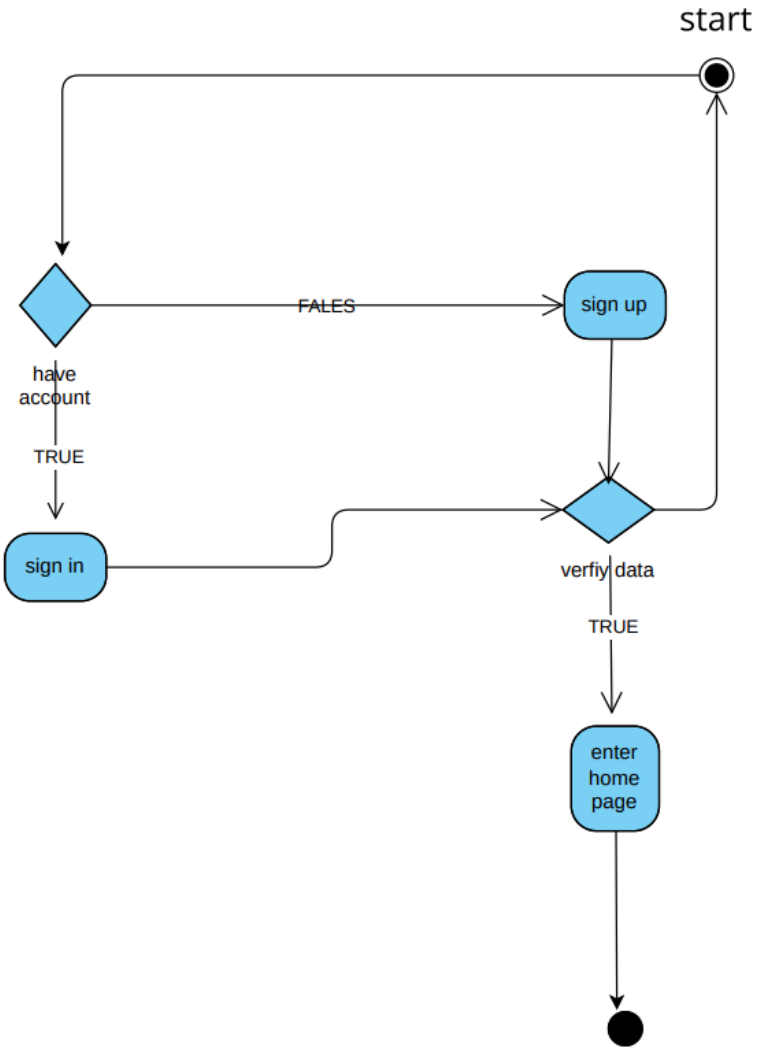
System Architecture


USER INTERFACE
LOG IN
Rating
search
patient
paymen
t
file info
appoint
ment
Manage
appoint
ment
compar
e
Clinic
view
doctor
view
user
Doctor
file info
D B
application layer
DATA BASE
Data layer

