

2021

Building e-Health Information Systems

3rd Year Second Semester

Online Doctor Appointment



Medical Informatics



Benha University

Faculty of Computers & Artificial Intelligence



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Abstract

As technology is growing rapidly, most of the manual systems are being replaced and becoming automated. In this context, we are going to create an easy, faster and smooth appointment system between doctor and patient. So, through internet if people want to get connected to their desired doctors there is a nexus will be needed. For that purpose, we have planned to build a website to get an appointment. This will help common people to get instant support without wasting time and effort even they will get this service from home and abroad.

By using this system people can easily get to know about the timing of doctor's counselling period and make their meeting whenever they want. Proper categorized list will make people more comfort to browse their expected doctors.

1. Introduction

In our daily life we face a lot of problems. Disease is one of most common issues for a person's life. If anybody is ill and wants to visit a doctor for checkup, he or she needs to visit the hospital and waits until the doctor is available. The patient also waits in a queue while getting appointment. If the doctor cancels the appointment for some emergency reasons, then the patient is not able to know about the cancelation of the appointment unless or until he or she visits the hospital. So, it's necessary to get a consultation with doctors, whenever we got affected with various diseases. As the internet is now available for everyone therefore anyone can use the online appointment system to overcome such problems and inconvenience for the patients.

Vision of this project is to create doctor patient handling management system that will help patients to book doctor appointment and fulfil their prospects. In this system

doctors are allowed to manage their booking slots in online, patients can make their appointment to book empty slots too. This is the system of reservation for counselling by patient's name. This system manages different kinds of doctors at a time and patients can choose their expected one for booking.

2. Background

2.1 Objectives

Helping people to search for doctors and get appointment is our main objectives. User can search doctors which can make sure to find specific doctor an easy task. A platform where doctors can check patient previous medical history for better checkup.

To build a system with perfection, requirement collection is a must. The study will give a clearer idea of people's need and the system that we are planning to build as well as how much we are going to cover. The document will also describe all the interactions between patients, doctors and admin. By above document anyone will be able to understand the project at a glance. In this project.

Our main goal of this project to get the appointment within a less time and without getting any trouble of any patient. We developed this project for common people when they need to consultation of any doctors by getting their appointment within a short time by booking in online and get checkup at their desired time.

2.2 Scope of the Problem

As we said, patients face some difficulties to appointment with doctors. Our present system is not as the requirement is going. So, we can recapitulate some problem here;

- Using different numbers of platform may not be enough for every patient to appointment with a doctor.
- There is some manual system to appointment, but this is fully online based.
- The people are not fully trusted on online system so that they will not get proper benefit from this system.

According to these problems, our system offers solutions that will help patients. User can easily access the system anytime and anywhere. This system is very simple and user friendly.

2.3 Motivation

As a patient we face many difficulties when we want to get an appointment for a doctor in their chambers or places. When people get affected by illness, they need to visit a doctor for checkup, but they have to visit their chambers or hospital to get appointment. It is a lengthy process and wasting people's time. Sometimes people do visit doctor's chamber for health check, but the doctor is not available some various reason. It is the only way to get to know when people just visited their places. It harasses people a lot. Our motivation is, if we have an option to get this appointment very easy that can be more precious for us. Then we have planned to implement a Web-based doctor appointment system.

A Doctor can:

- Get appointment request
- Access to this request
- Check previous medical history
- Able to get patient profile
- Give appointment
- Cancel appointment

A Patient can:

- Login easily
- View doctors list
- Easily take doctor appointment
- See when his/her expected doctor available
- Able to see categorized doctors department
- Give Comments/Feedbacks

3. Requirement Specification

Requirement collection and analysis is very crucial part of any project. Without analysis, collecting data or a good planning, a project will never complete properly. When we are developing on a project, a delivery time of the project has already given. That's why project work must be planned and executed to the deliver time. Our project is an online Web-based doctor appointment system. Analysis and requirement collection was our big challenge when we start thinking about this project. After start analysis we figure out some significant features that boost our project

