

THE ASSISTED HEALTHCARE SYSTEM (AHS) Design Report

Under the supervision of DR. Islam Elgedawy

Eng. Ahmed Samir

Eng. Amal Hanfy

Eng. Ahmed Shokry

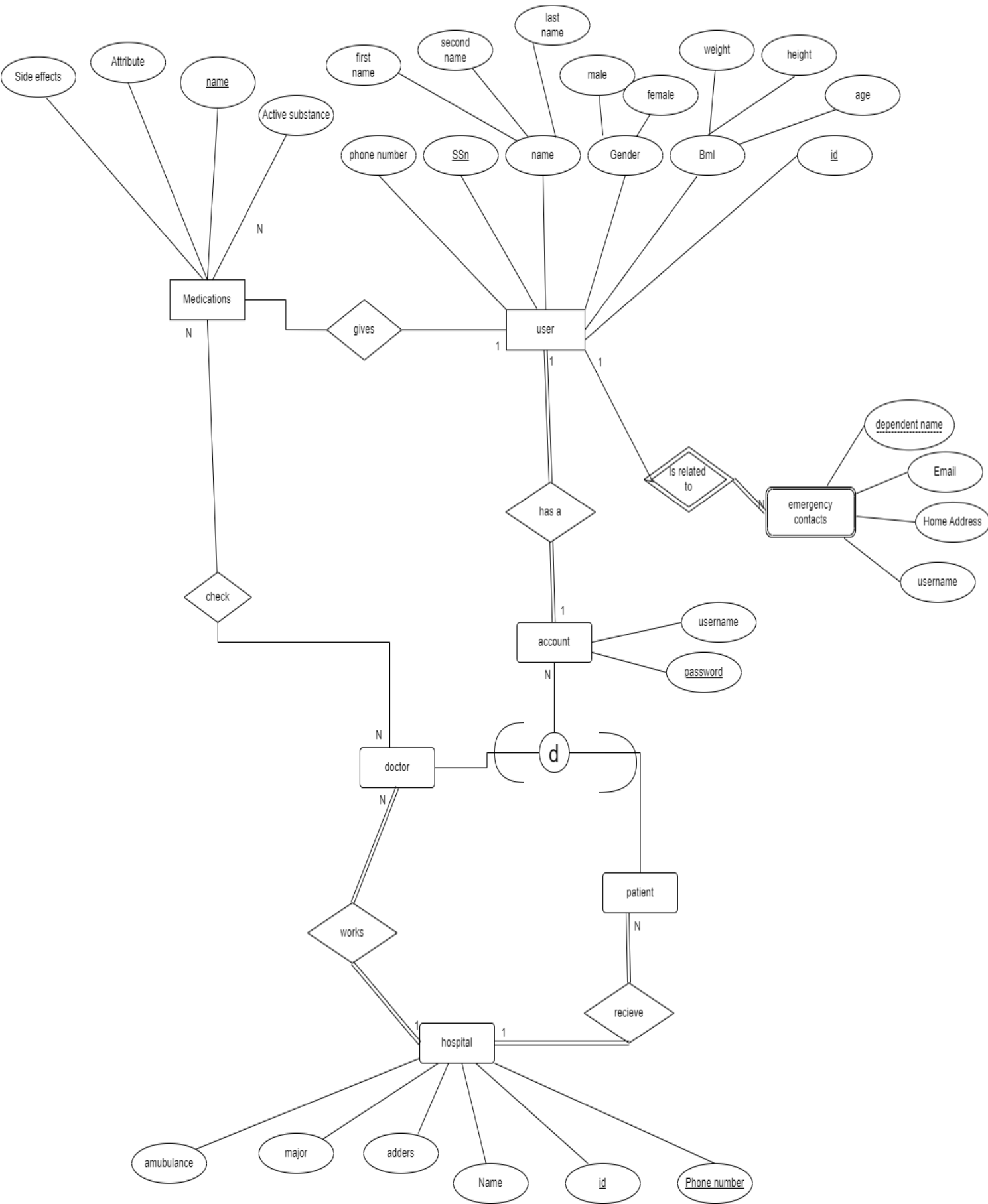
Project description:

Our system is about health care and medical care using virtual reality (VR), Artificial intelligence (AI), databases, and Big data analysis.

List of names:

Team leader/ Mohamed Sabry Abdelghany	21100808
Member/ George Nashaat Mosaed Saad	21100825
Member/ Mohamed Ahmed Mohamed Reda	21100914
Member/ Begol Osama Zaref Labeb	21100791
Member/ Aya Tamer Ginidy	21100790
Member/ Shahenda Adel Abdelrahman	21100796

ERD Model:



User

<u>Ssn</u>	<u>ID</u>	phone number	first name	second name	last name	male	female	weight	height	age	
------------	-----------	--------------	------------	-------------	-----------	------	--------	--------	--------	-----	--

Emergency contacts

<u>dependent name</u>	<u>ID</u>	<u>Ssn</u>	Email	home address	username
-----------------------	-----------	------------	-------	--------------	----------

Medications

<u>Name</u>	<u>Ssn</u>	<u>ID</u>	Attribute	side effects	Active substance
-------------	------------	-----------	-----------	--------------	------------------