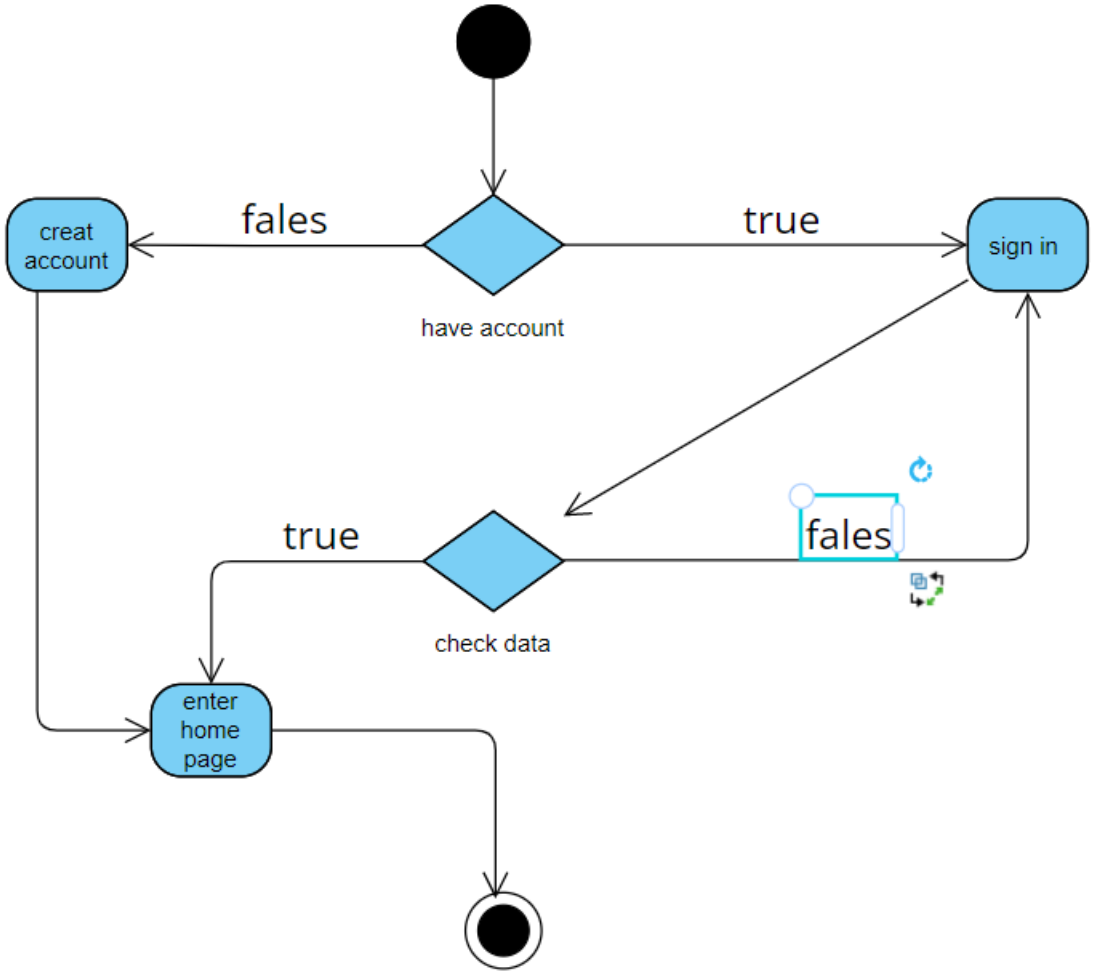
Activity Diagram



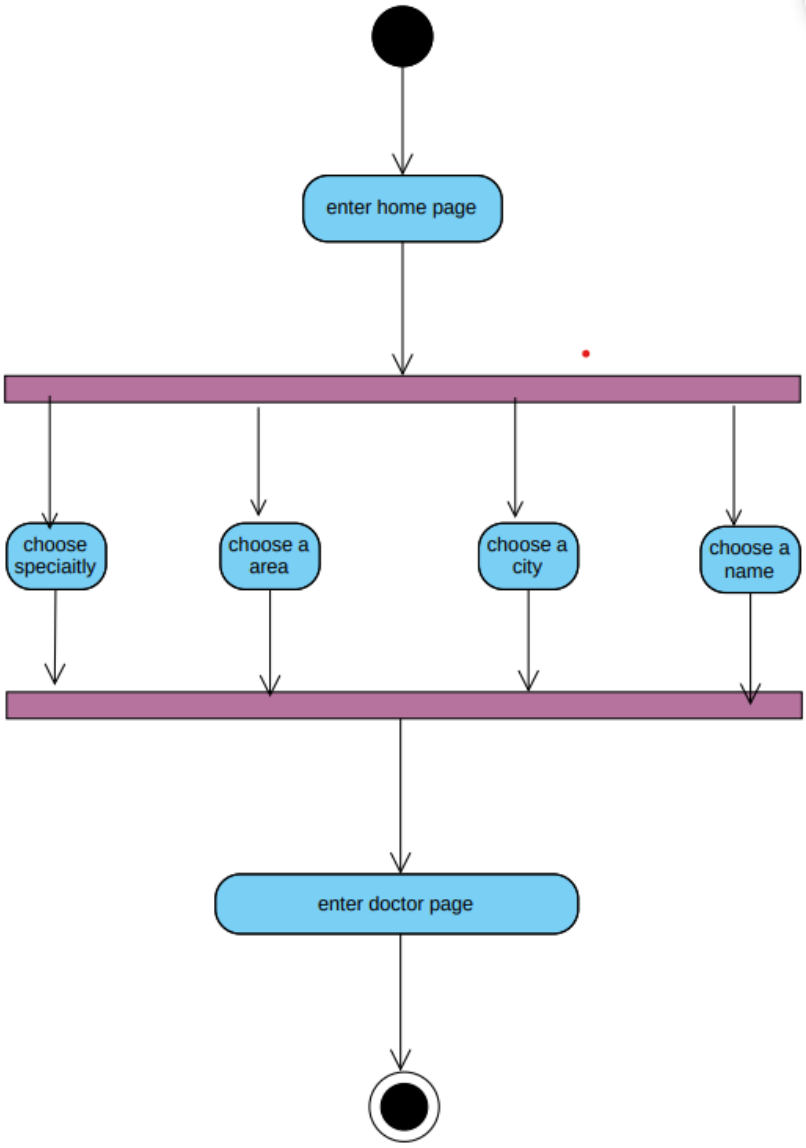
Log In


start
FALES
sign up
have account
TRUE
sign in
verfiy data
TRUE
enter home page

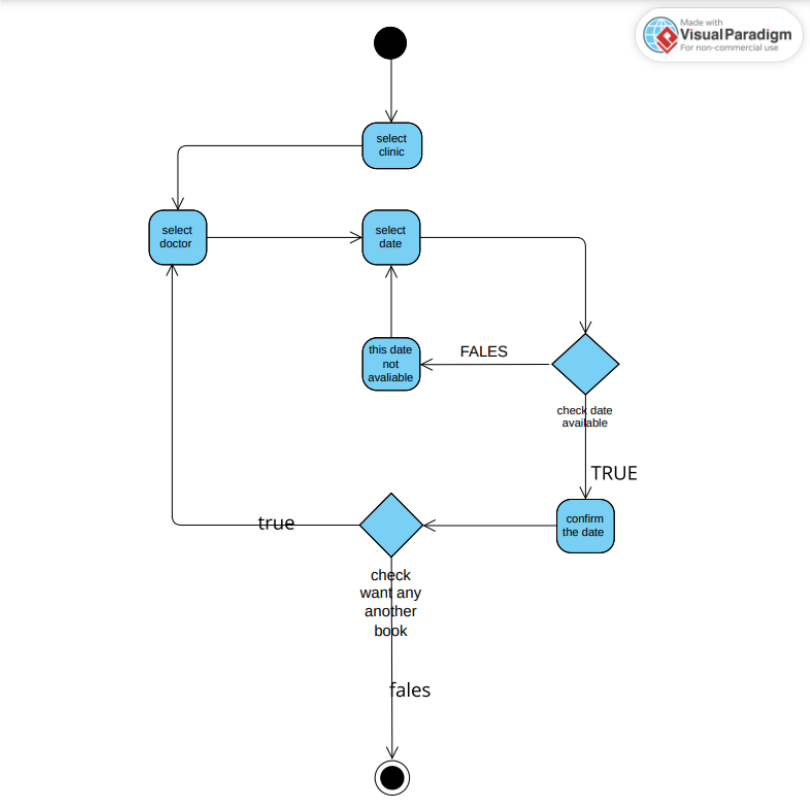
Log In Doctor Page



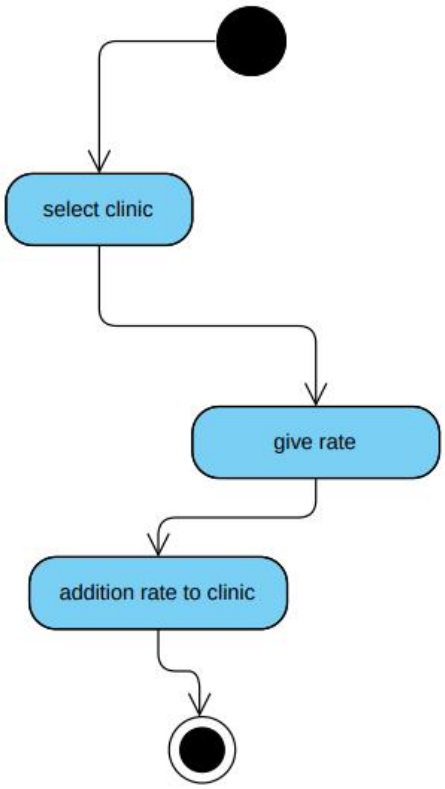
Search


enter home page
choose speciaitly
choose a area
choose a city
choose a name
enter doctor page

