Title of the Project: Online Medical Support System

Group Number: 16

Group Members:

Student ID	Student Name
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Introduction

We chose Online Medical Support System as our topic which will ensure medical support instantly for anyone who is in need. Another thing we also keep in our mind is to make it easy and hassle free. Nowadays, people are suffering from many diseases but they do not know who to say what to do. In addition, it has become very tough to get proper recommendations for treatment. Moreover, getting an appointment with a doctor is a process of chaos and time-consuming. Especially in this pandemic situation it has become more unattainable. In an emergency, people can not access blood bank, ambulance services, and other medical assistance immediately. For these reasons, we thought of this system which will help to get rid of these obstacles and problems.

Motivation

The initial inspiration for creating our site is to make the treatment process simpler for both patients and hospitals. Every day a medical office schedules hundreds of appointments. Scheduling duties like checking availability, appointing suitable doctors, sending reminders, and creating new appointments hampers the time of daily workflow. We can eliminate wasted time by implementing online scheduling software where patients schedule appointments and receive reminders directly from the software. Additionally, offline scheduling takes a lot of work for front desk staff. If it is done online, the management can either use this stuff for other important works or reduce the number of working stuff to save money and reduce monitoring stuff hassle. Moreover, they will get loyal patients who will choose them more often due to the easy booking process. Another best component of our site is the blood bank. People who are in need of urgent blood can easily look into our site for available blood groups and quantity which will save their time in case of emergency need or hassles in general. In the case of natural calamity or pandemics, it is always easier to do things in person as little as possible. Our site will take care of that. All in all, our site is very easy to understand. Patients with little knowledge can easily book an appointment with doctors, look for blood, and pay bills which will encourage them to share this site with others in need.

System Description

System Request

Project Sponsor:	Imam Hossain
Business Need:	This project has been commenced to ensure medical support instantly and to make it hassle free.

Business Requirements:	· All doctors will be categorized
	· Patients can search for doctors
	· Patients can view doctors' profiles
	· Patients can make appointments online
	· There will be live consultation option
	· Patients can bring doctors home
	· Patients can access to and take services from blood banks, hospitals, pharmacy and ambulance through the system.

Business Value:	Our system will require a small amount of money to conduct our services which will make this most cost-effective and cheaper, thus we expect to have increased revenue as well. We expect to have increased brand value and recognition through social media and other mediums. We will also provide user-friendly and easier user interface which will help to engage more customers in our systems. Moreover, we will ensure privacy of our customers. So, by providing improved customer service, we expect increase in market share at the end of the year. Since human wellbeing is our sole purpose, we hope we will be successful in this endeavor.
	Conservative estimates of tangible value to the company include the following-
	· $20,000 turnover rate in the end of the year
	· $1000 yearly reduction in technical costs
	· $5000 reduction in yearly staffs' salary
	· 60% increase in customers
	· 30% increase in market value
	· $1500 profit from advertisements.

Special Issues or Constraints:	· System will ensure top-level security to the user data our team will work on. · System is needed to be available in COVID-19 pandemic as soon as possible. · In future, we may include new features in this system to add value to our current business model.

Requirement analysis

Functional Requirements:

1. There will be two types of accounts. For Doctors and patients or general user.
2. To register as a patient or general user, one must provide his/her general information. Such as, name, age sex, email, contact number, address etc.
3. To register as a doctor, one must provide proper documents (e.g. certificates, license etc.) along with general information. After verification their account will be available in the system to serve the patients.
4. In the system, doctors will be categorized according to their specialization (e.g. radiologists, cardiologists, orthopedic surgeons, child specialists, gynecologists etc.) so that patients can easily find doctors according to supports they need.
5. In a doctor's profile, every information a patient may need will be visible. Such as, name, qualification, chambers location, contact information etc.
6. There will be an option to make appointment online.
7. There will be an option called live consultation which any doctor can give for free or on charge.
8. If any doctor is available to give online consultation, then this status will be shown in the system.
9. Patients can search for doctors in the system.
10. On emergency, any user can search for doctors nearby who are available, eager to and interested in going home and giving treatments and medical services. Especially, in case of child's treatment.
11. Any patient can rate and give review to the doctors if he/she took treatment from them.
12. This system will be linked to blood banks. Anyone can donate and request for blood in the system.
13. This system will also be linked to hospitals, diagnostic centers, maternity centers, pharmacy. Booking seats, getting know about treatments, services available in a