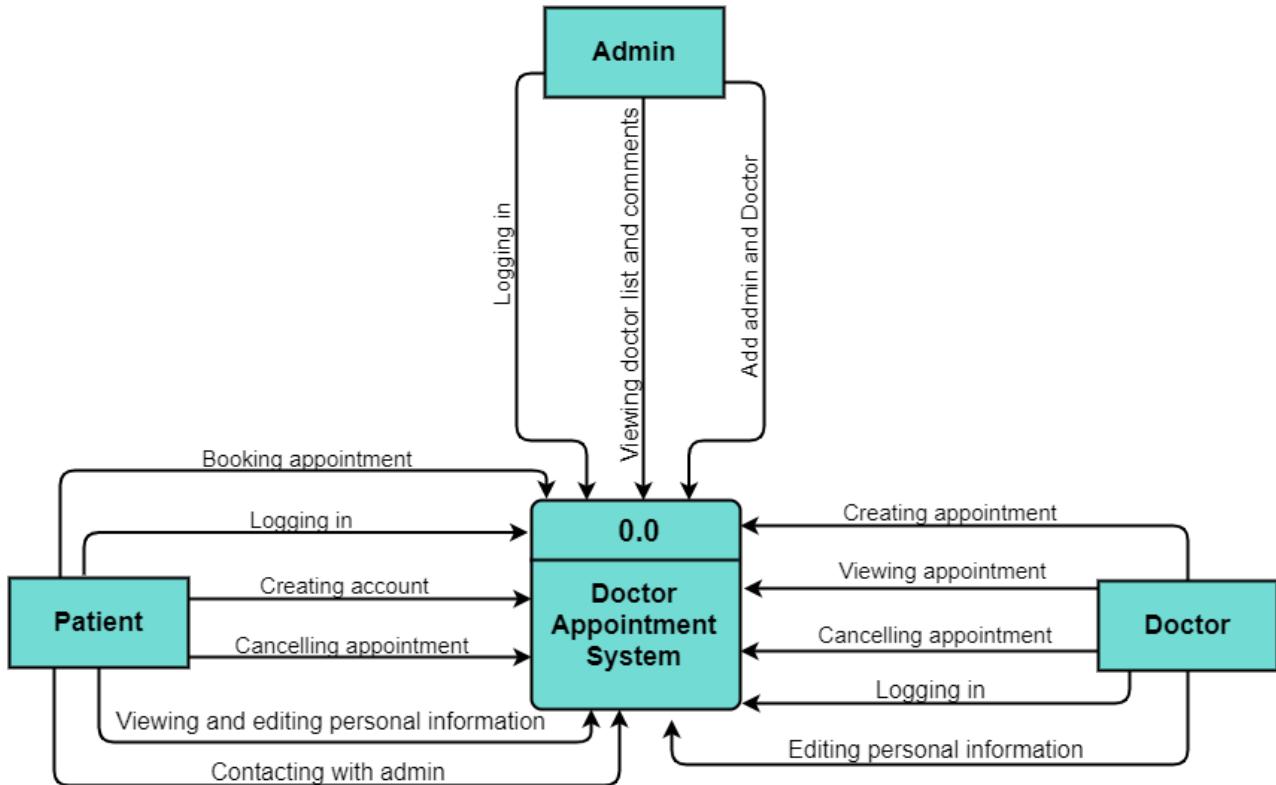
Hardware and Software Requirement for our system:

Whenever you install a software or a hardware for your computer, you should first make ensure that your computer supports the system requirements. We need an internet connection-based system hardware's such as computers, laptops, tablets, smart phones and so on. We have used some software tools and platform for development is describe below:

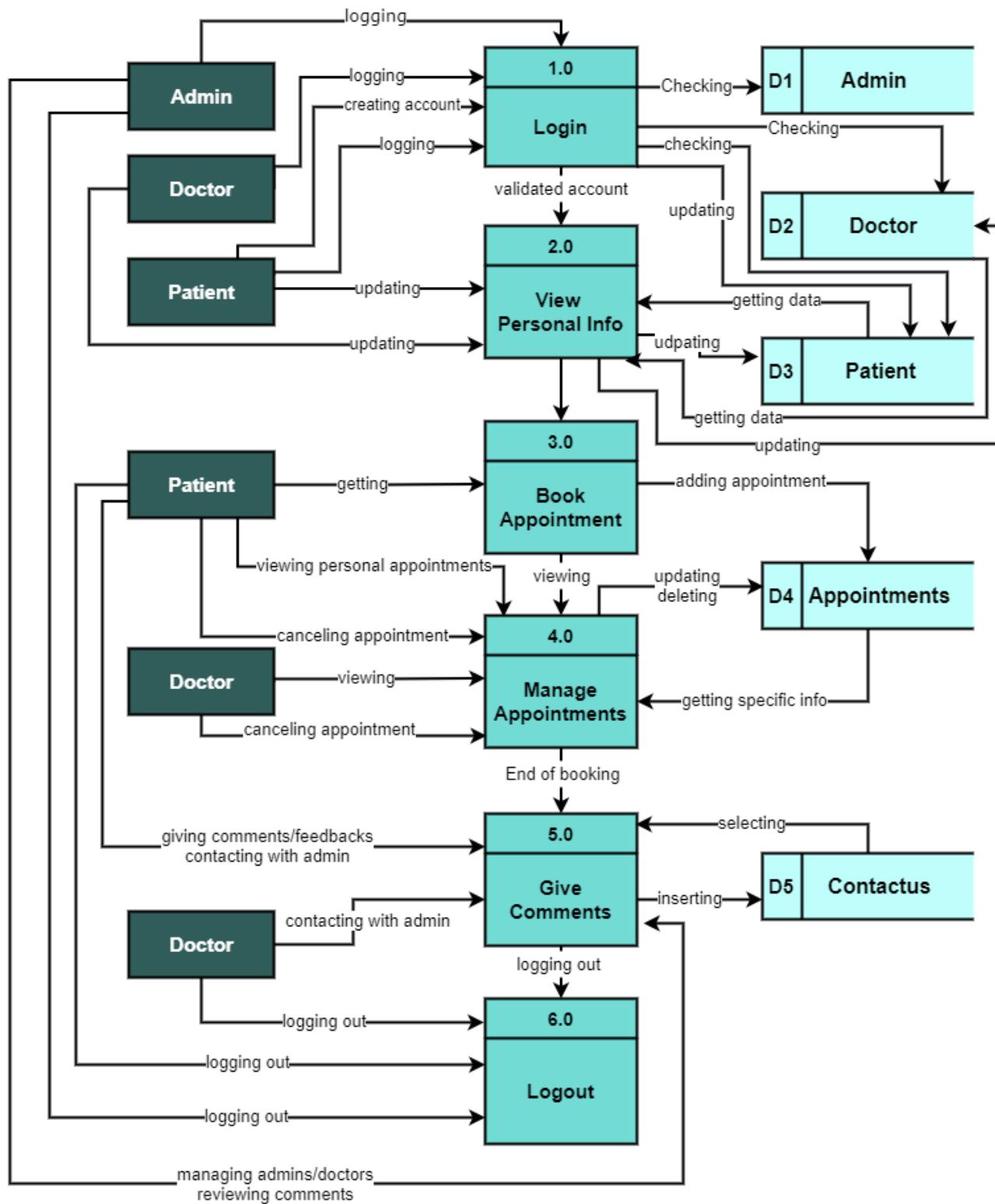
- HTML
- CSS
- ASP.Net
- C#

4. System Diagrams

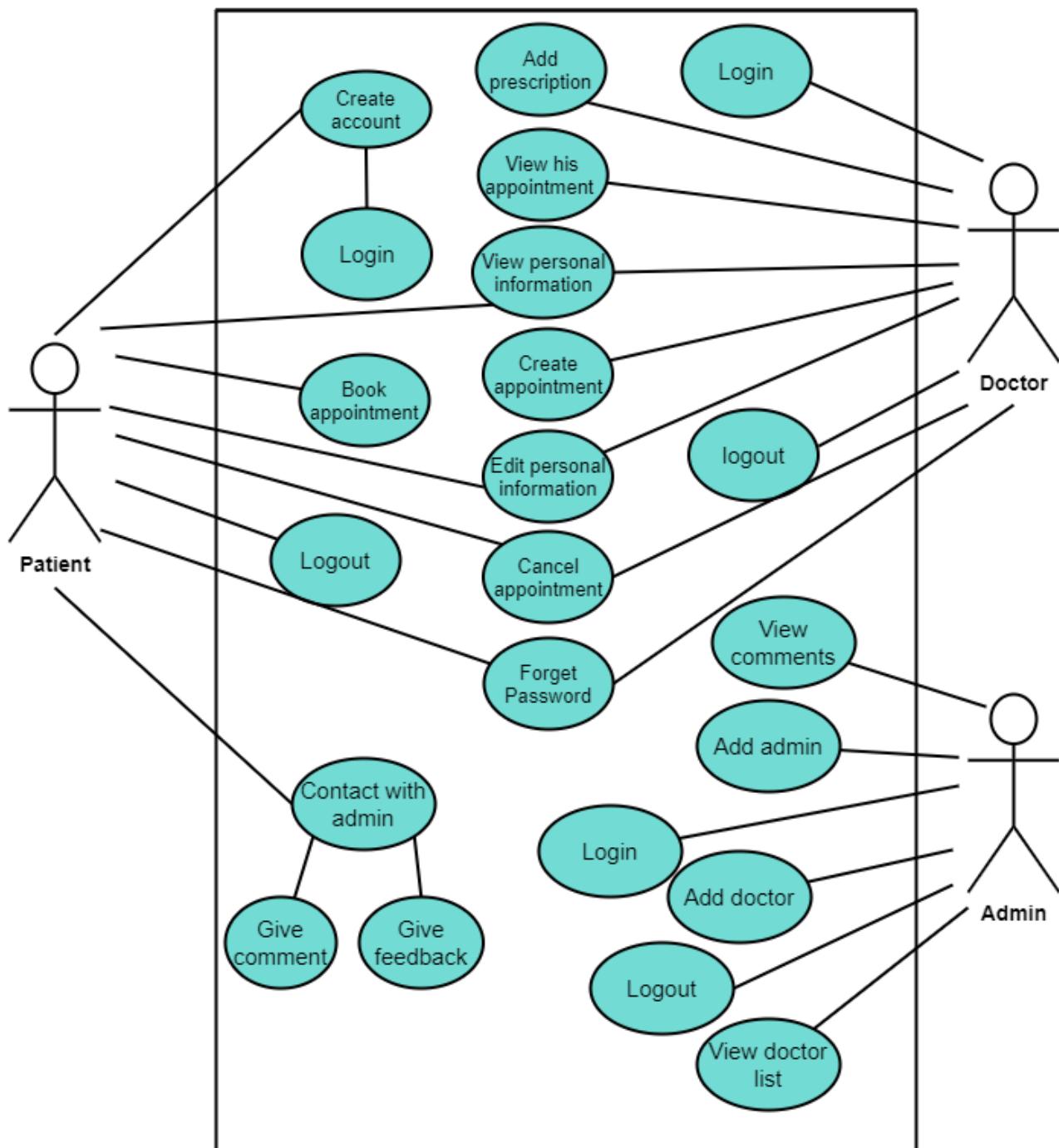
4.1 Context Diagram



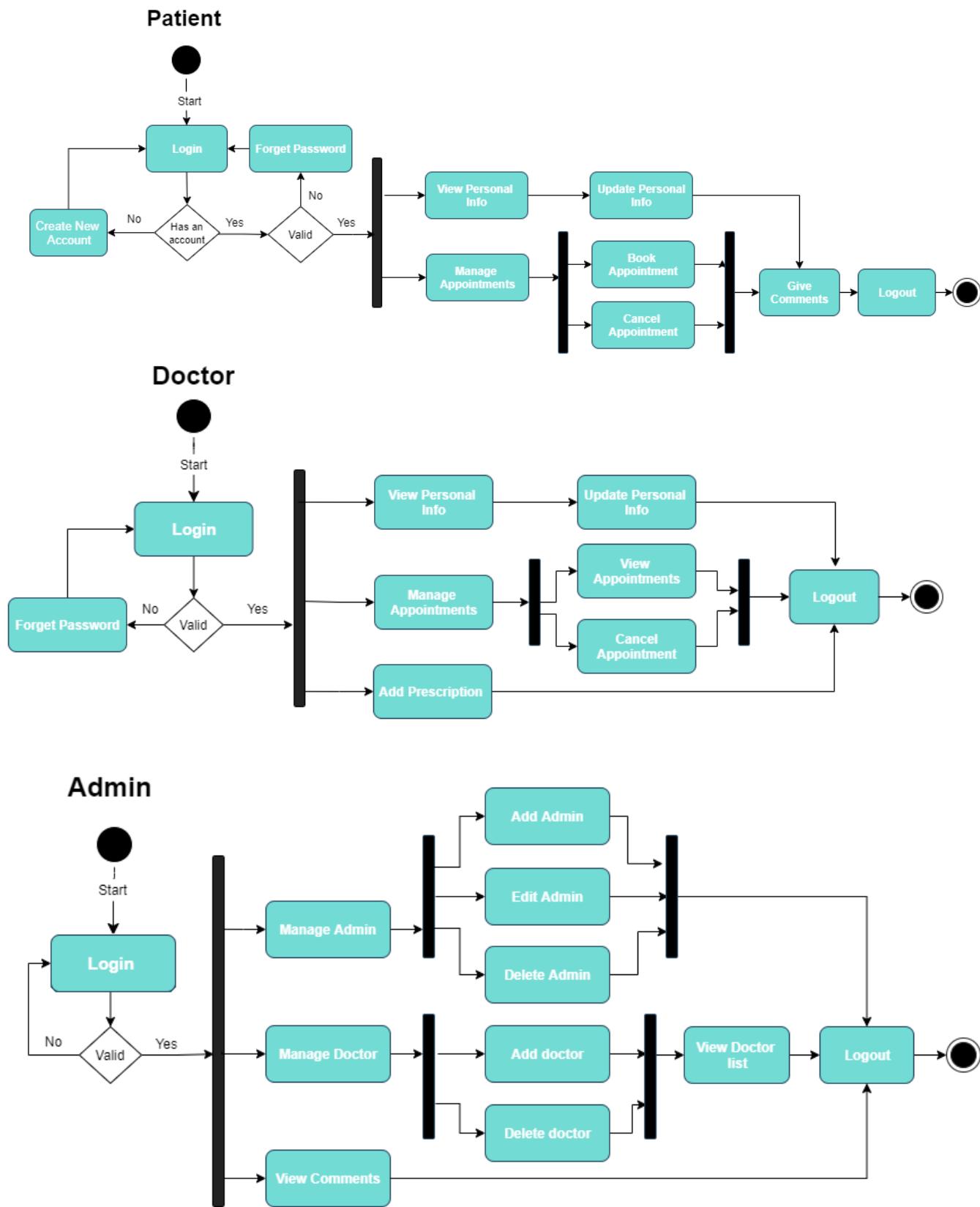
4.2 Data Flow Diagram (DFD)