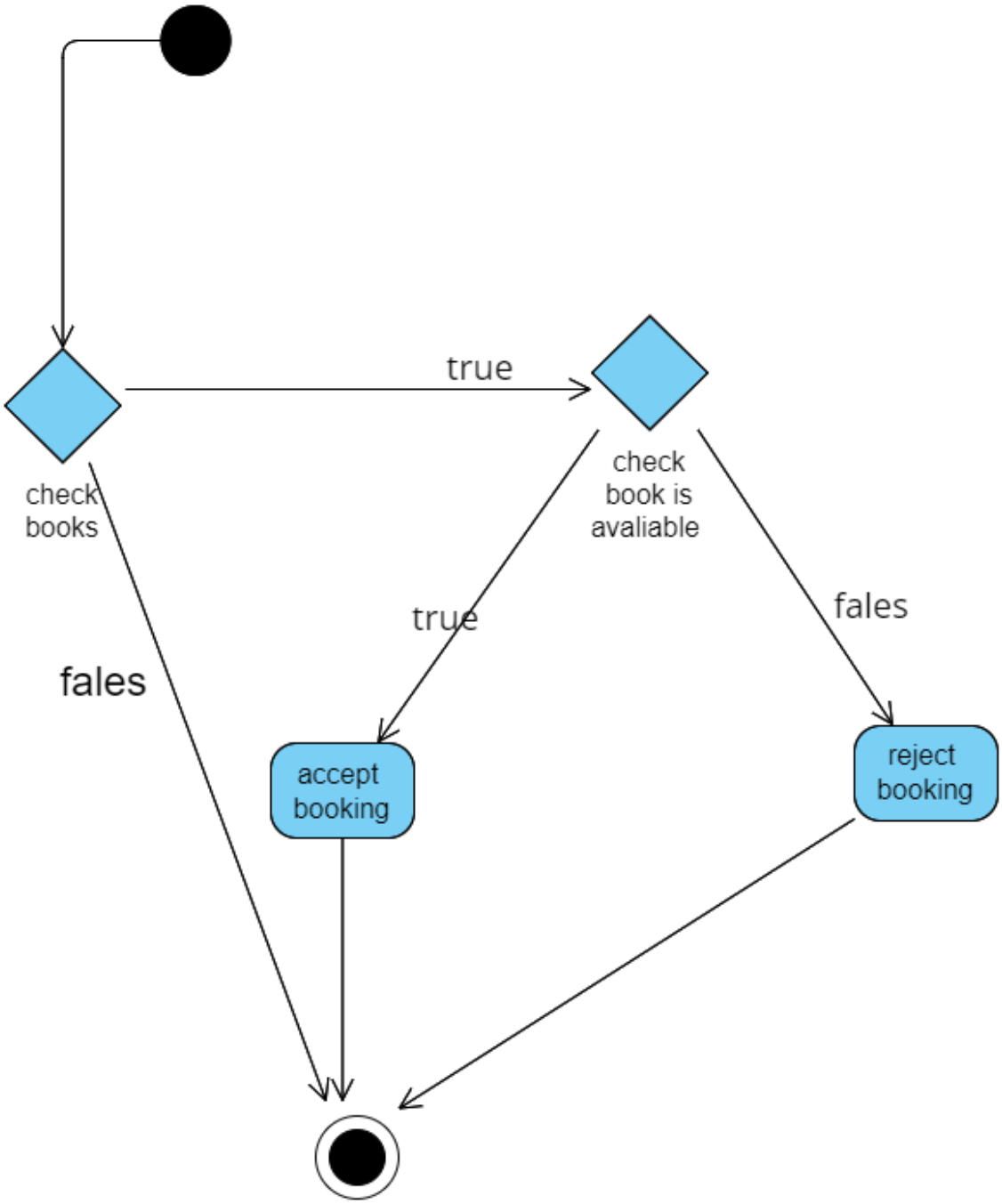
Patient Booking



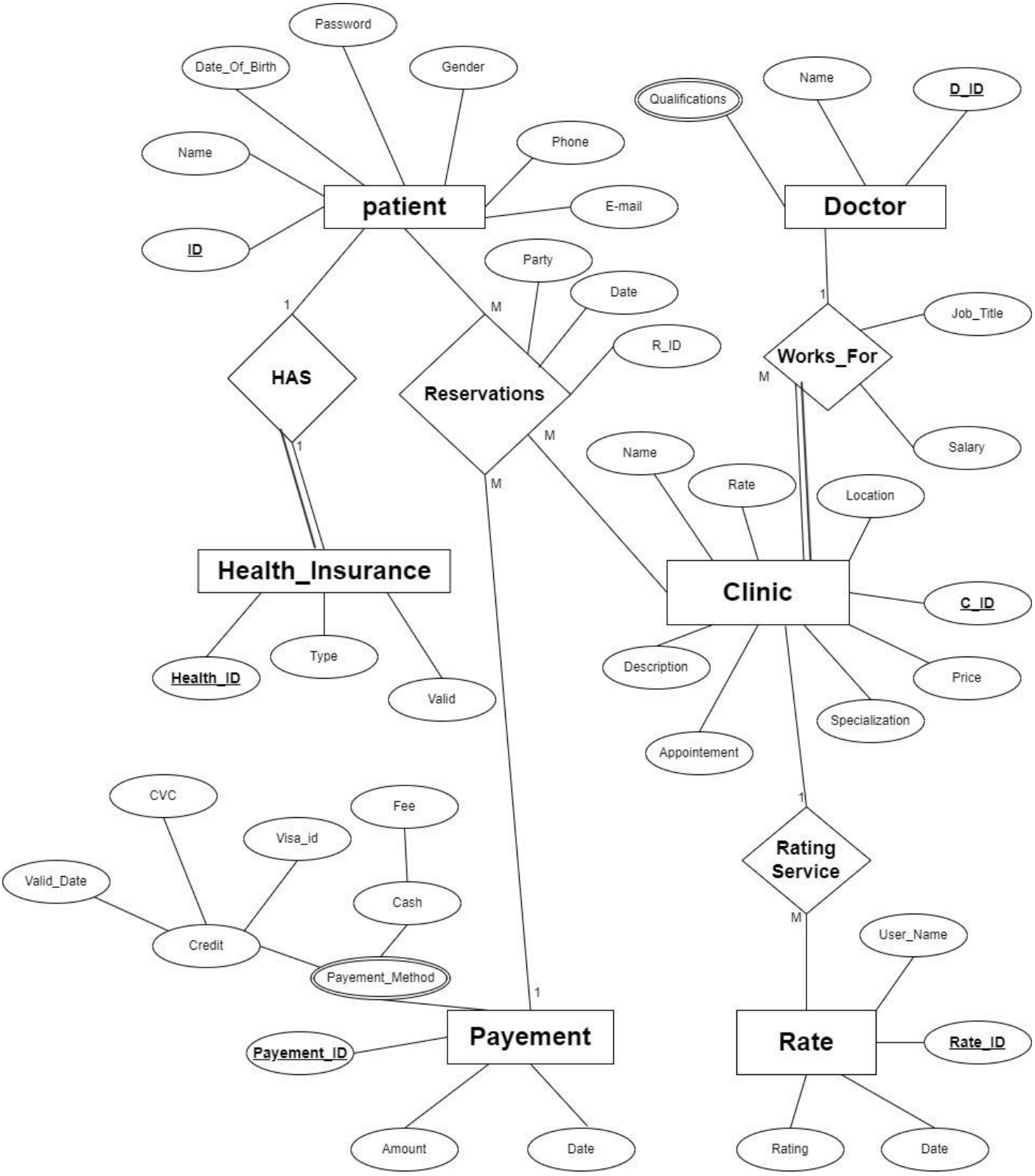
Rate Clinic

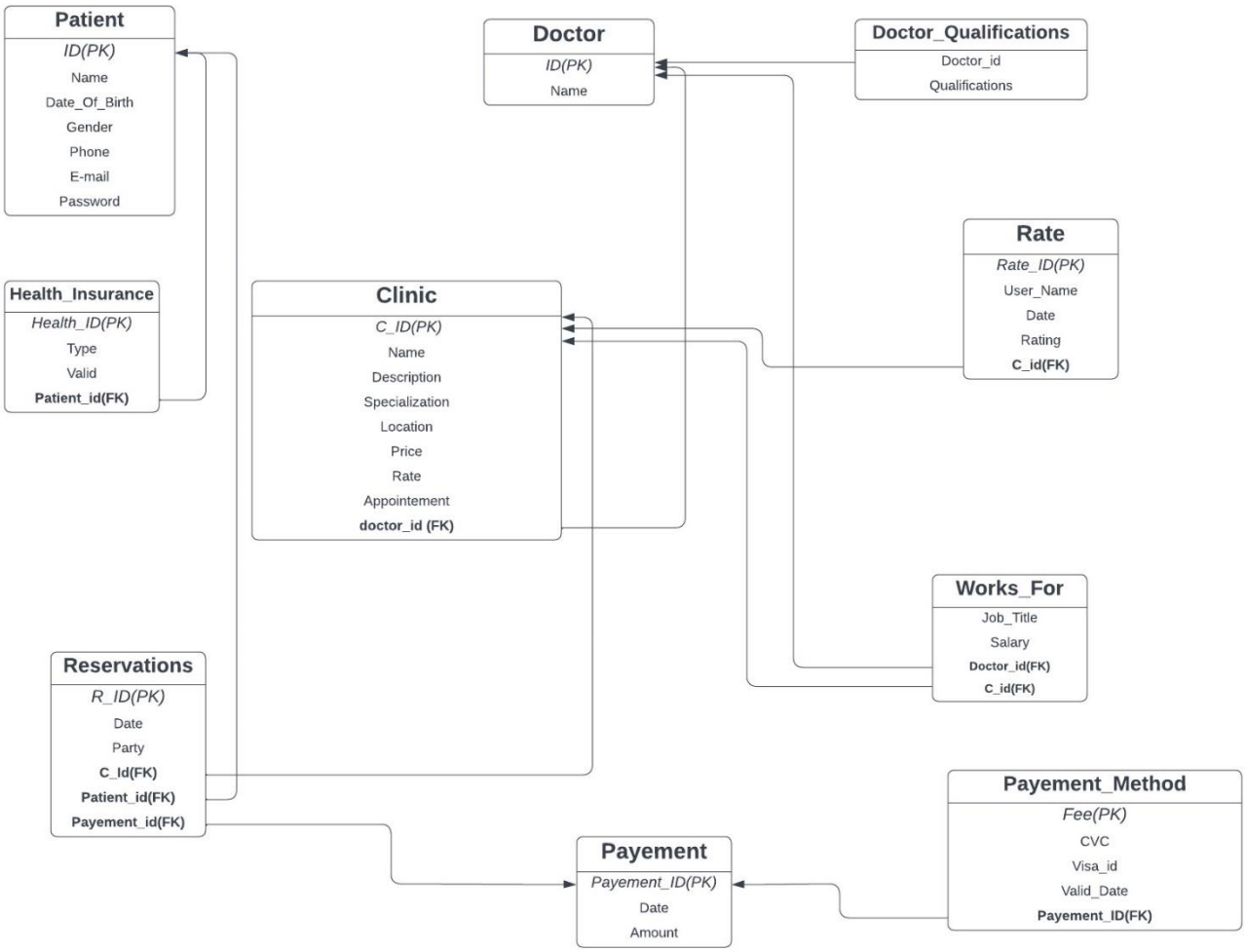


Booking & Rejection

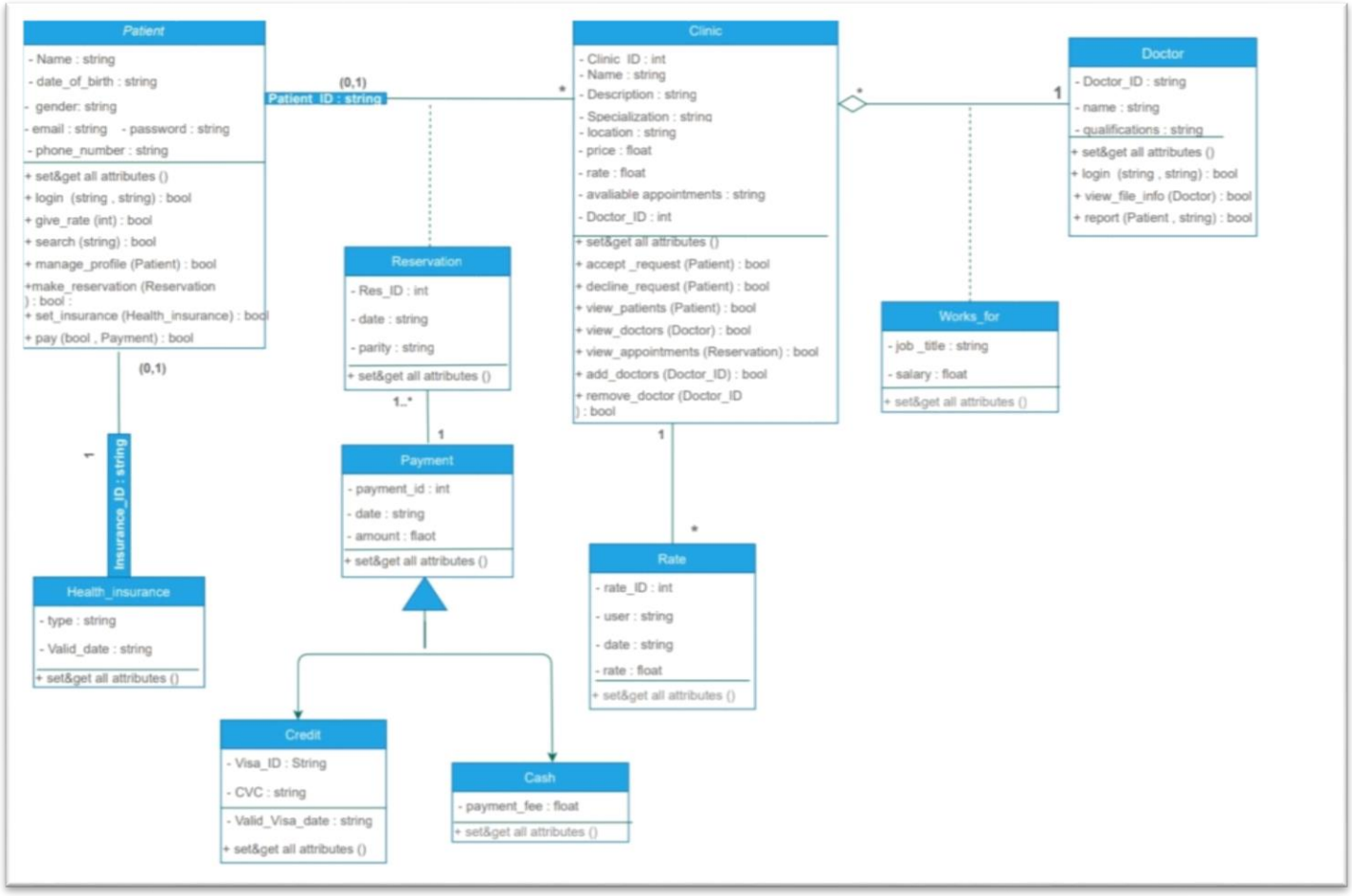


Data Base

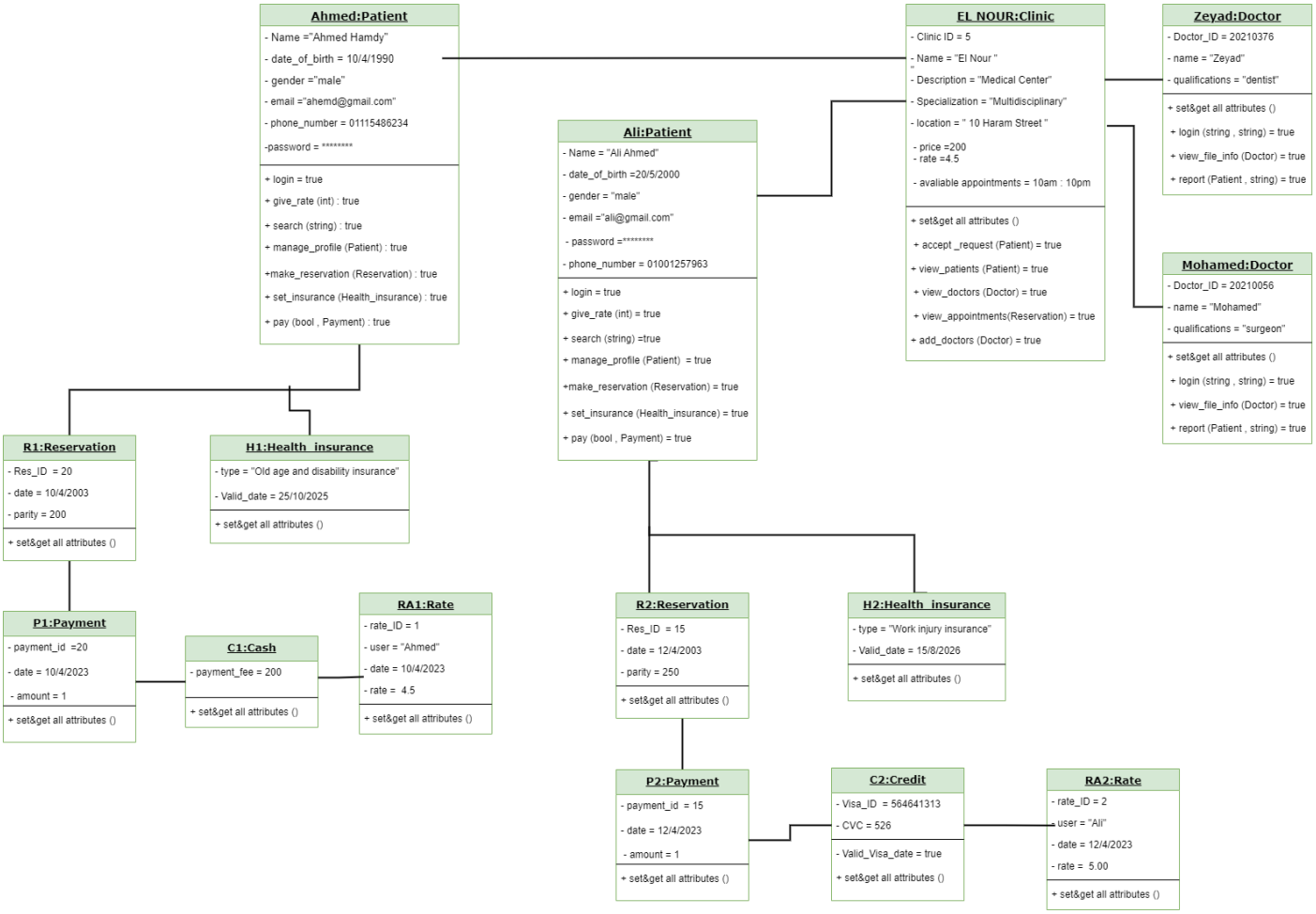

Password
Date_Of_Birth
Gender
Name
Phone
patient
E-mail
ID
Party
Date
R_ID
1
M
HAS
Reservations
1
M
M
Health_Insurance
Health_ID
Type
Valid
Qualifications
Name
D_ID
Doctor
1
Job_Title
Works_For
M
Salary
Name
Rate
Location
Clinic
C_ID
Description
Price
Specialization
Appointement
CVC
Fee
Visa_id
Valid_Date
Cash
Credit
Payement_Method
1
Payement
Payement_ID
Amount
Date
1
Rating Service
M
User_Name
Rate
Rate_ID
Rating
Date


Patient
ID(PK)
Name
Date_Of_Birth
Gender
Phone
E-mail
Password
Doctor
ID(PK)
Name
Doctor_Qualifications
Doctor_id
Qualifications
Rate
Rate_ID(PK)
User_Name
Date
Rating
C_id(FK)
Health_Insurance
Health_ID(PK)
Type
Valid
Patient_id(FK)
Clinic
C_ID(PK)
Name
Description
Specialization
Location
Price
Rate
Appointement
doctor_id (FK)
Works_For
Job_Title
Salary
Doctor_id(FK)
C_id(FK)
Reservations
R_ID(PK)
Date
Party
C_Id(FK)
Patient_id(FK)
Payement_id(FK)
Payement_Method
Fee(PK)
CVC
Visa_id
Valid_Date
Payement_ID(FK)
Payement
Payement_ID(PK)
Date
Amount