particular hospital, diagnostic center, or maternity center, searching and ordering medicine from a pharmacy will be easily made through this system.
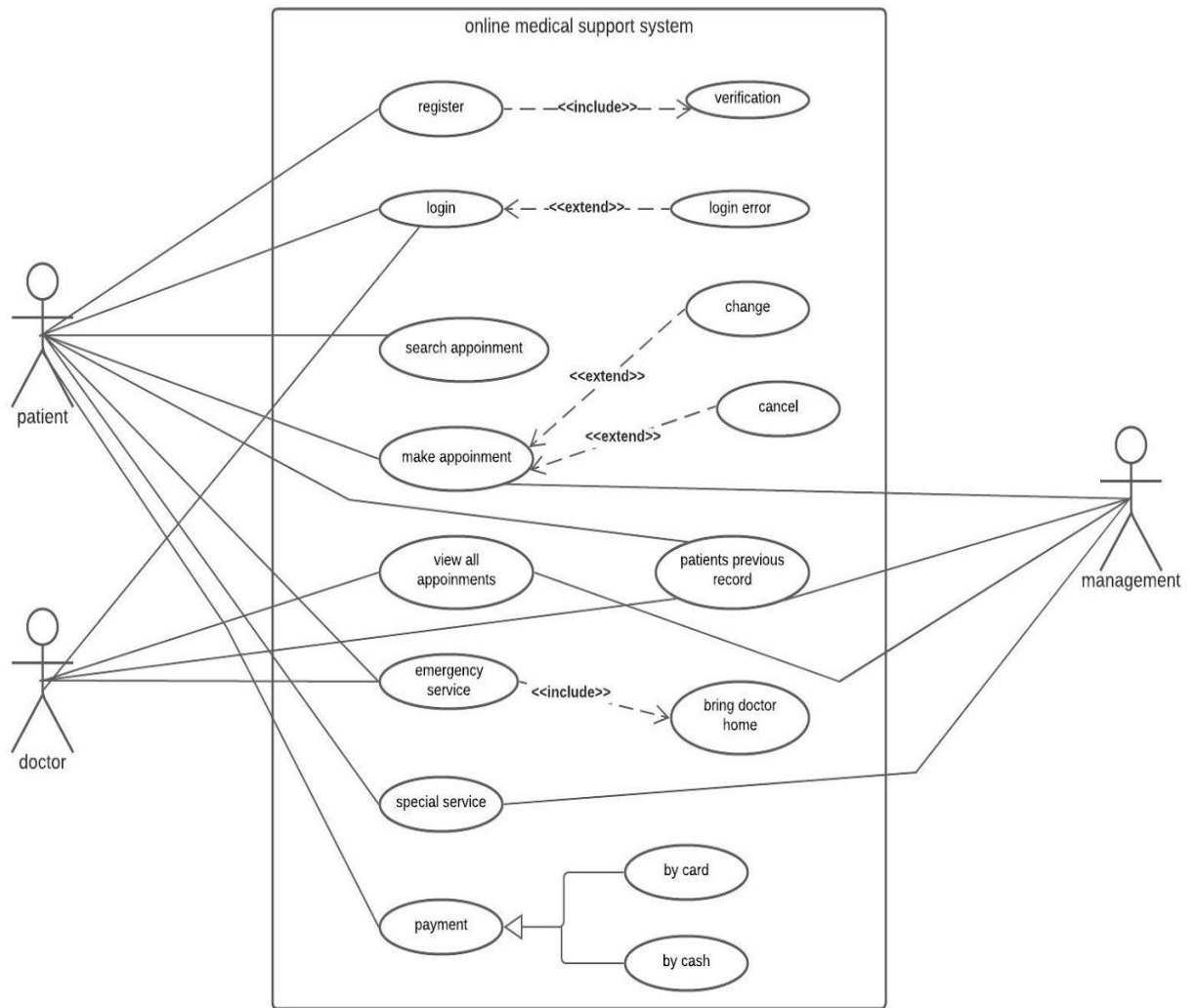
14. Anyone can call for ambulance service on emergency from this system.
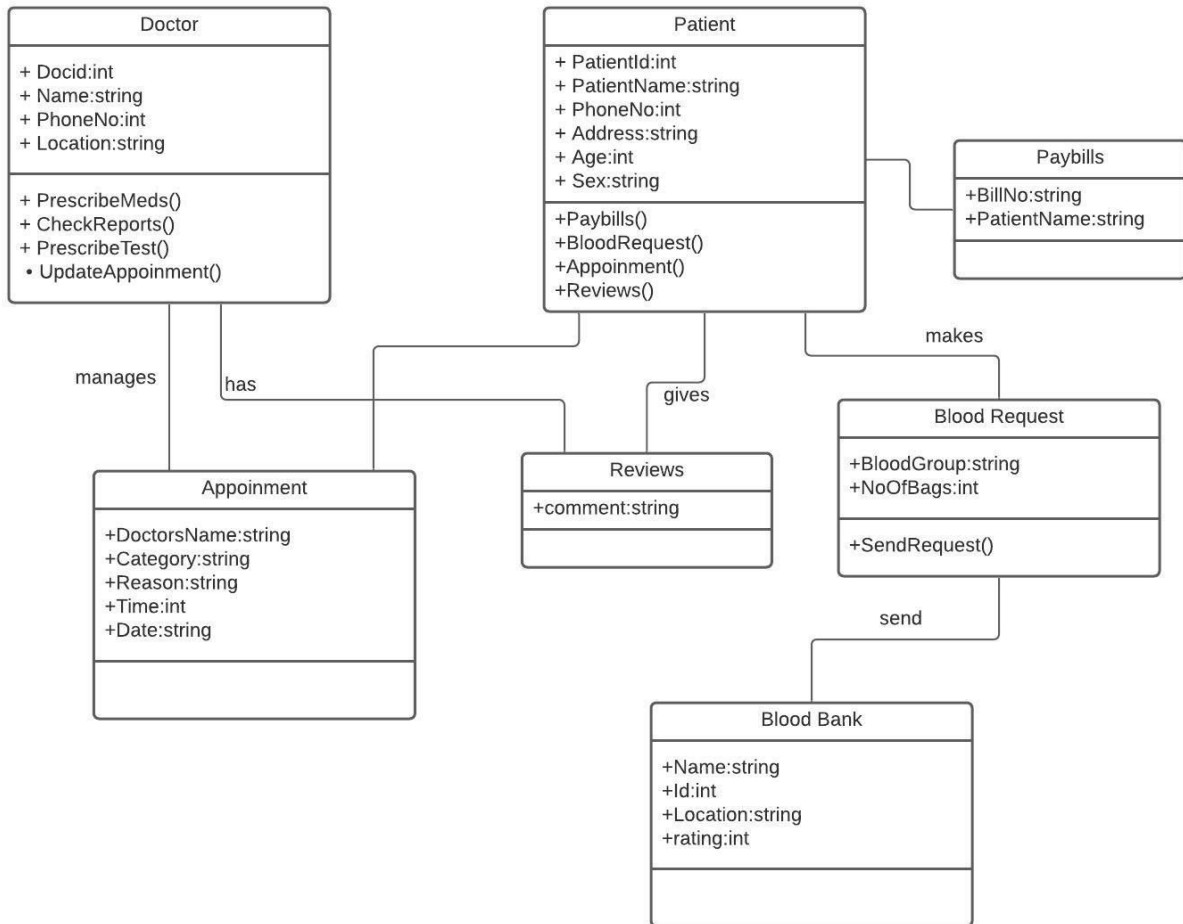
Non-functional Requirements:

1. System will have access credentials.
2. System will require location services.
3. System must ensure users' data and privacy.
4. Searching option should be optimized.
5. System will have sorting option. Such as sort by location, sort by fees etc.
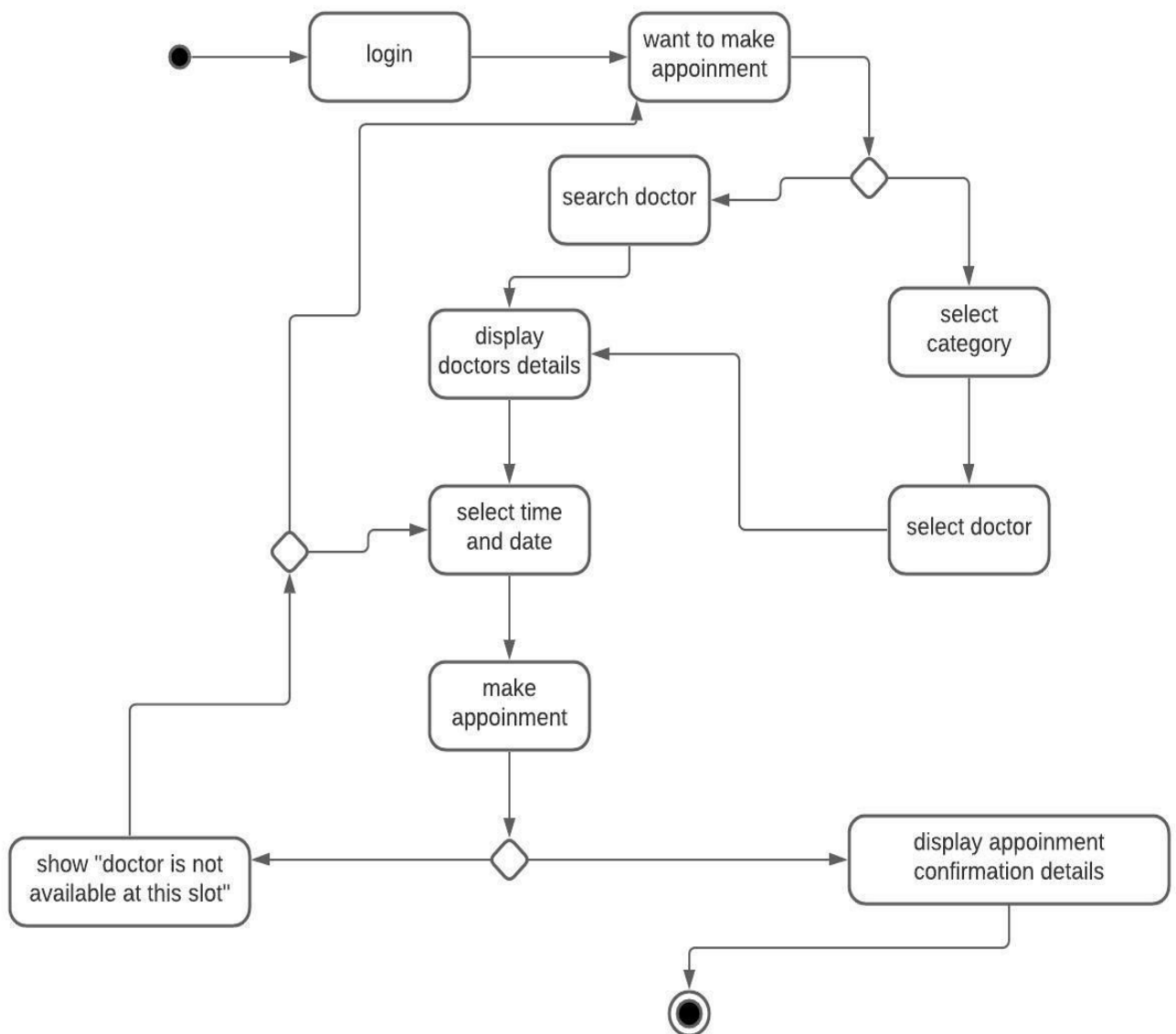