Account

<u>Password</u>	username
-----------------	----------

Has a

<u>password</u>	<u>Ssn</u>	<u>ID</u>
-----------------	------------	-----------

Doctor

<u>Password</u>	<u>ID</u>	<u>Phone number</u>	username
-----------------	-----------	---------------------	----------

patient

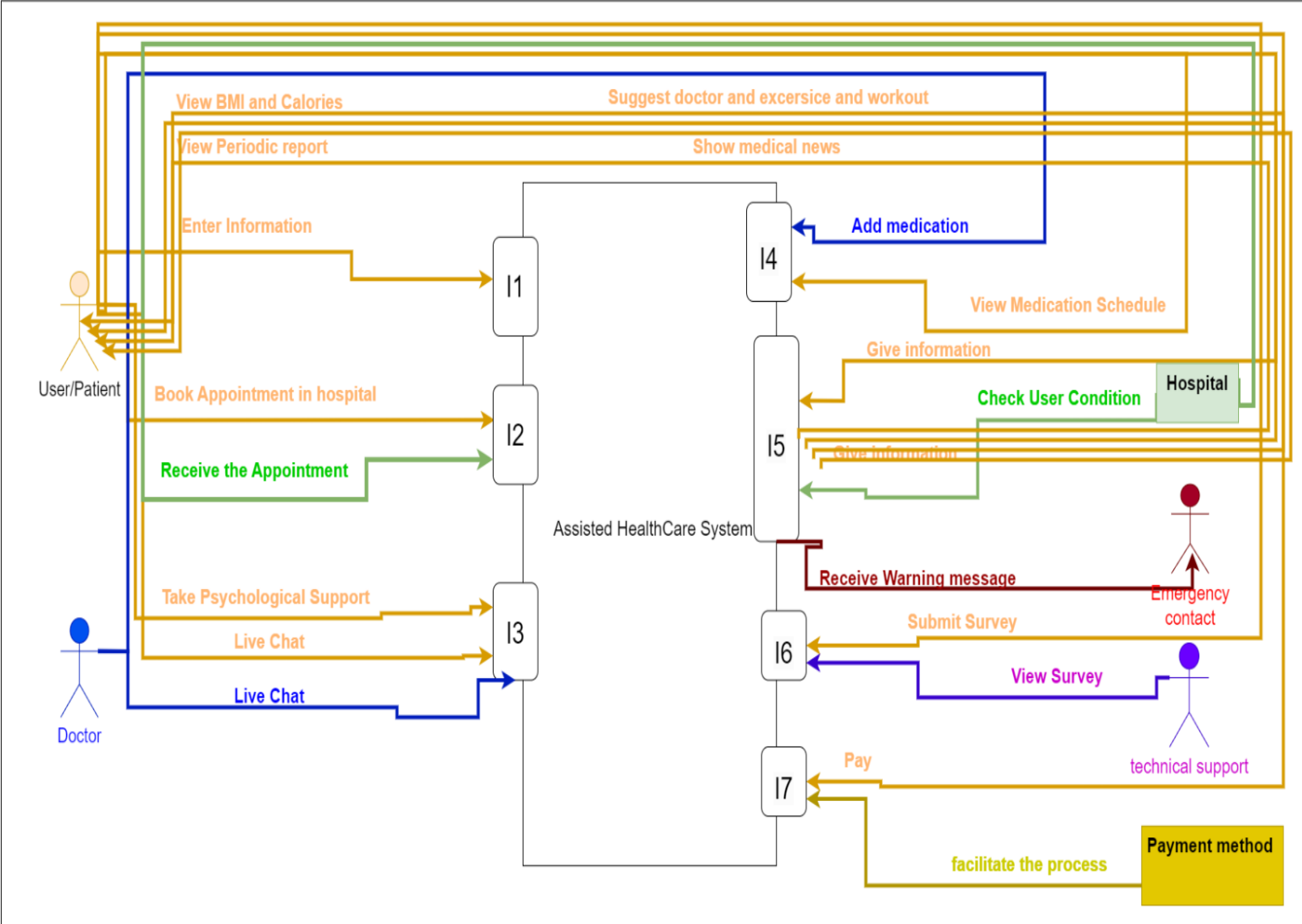
<u>Password</u>	<u>ID</u>	<u>Phone number</u>	username
-----------------	-----------	---------------------	----------