4.3 Use case Diagram



4.4 Activity Diagram

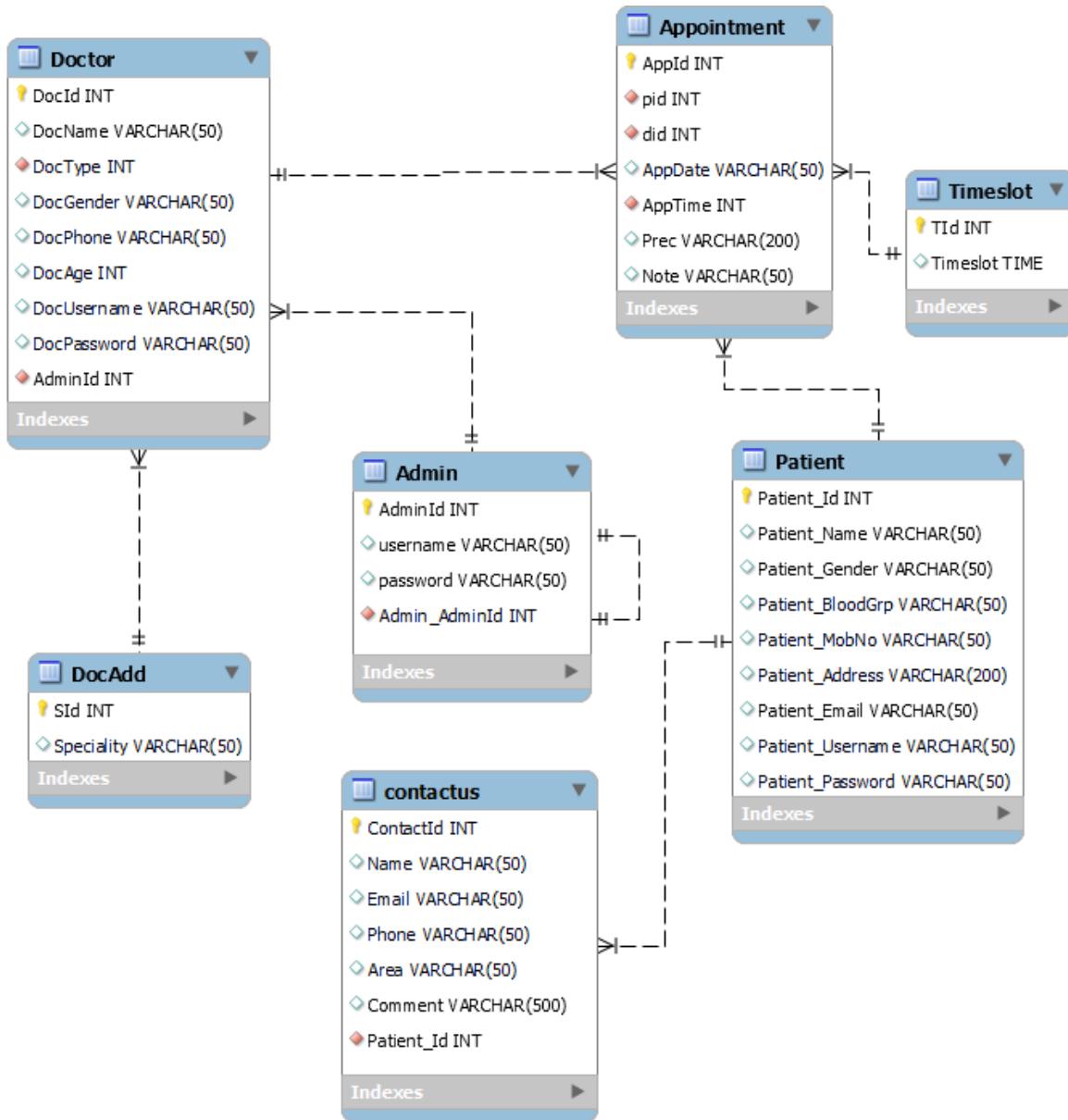


5. Implementation and Testing

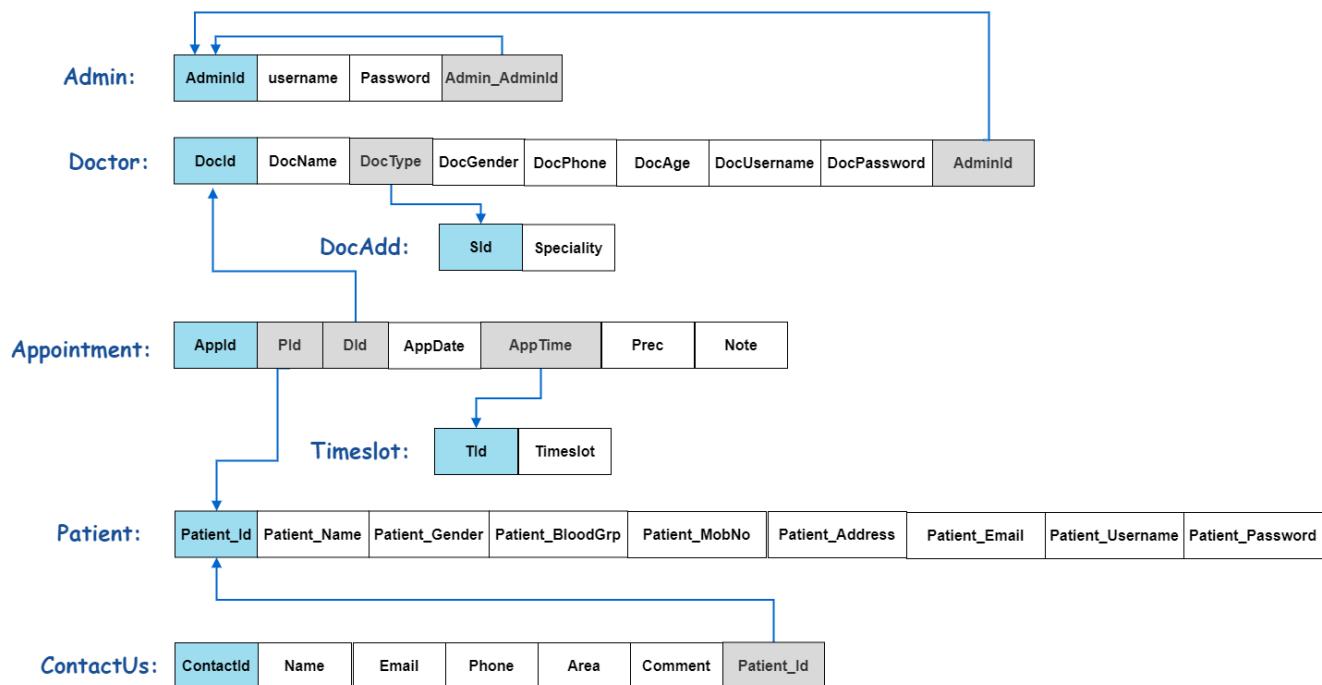
5.1 Implementation of Database

We have used “MySQL” for designing our database which found on visual studio. And we make connection between it using C# Language.

5.2.1 Database Schema



5.2.2 Database Mapping



5.3 Implementation of Front-end Design



01. Home Page



Admin Login

About Us

02. Admin Login



☰ Menu

Add Admin

Add Doctor

View Comments

About Us Contact Us

03. Admin Dashboard

Find a Doctor & Book Online

Admin Panel

El-Shorouk, Cairo, Egypt

042-323-434-543

☰ Menu

Admin Table DashBoard

Username	Password	Action
admin	admin	<input checked="" type="checkbox"/> <input type="checkbox"/>
admin2	admin2	<input checked="" type="checkbox"/> <input type="checkbox"/>
admin3	admin3	<input checked="" type="checkbox"/> <input type="checkbox"/>
admin4	admin4	<input checked="" type="checkbox"/> <input type="checkbox"/>
		+

About Us

04. Manage Admins

Find a Doctor & Book Online

Admin Panel

El-Shorouk, Cairo, Egypt

042-323-434-543

☰ Menu

View Comments

ContactId	Name	Email	Phone	Area	Comment
2	mostafa	mostafa8800@gmail.com	0123456789	Cairo	Good Services
6	mostafa	mostafahamdy8800@gmail.com	123456789	Cairo	best
8	Yousef	yousef@gmail.com	44454545	Cairo	Good
10	mai	mai@gmail.com	3435435	Cairo	dfsdfdf
11	mostafa	mostafahamdy8800@gmail.com	123456789	cairo	good

About Us

05. View Comments



☰ Menu

Add Doctor Dashboard

Doctor ID: 21

Doctor Name:

Doctor Type: Surgeon

Doctor Gender: Male Female

Doctor Phone No:

Doctor Age:

Doctor Username:

Doctor Password:

Add Doctor
 Delete Doctor

Note: To Delete a doctor enter Doctor's name and phone, then press "Delete Doctor"

Doctors List

Doctor Id	Doctor Name	Doctor Speciality	Doctor Gender	Doctor Phone No	Doctor Age	Username	Password
1	Emad	Surgeon	Male	0123456789	40	emad	emad
2	Ahmed	Cardiologist	Male	5678943210	35	ahmed	ahmed
3	Mona	Dermatologist	Female	4234231231	38	mona	mona
4	Ramy	Ophthalmologist	Male	987654321	34	ramy	ramy
6	Mahmoud	Otolaryngologist	Male	54545454	45	mahmoud	mahmoud
8	Nada	Dentist	Female	123456	55	nada	nada
9	Sayed	Psychiatrist	Male	432423	49	sayed	sayed
11	Rana	Oncologist	Female	6546546546	29	rana	rana
12	Nour	Radiologist	Female	54354535	32	nour	nour
15	Tarek	Neurologist	Male	434323	70	tarek	tarek
17	Wael	Surgeon	Male	43434322	56	wael	wael
18	Noha	Cardiologist	Female	5435343	43	noha	noha
19	Farouk	Surgeon	Male	6546544	33	farouk	farouk
20	Samy	Otolaryngologist	Male	65465323	65	samy	samy

About Us

06. Manage Doctors



Doctor Login

[Forgot Password?](#)

About Us

07. Doctor Login



Doctor Password Recovery

Phone No:

About Us

08. Doctor- Forget Password



☰ Menu

Doctor Personal Information

Doctor Name:	Emad
Doctor Type:	Surgeon
Doctor Gender:	Male
Doctor Phone:	0123456789
Edit	

About Us

09. Doctor-View Personal Info

☰ Menu

Update Personal Information

Doctor Name:	<input type="text"/>
Doctor Gender:	<input checked="" type="radio"/> Male <input type="radio"/> Female
Doctor Type:	<input type="text" value="Surgeon"/>
Doctor Phone:	<input type="text"/>
Update Cancel	

About Us

10. Doctor-Update Personal Info



☰ Menu

Your Appointments

Appointment Id	Patient Name	Appointment Date	Appointment Time	Prescription	Note
7	Mostafa	27/05/2021	06:00:00	test	test
14	Yousef	27/05/2021	08:00:00		
17	Marwa	28/05/2021	07:00:00		

About Us

11. Doctor Appointments



☰ Menu

Patient Appointments Cancel

Appointment ID:	<input type="text"/>	<input type="button" value="Delete"/>																
<table border="1"> <thead> <tr> <th>Appointment Id</th> <th>Patient Name</th> <th>Appointment Date</th> <th>Appointment Time</th> </tr> </thead> <tbody> <tr> <td>7</td> <td>Mostafa</td> <td>27/05/2021</td> <td>06:00:00</td> </tr> <tr> <td>14</td> <td>Yousef</td> <td>27/05/2021</td> <td>08:00:00</td> </tr> <tr> <td>17</td> <td>Marwa</td> <td>28/05/2021</td> <td>07:00:00</td> </tr> </tbody> </table>			Appointment Id	Patient Name	Appointment Date	Appointment Time	7	Mostafa	27/05/2021	06:00:00	14	Yousef	27/05/2021	08:00:00	17	Marwa	28/05/2021	07:00:00
Appointment Id	Patient Name	Appointment Date	Appointment Time															
7	Mostafa	27/05/2021	06:00:00															
14	Yousef	27/05/2021	08:00:00															
17	Marwa	28/05/2021	07:00:00															

About Us

12. Doctor-Cancel Appointment



☰ Menu

Add Prescription

Appointment ID:	<input type="text"/>
Prescription:	<input type="text"/>
Note:	<input type="text"/>