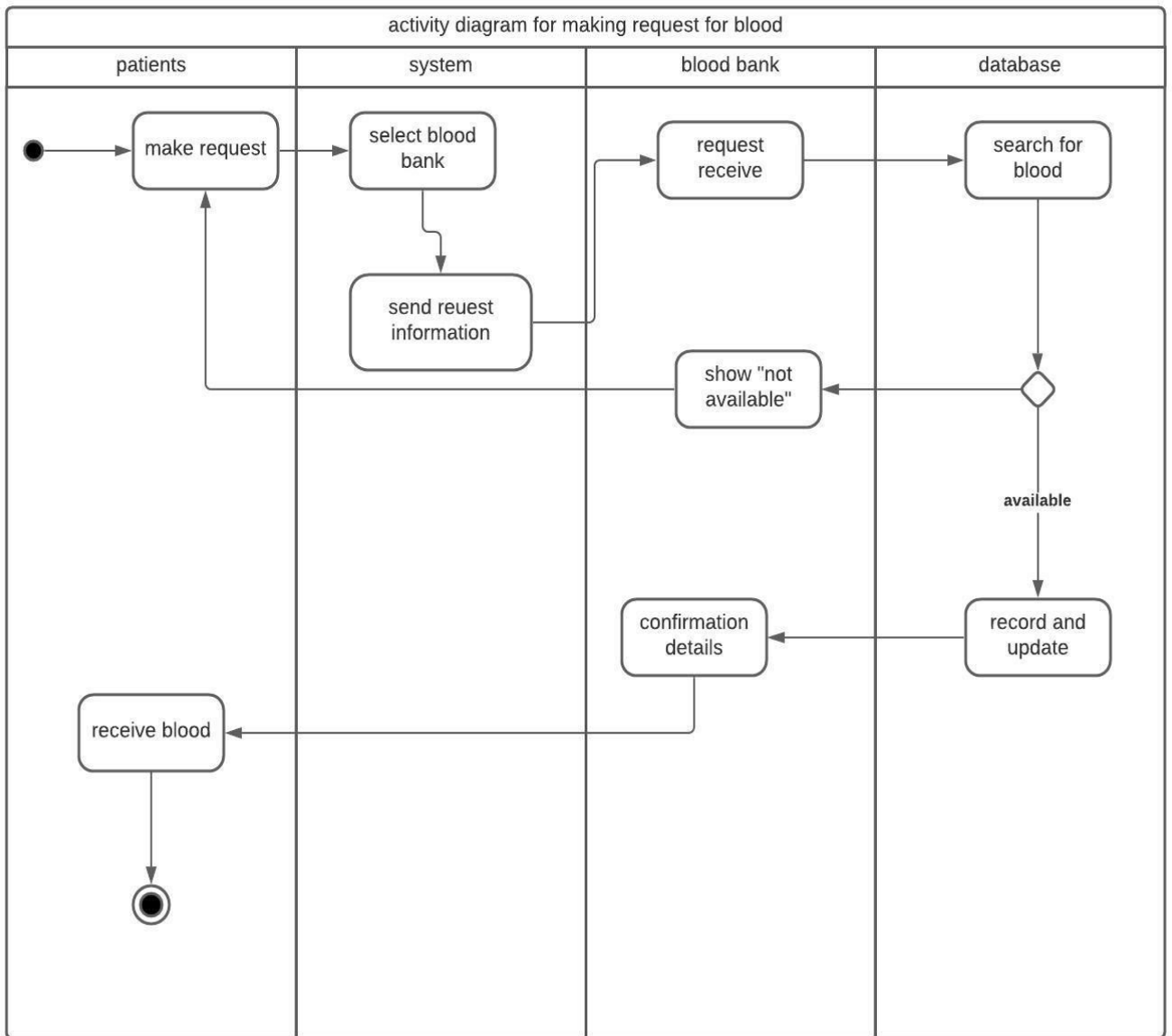
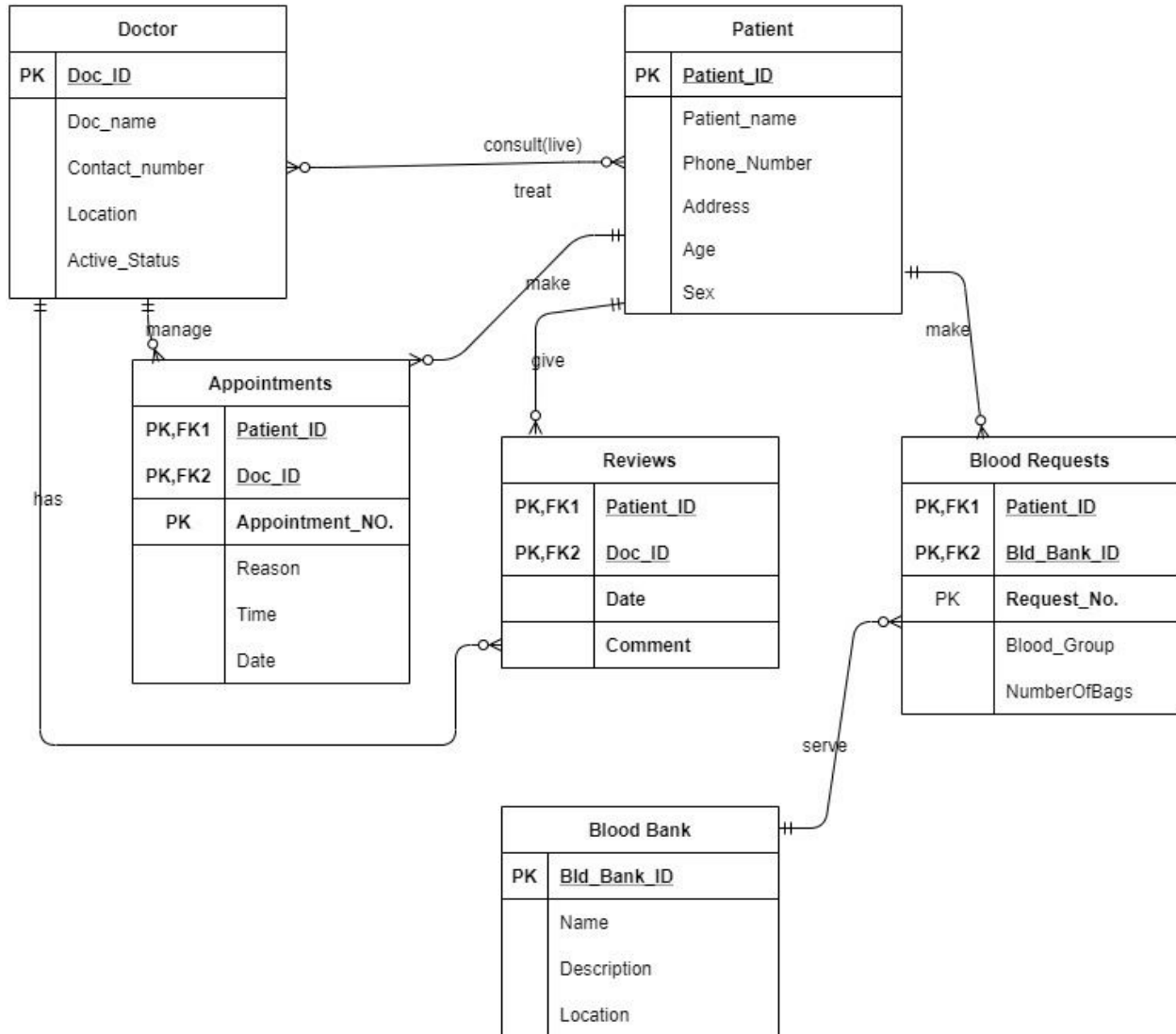# Design diagram
Use Case Diagram