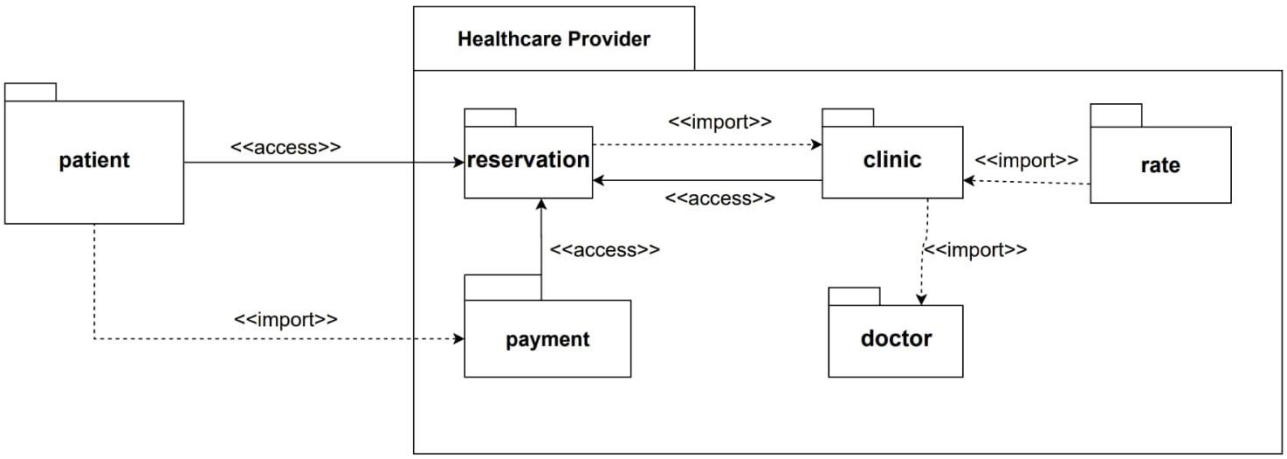
Class Diagram



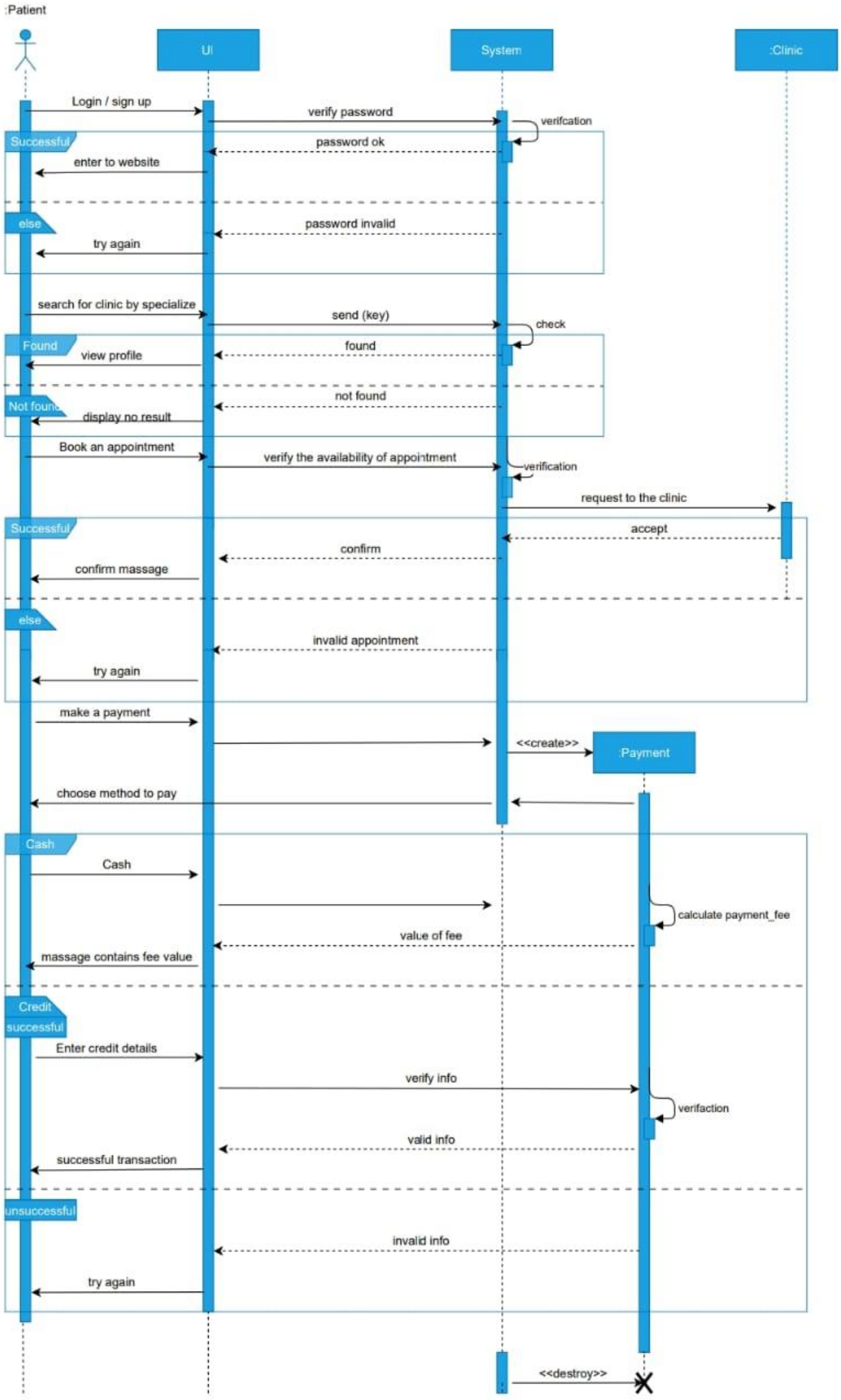
Object Diagram



Package Diagram

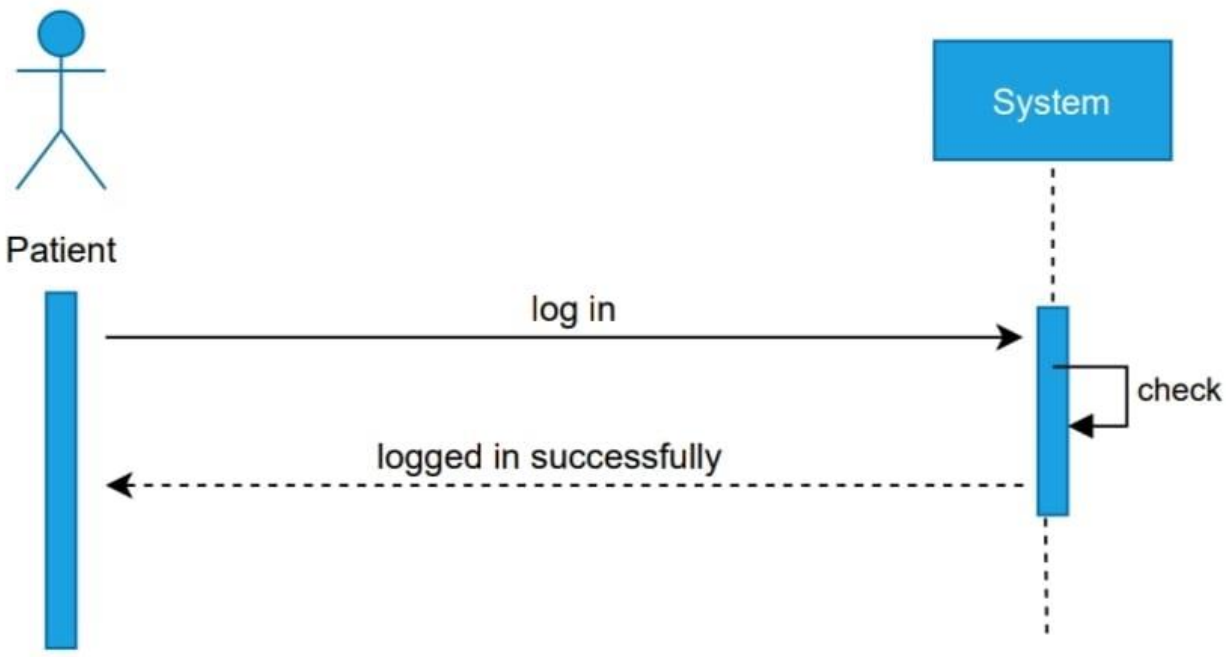


Sequence Diagram

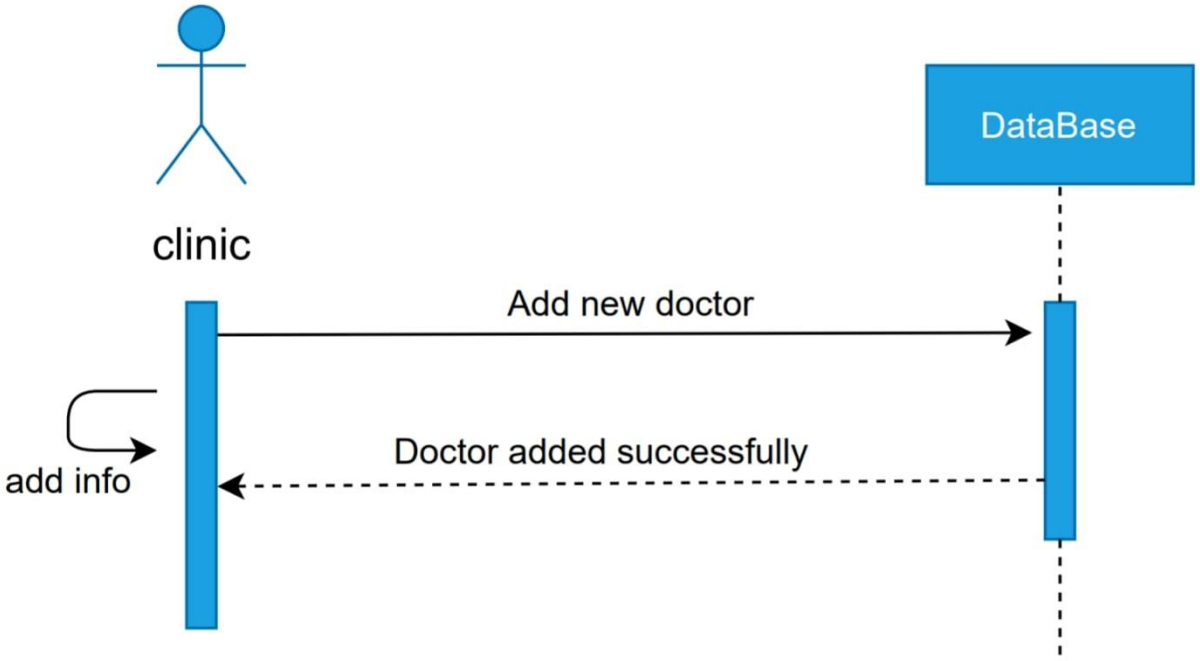

:Patient
UI
System
:Clinic
Login / sign up
verify password
verifcation
Successful
password ok
enter to website
else
password invalid
try again
search for clinic by specialize
send (key)
check
Found
found
view profile
not found
Not found
display no result
Book an appointment
verify the availability of appointment
verification
request to the clinic
Successful
accept
confirm
confirm massage
else
invalid appointment
try again
make a payment
<<create>>
:Payment
choose method to pay
Cash
Cash
calculate payment_fee
value of fee
massage contains fee value
Credit
successful
Enter credit details
verify info
verifaction
valid info
successful transaction
unsuccessful
invalid info
try again
<<destroy>>