Hospital

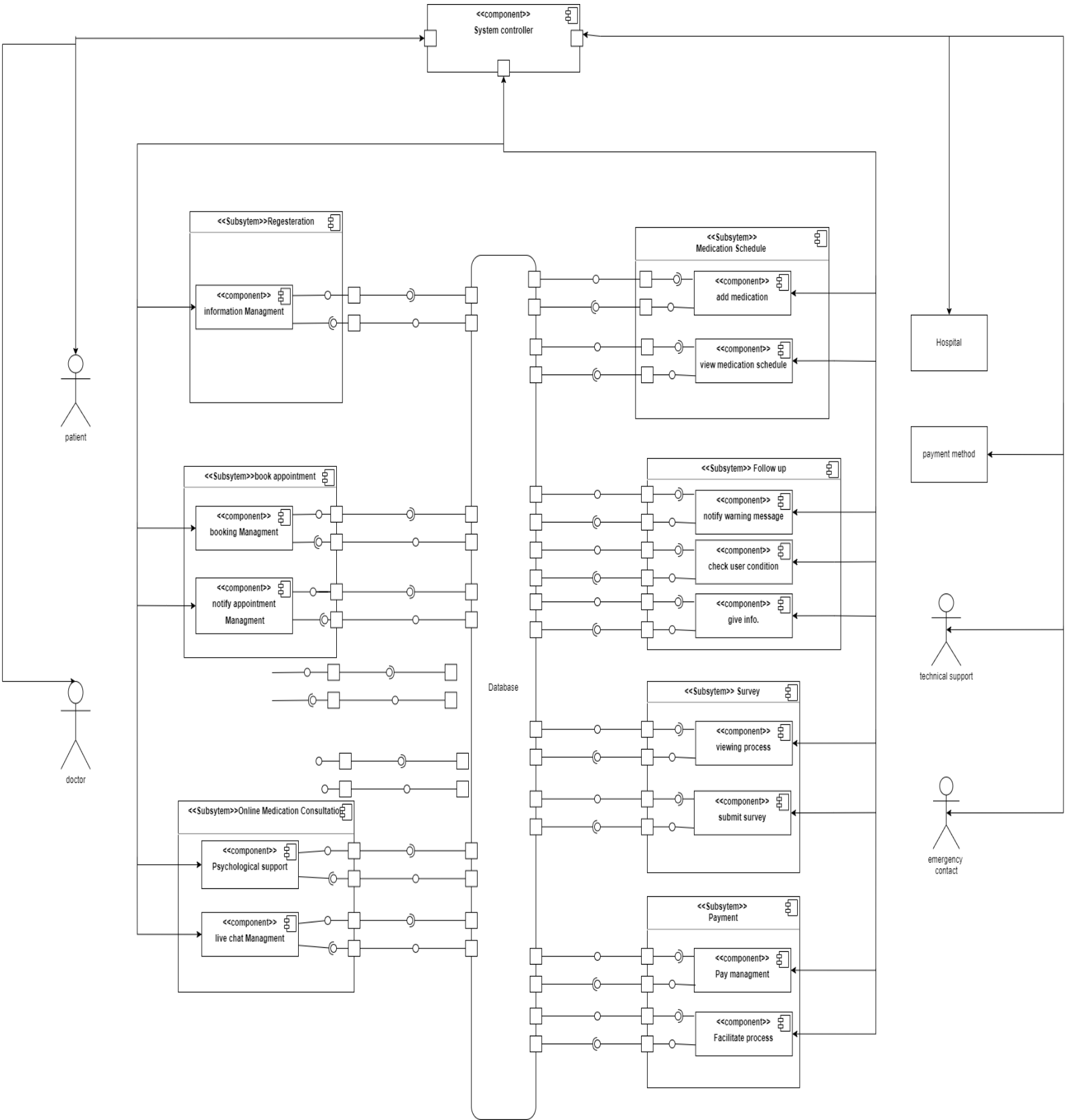
<u>ID</u>	<u>Phone number</u>	ambulance	major	adders	name
-----------	---------------------	-----------	-------	--------	------

Architecture models:

Architecture context diagram:



Component diagram:



Interfaces definitions:

Interface 1 : Registration

```
Public void EnterPatientInfo(String Name ,String NationalId ,int  
PhoneNumber,String ChooseGender)  
  
public void EnterEmergencyCotacts(String ECName , int ECPhoneNumber)  
  
public void EnterYourBirthday(int day ,int month , int year)  
  
public void EnterYourHealthCondition(String Allgery , String Disease , String  
TakingMedicine)
```

Interface 2 : Book Appointment

```
public void BookAppointmentInHospital(int day , int month ,int year, String time)  
  
public void ViewAppointment()  
  
public void AcceptOrRejectAppointment(String Choice)  
  
public void SuggestDate(int day , int month , int year , String time)
```

Interface 3 : Online Medication Consultation

```
public void SendMessage(String Message)  
  
public void MessageByAI()  
  
public String ReciveMessage()
```

Interface 4 : Medication Schedule

```
Public void AddMedication(String MedicationName,Medicine medicine,String  
Time,int QuantityPerDay)  
  
Public void viewMedicationSchedule(Patient patient)  
  
Public boolean checkMedicationEffect(Patient patient ,Medicine medicine)
```

Public boolean DrugsInteractionDetection(Patient patient , Medicine medicine)

Public boolean AllergyFromMedication(Patient patient ,Medicine medicine)

Public boolean AcceptRequest(Doctor doctor , Patient patient , Medicine medicine)

Public void CheckAmountOfMedicine(Medicine medicine)

Public void AlertMedicineShortage(Medicine medicine)

Interface 5 : Follow up

Public void StateSleepingTime(int HoursOfSleeping , String ComfortOfSleeping)

Public double CalculateBMI(double Weight , double Height , double calories)

Public void MakePeriodicalReport(Patient patient)

Public void SuggestDoctor(Patient patient)

Public void ShowPreventativeCareNews(Patient patient)

Public void SuggestExercisesAndWorkout(Patient patient)

Public void WarningMessage(Patient patient,EmergencyContact contact)

Public void SendAmbulance(Patient patient)

Interface 6 : Survey

Public void SurveyFromPatient(Patient patient , String Survey)

private void ViewSurvey(Patient patient ,String AdminUserName , String AdminPassword)