Class Diagram

Doctor

+ Docid:int
+ Name:string
+ PhoneNo:int
+ Location:string

+ PrescribeMeds()
+ CheckReports()
+ PrescribeTest()
• UpdateAppoinment()

Patient

+ PatientId:int
+ PatientName:string
+ PhoneNo:int
+ Address:string
+ Age:int
+ Sex:string

+Paybills()
+BloodRequest()
+Appoinment()
+Reviews()

Paybills

+BillNo:string
+PatientName:string

manages

has

makes

gives

Appoinment

+DoctorsName:string
+Category:string
+Reason:string
+Time:int
+Date:string

Reviews

+comment:string

Blood Request

+BloodGroup:string
+NoOfBags:int

+SendRequest()

send

Blood Bank

+Name:string
+Id:int
+Location:string
+rating:int

Activity Diagram

activity diagram for making appoinment

activity diagram for making request for blood

patients	system	blood bank	database

make request

select blood bank

request receive

search for blood

send reuest information

show "not available"

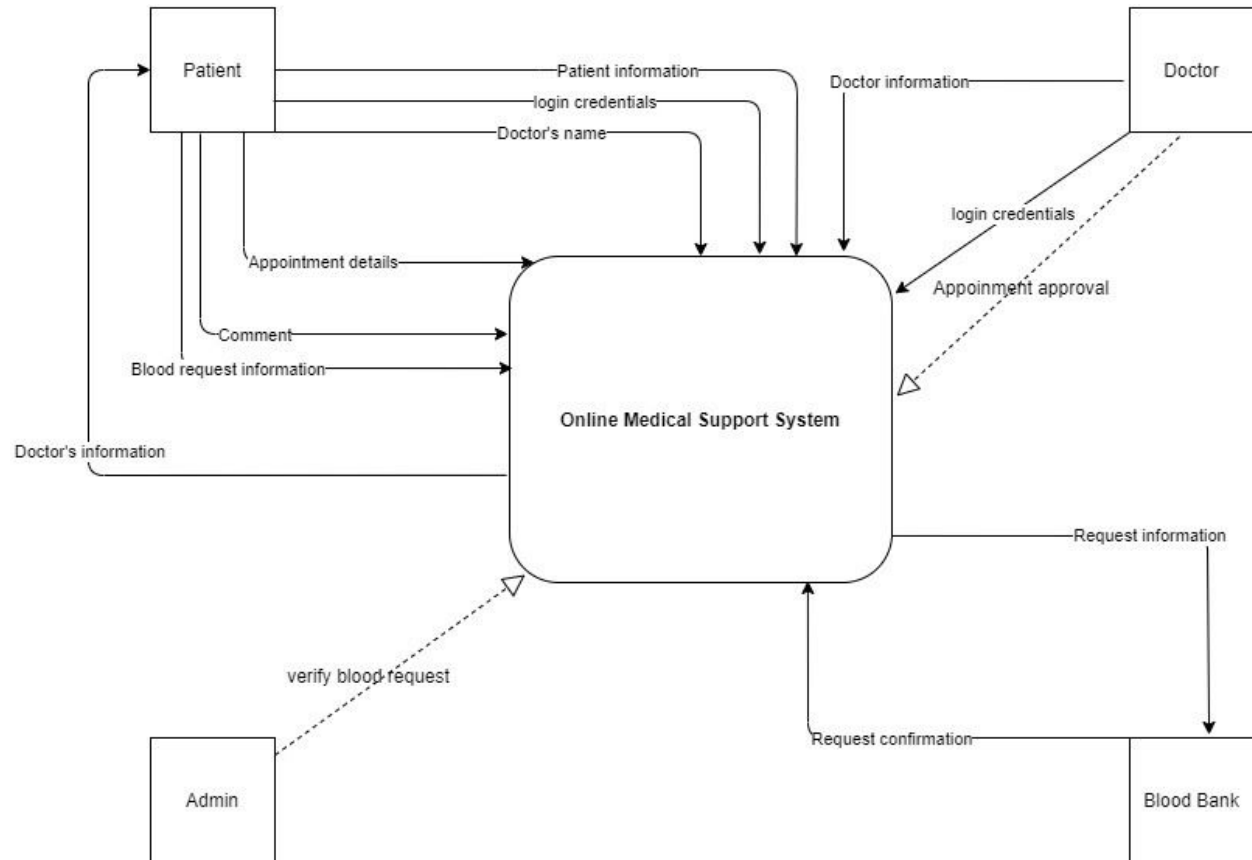available

confirmation details