Add

About Us

13. Add Prescription



Patient Login

Patient Username
Password
Login
Forgot Password?
Create New Account

About Us

14. Patient Login



Patient Password Recovery

Email:

Submit

Back

About Us

15. Patient- Forget Password



Patient Registration

Name:	<input type="text"/>
Blood Group:	<input type="text" value="Select"/>
Gender:	<input checked="" type="radio"/> Male <input type="radio"/> Female
Address:	<input type="text"/>
Phone No:	<input type="text"/>
Email:	<input type="text"/>
Username:	<input type="text"/>
Password:	<input type="text"/>
Confirm Password:	<input type="text"/>
Submit	
Back	

About Us

16. Patient Registration



☰ Menu

Personal Information

Patient Name: Mostafa

Patient Gender: Male

Patient Address: Giza

Patient BloodGroup: B+

Patient Phone: 453453

Edit

About Us Contact Us

17. Patient-View Personal Info



☰ Menu

Update Personal Information

Patient Name:

Patient Gender: Male Female

Patient Address:

Patient BloodGroup:

Patient Phone:

Update

Cancel

About Us Contact Us

18. Patient-Update Personal Info



☰ Menu

Patient Appointment Booking

Patient Name: Mostafa

Appointment ID: 18

Doctor Type: Surgeon

Doctor Name: (dropdown menu)

Appointment Date: (dropdown menu with calendar icon)

Appointment Time: (dropdown menu)

 Submit[About Us](#) [Contact Us](#)**19. Patient-Book Appointment**

☰ Menu

Your Appointments[About Us](#) [Contact Us](#)**20. Patient>Show Appointments**



☰ Menu

Patient Appointment Cancel

Appointment ID:	<input type="text"/>	<input type="button" value="Delete"/>						
<table border="1"> <thead> <tr> <th>Appointment Id</th> <th>Appointment Date</th> <th>Appointment Time</th> </tr> </thead> <tbody> <tr> <td>7</td> <td>27/05/2021</td> <td>06:00:00</td> </tr> </tbody> </table>			Appointment Id	Appointment Date	Appointment Time	7	27/05/2021	06:00:00
Appointment Id	Appointment Date	Appointment Time						
7	27/05/2021	06:00:00						

[About Us](#) [Contact Us](#)

21. Patient-Cancel Appointment



Contact Us

Please share your contact information along with you specific questions or comments and we will get back to you within the next few hours.

Name:	<input type="text"/>
Email:	<input type="text"/>
Phone No:	<input type="text"/>
Area:	<input type="text"/>
Comment:	<input type="text"/>

[About Us](#)

22. Patient-Contact with Admin or Give Comments



About Us

Why Doctor Appointment Booking Script ?

Our Hospital is a JCI accredited facility that is dedicated and focused on one primary goal, which is patients' health care. By the hands of more than 200 physicians and 50 nurses working 24/7 to achieve outstanding clinical care and a friendly atmosphere for all patients, the hospital had been serving the community for more than 38 years and still promising to provide the best quality service and patient care. The hospital was established in 1982 and together with continuous investment in technology and facilities; we attract leading consultants and specialists to work with us. For booking an appointment, call 042-323-434-543.



Our Hospital is located in the heart of Cairo, with an extraordinary location facing the Nile River and the Great Pyramids.



Our goal is to provide the highest-quality clinical and medical services.



Confidentiality, privacy, and discretion are the main values we believe in, and we respect and apply both national and international data protection regulations.



Our International Relations Department works hand in hand with other hospital services to provide personalized service and excellent medical care to our international patients and their relatives before, during, and after their trip.



As a part of our responsibility towards the community, we are expanding and meeting the demand for quality healthcare services in Egypt

About Us

23. About Website

5.4 *Implementation of interactions*

Interactions are the common thing in today's system. It is a key to make a system dynamic and attractive to user. And it is very necessary to make a system interactive. Like we said before we tried to build a user friendly and an interactive platform. It should be done such a way that attracts the user.

5.5 *Testing Implementation*

The purpose of this test to evaluate our system's compliance with the specified requirement. We tried to make this system secured. Every single data that a user input on our system must pass the test.

6. Discussion and Conclusion

Doctor and patient appointment system is a very exciting topic to work. After going through the work, we faced many challenging tasks. Day by day healthcare system become an important part of our society. So, we have decided to build this system.

We researched so many systems that showed us the direction how to develop our system. We interact with the people that what type of problem they are facing. They were very happy to take this system as it is giving them some relief in modern age.

Despite everything we achieved, we faced many challenges to finish this project. After all it is an online web-based system so in real life both doctor and patient need to follow the using rules otherwise its goal will be failed.