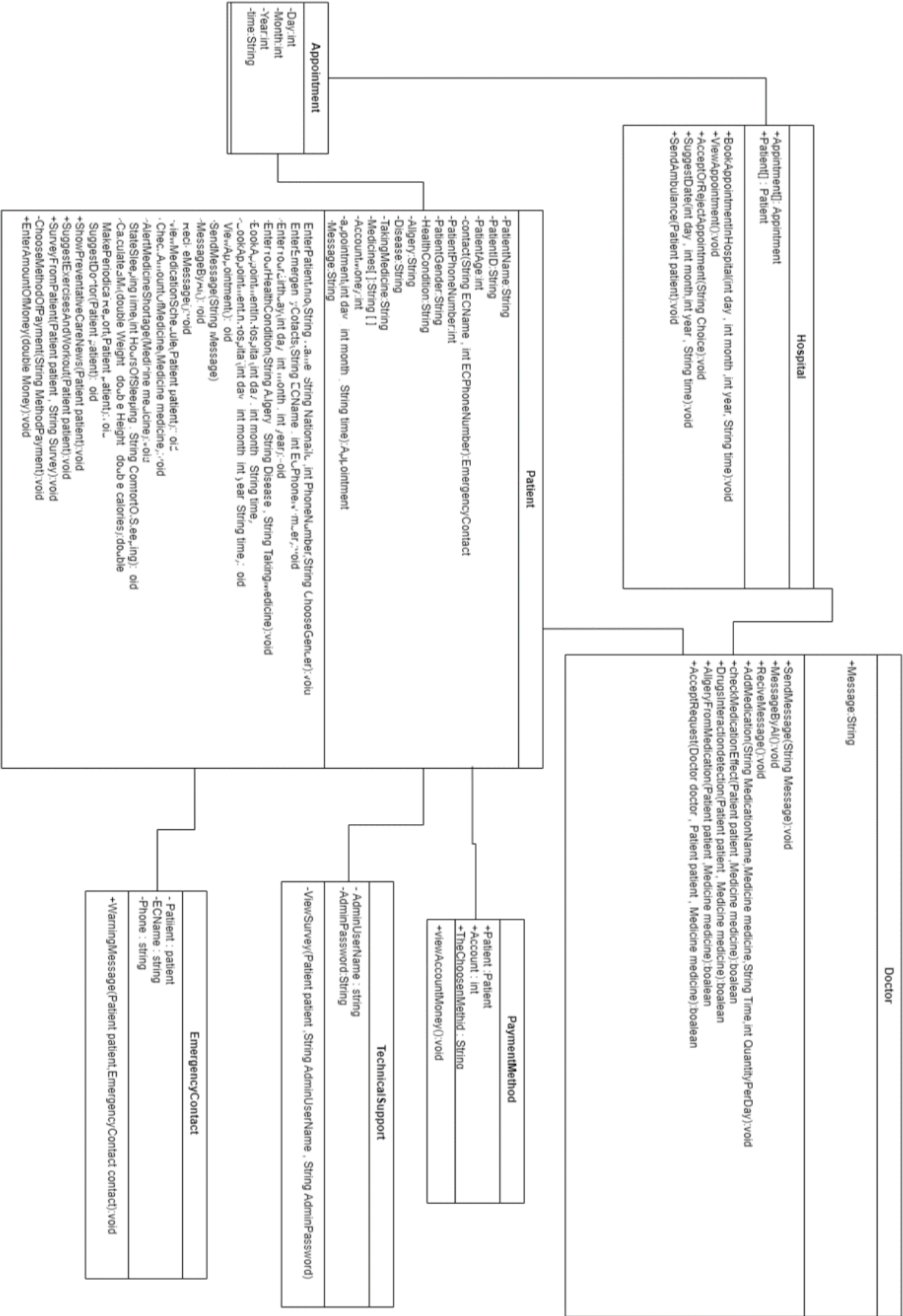
Interface 7 : Payment

Public void ChooseMethodOfPayment(String MethodPayment)