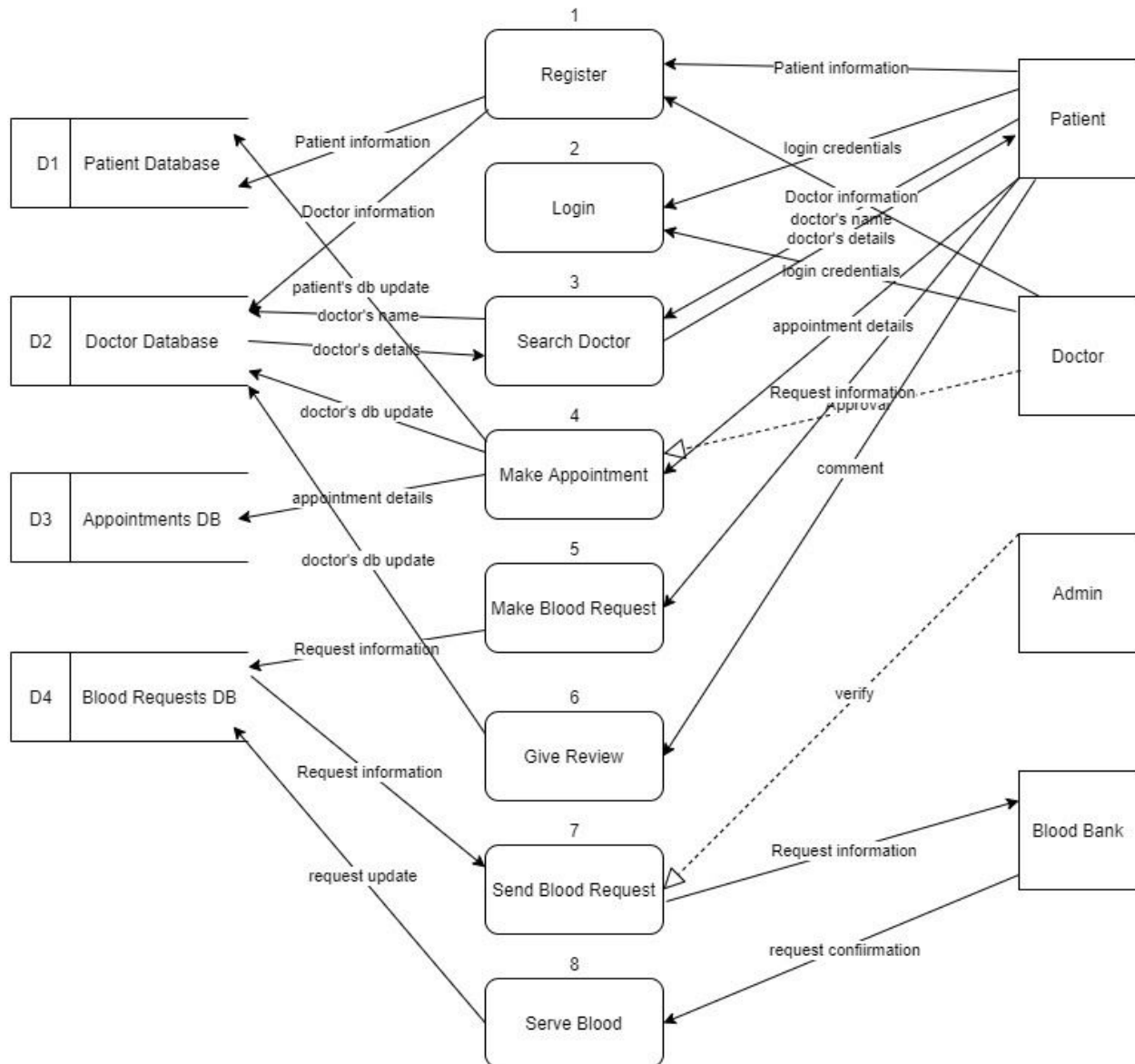record and update

receive blood

ER Diagram

Windows Navigation Diagram

Assignment for CSE471

Data Flow Diagram

Conclusion

The whole world is going through a global pandemic and medical support is the most challenging thing to get nowadays. Many people are dying just because of a lack of medical support in this difficult situation. In our country, we can see these same images too and it is very hard to get a physical appointment with any doctor. Our project idea came from this kind of situation because it would be very easy to get medical support through online for the mass population. We are providing easier and cheaper service to our customers and we expect to have increased revenue and brand recognition. Our system will also ensure the privacy of our users while offering an improved technology. Lastly, we will try to further improve our system and make it very easy for those people who are willing to take medical support through online.