System Sequence Diagram (SSD)

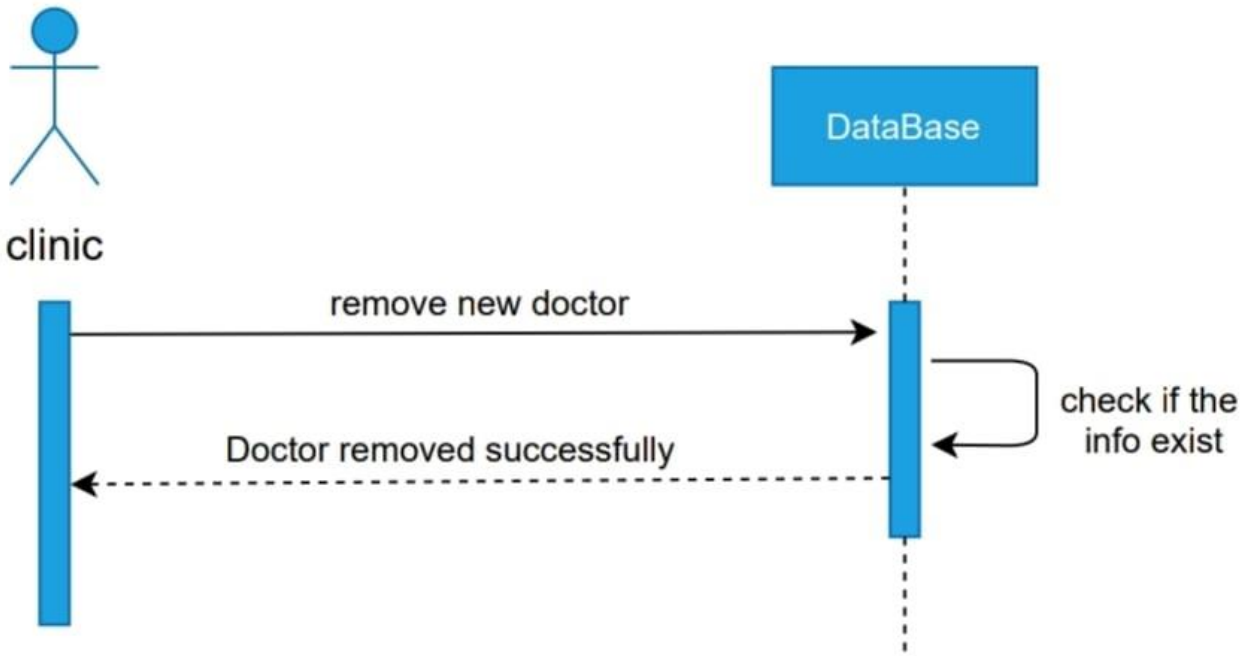
Log In



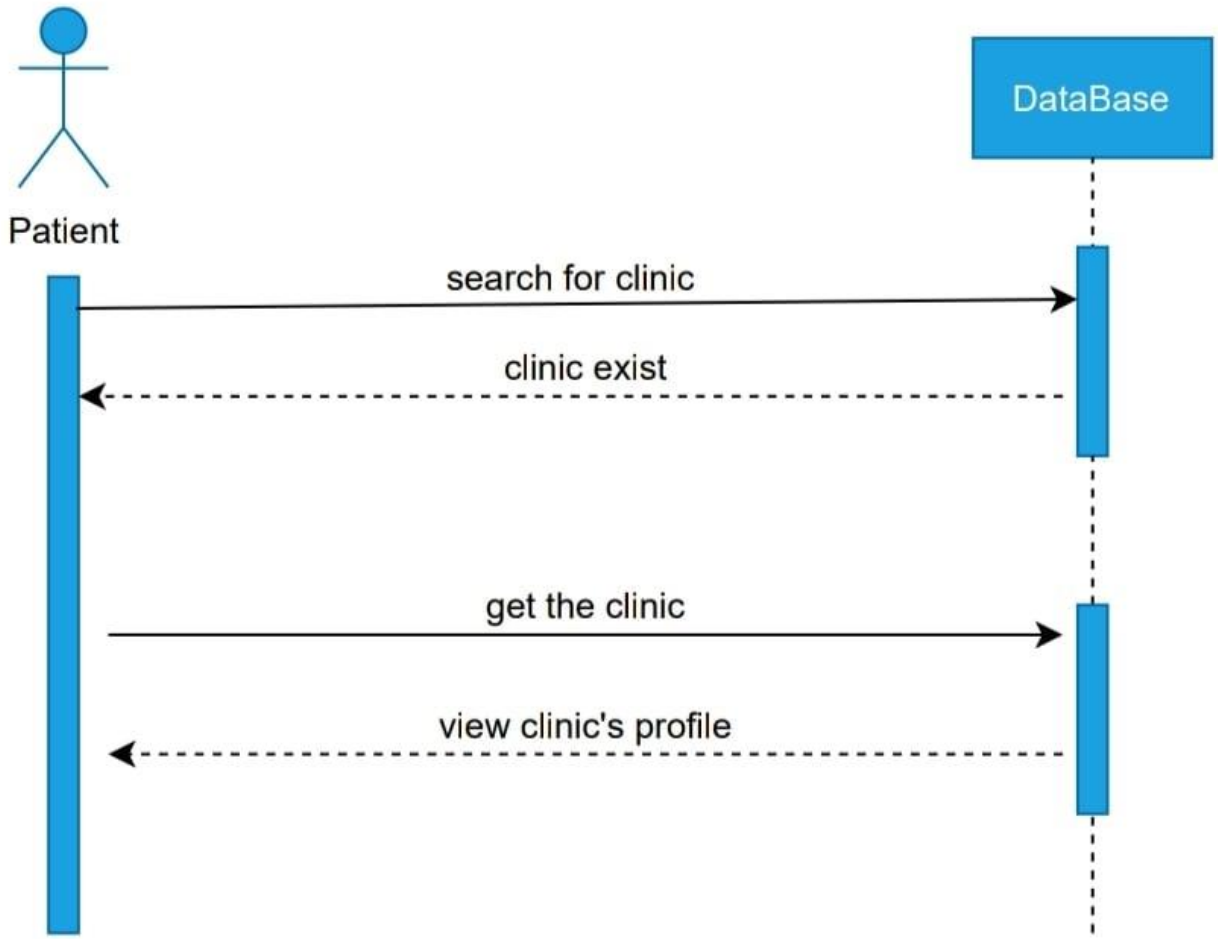
Add Doctor


clinic
DataBase
Add new doctor
add info
Doctor added successfully

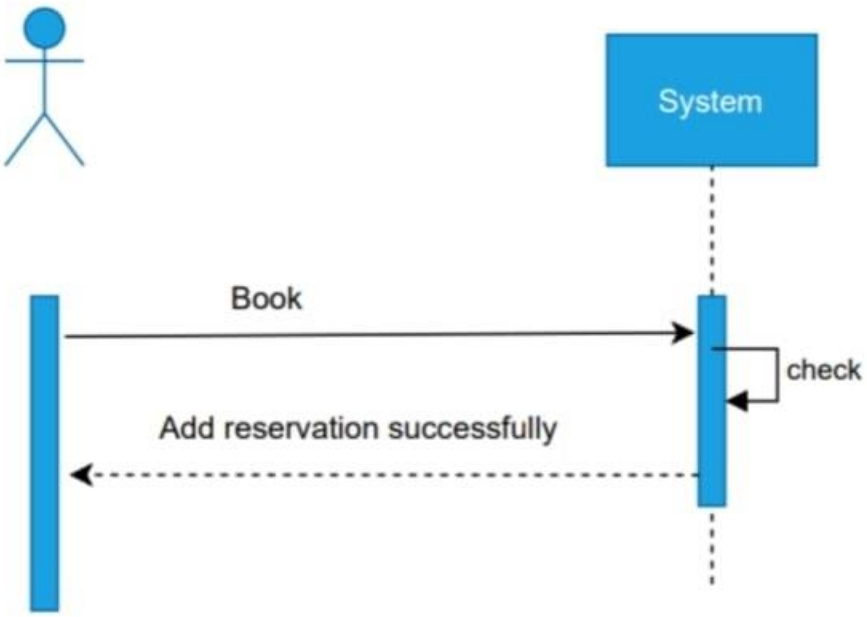
Remove Doctor



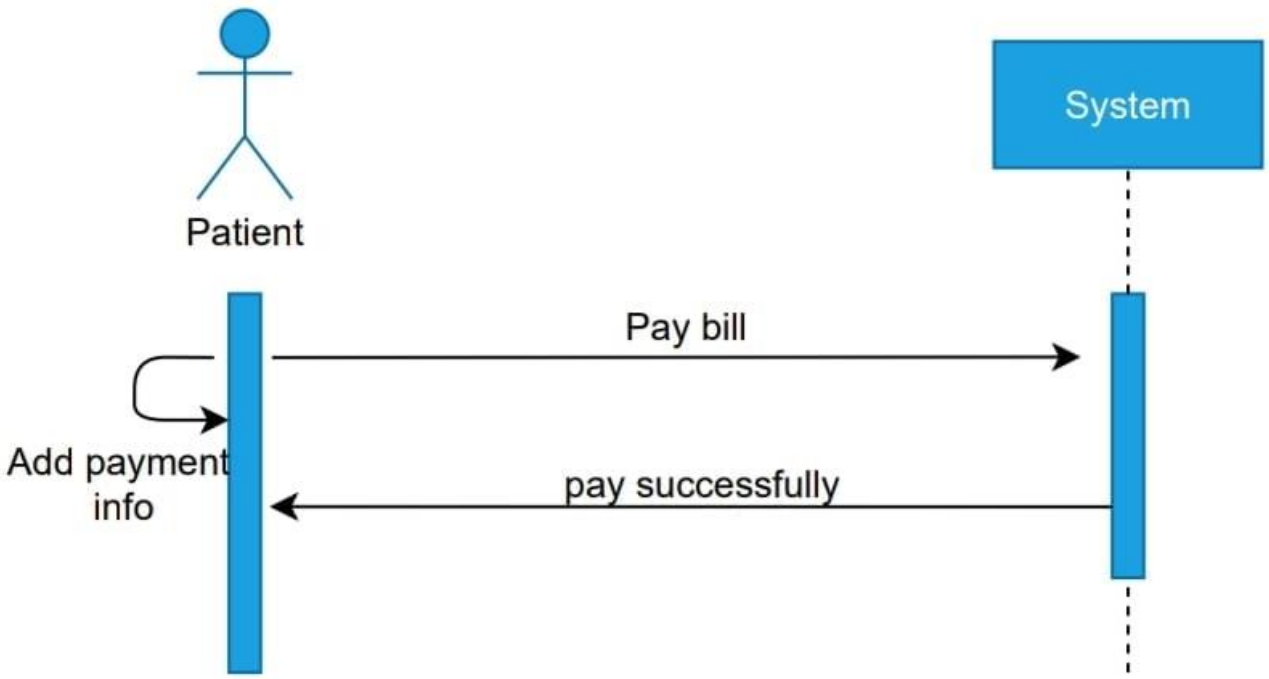
Search


Patient
DataBase
search for clinic
clinic exist
get the clinic
view clinic's profile

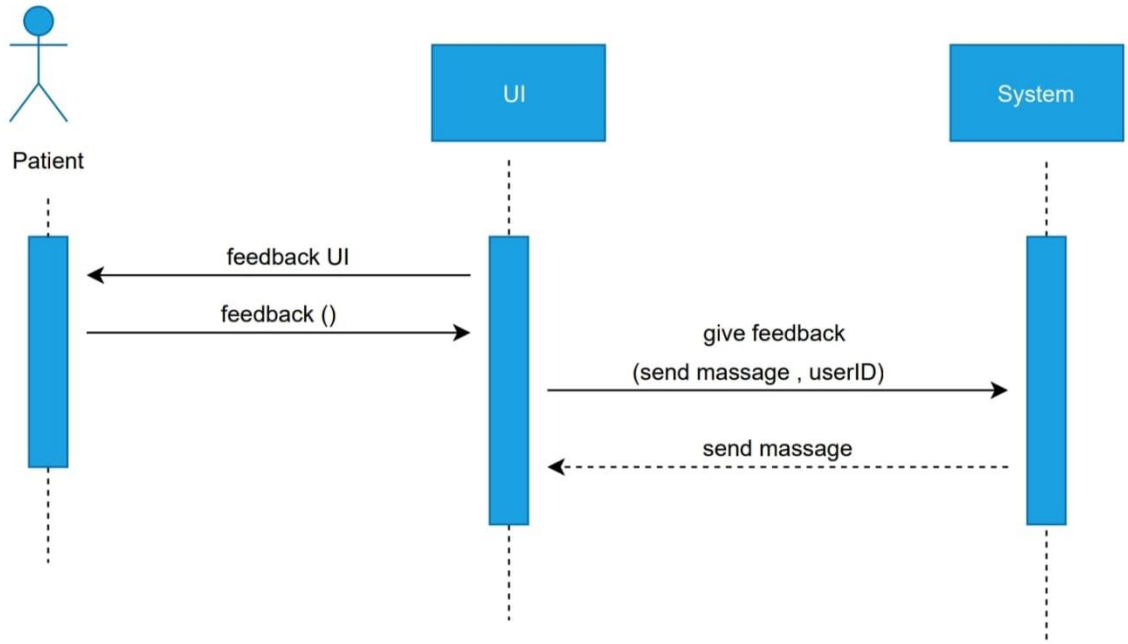
Booking



Payment



Feedback


Patient
UI
System
feedback UI
feedback ()
give feedback
(send massage , userID)
send massage