Public void EnterAmountOfMoney(double Money)

Public void viewAccountMoney()

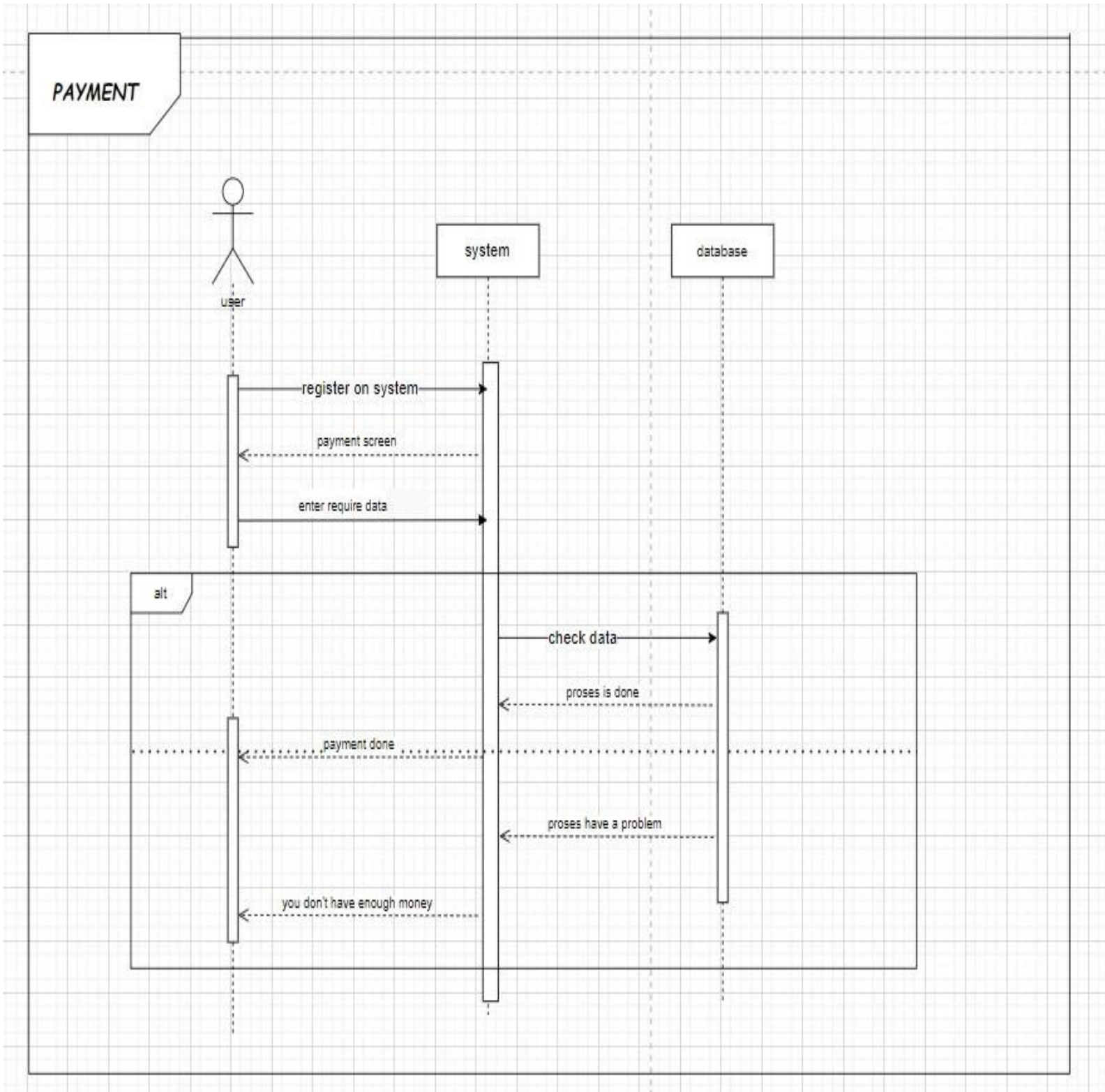
Class Diagram:

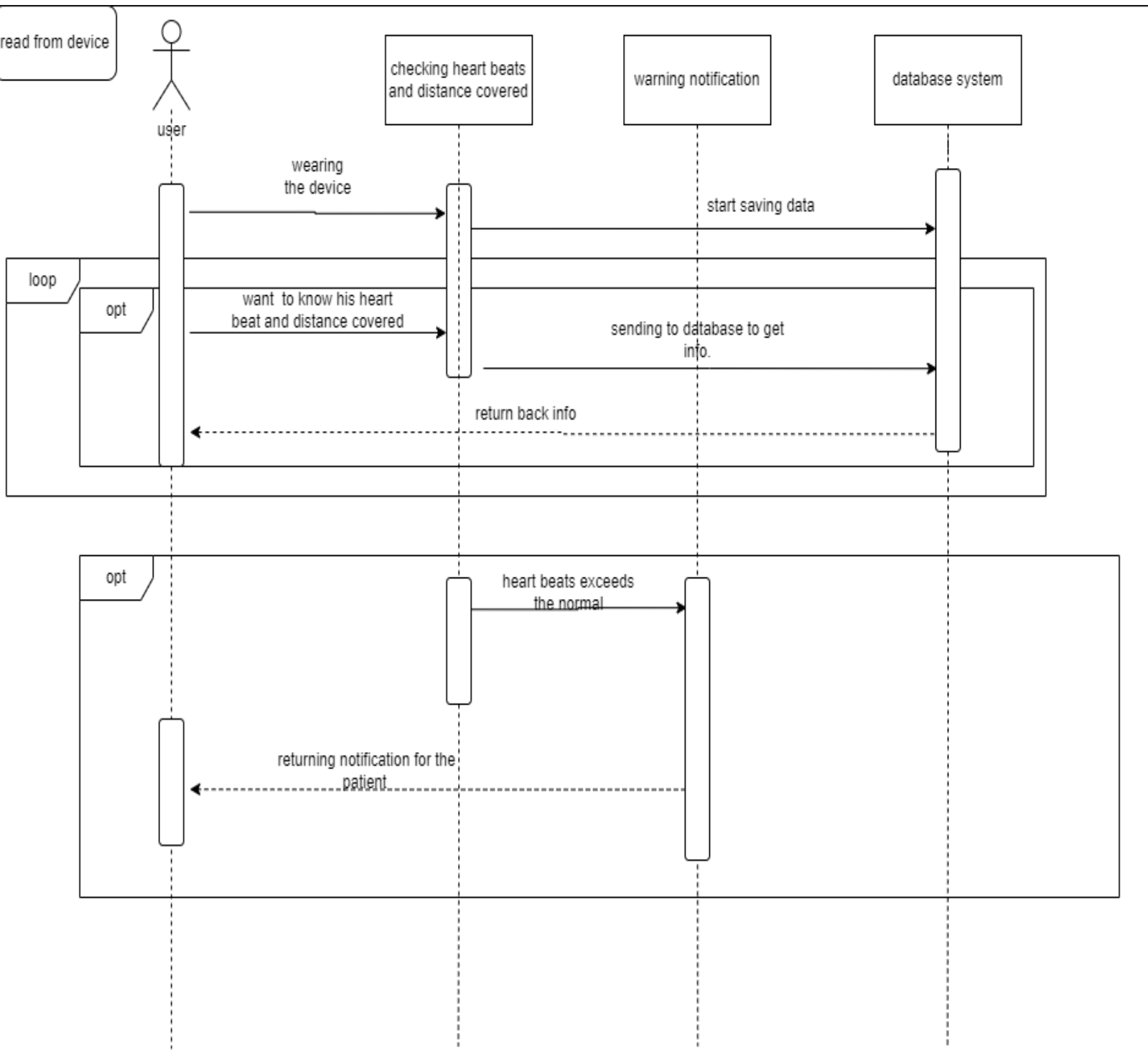


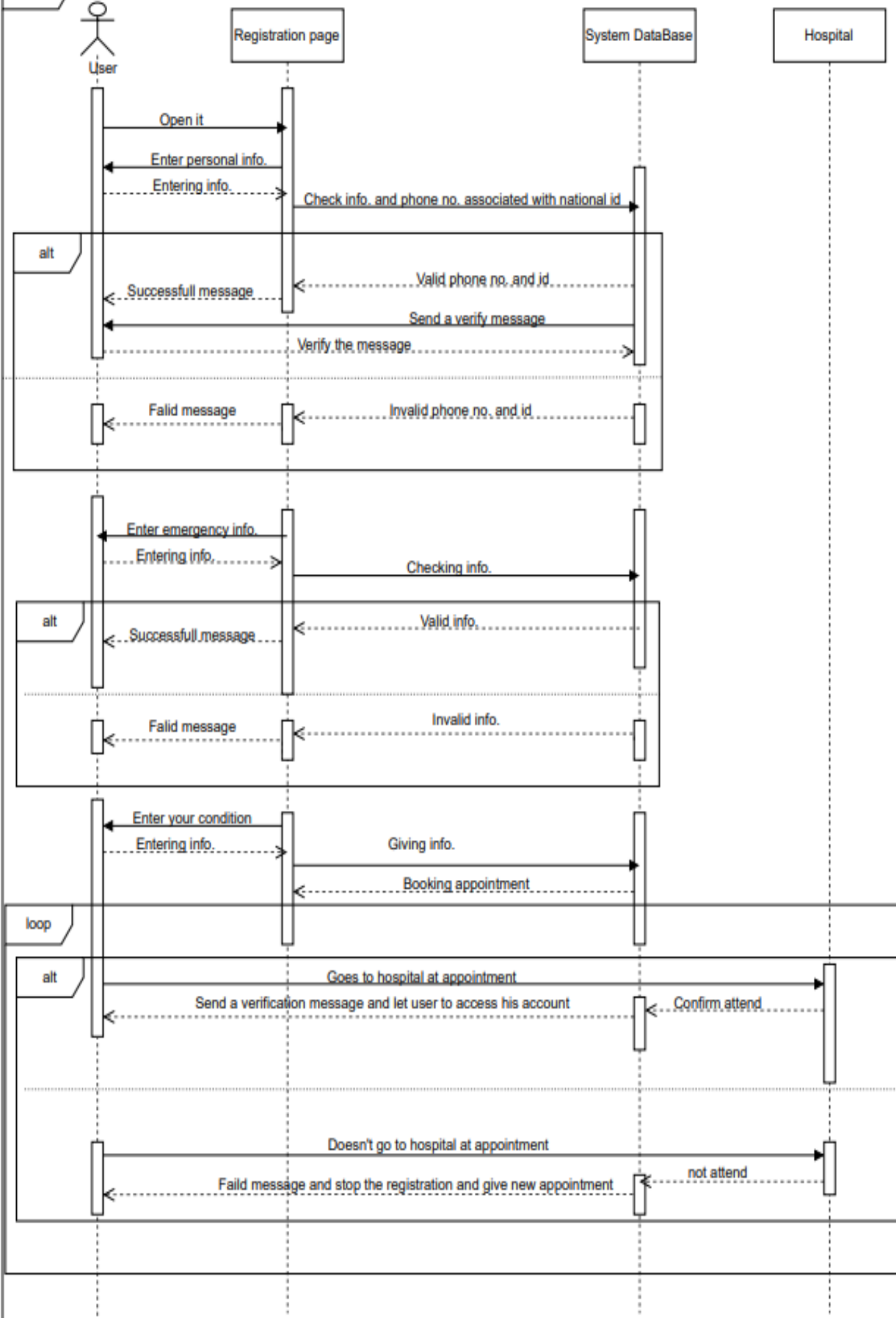
Traceability Msatrix:

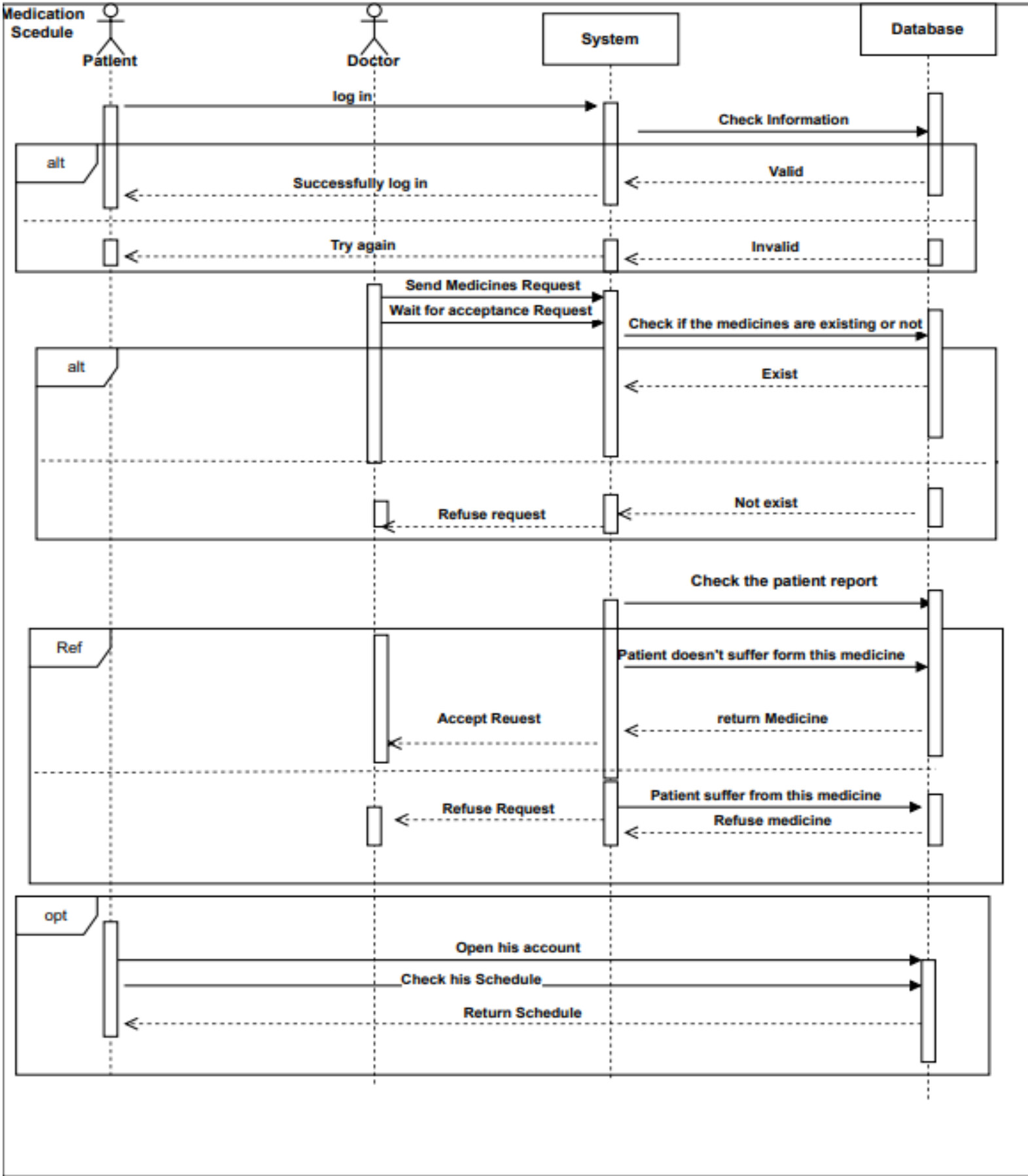
Usecase\class diagram	Hospital	Appointment	patient	Doctor	Payment method	TECHNICAL SUPPORT	Emergency contact
1	1	1	1	0	0	0	0
2	1	0	1	0	0	0	0
3	1	0	0	1	0	0	0
4	1	0	0	0	0	0	0
5	0	0	1	0	0	0	0
6	1	0	1	0	0	0	1
7	0	0	1	0	0	1	1
8	0	0	1	0	1	0	0
9	0	0	1	1	0	0	0
10	0	0	1	1	0	0	0
11	1	0	0	1	0	0	0
12	0	0	1	0	1	0	0
13	0	0	1	0	0	0	0
14	0	0	1	0	0	0	0
15	1	0	1	0	0	0	0
16	0	0	1	0	0	0	0
17	0	1	1	0	0	0	0
18	0	0	1	1	0	0	0
19	0	0	1	0	0	1	0
20	0	0	1	0	1	1	0

Sequence Diagram:

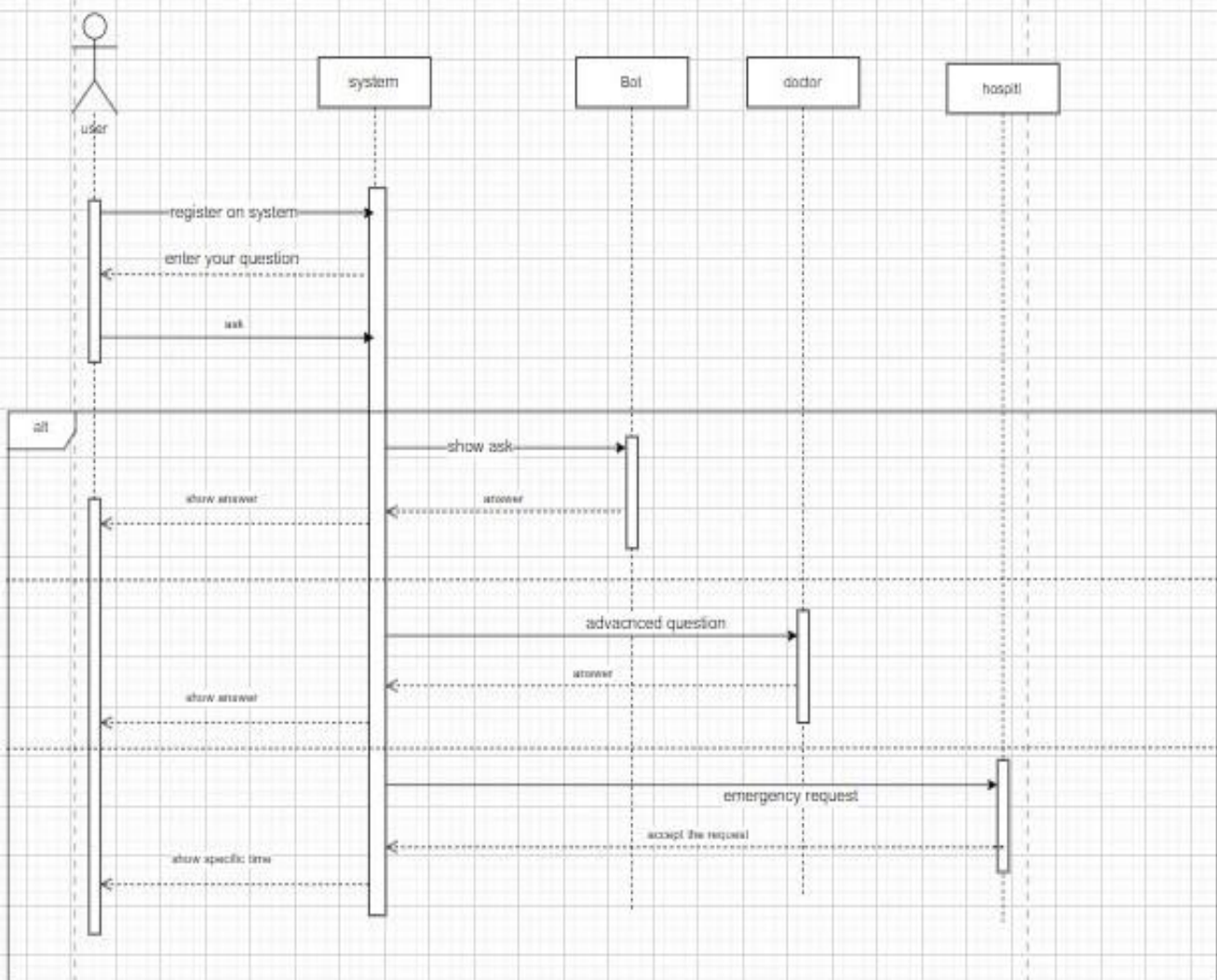




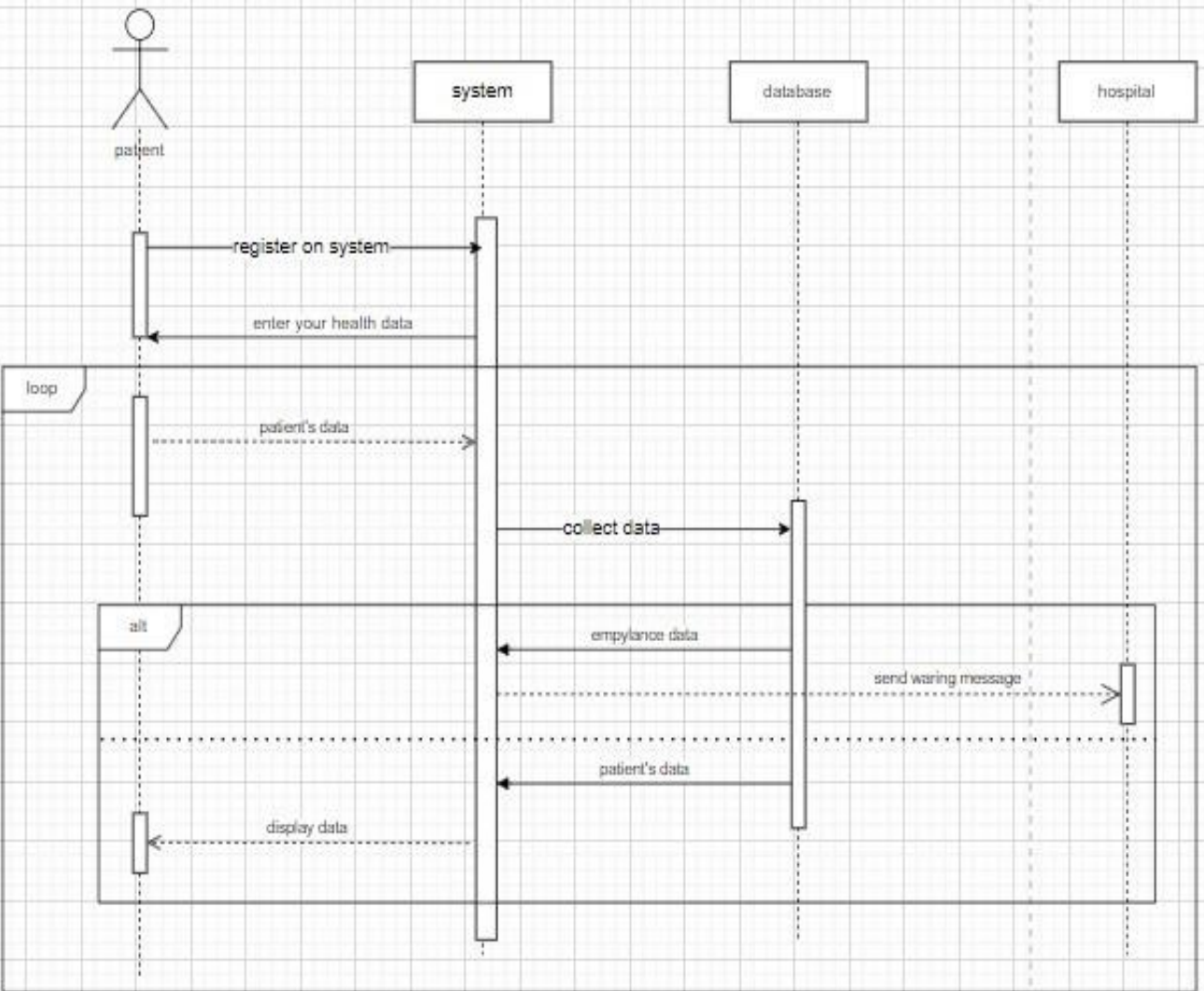




online medical consultation
with bots



FOLLOW UP



Context data flow diagram:



Data flow diagram:

