Doctor Management System: A Web Application

BY

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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DAFFODIL INTERNATIONAL UNIVERSITY DHAKA, BANGLADESH AUGUST 2022

APPROVAL

This Project/internship titled "Doctor Management System" submitted by Md. Abdulla All Roman Raju, ID No: 173-15-10429 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 12/09/2022.

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DECLARATION

My project has been done under the supervision of Mr. Saiful Islam, Senior Lecturer, Department of CSE Daffodil International University. I also declare that My project has not been submitted elsewhere for this award of any degree or diploma

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ABSTRACT

With the advancement of technology, many previously manual processes are being computerized. In this situation, we're going to set up an easy, fast, and smooth the way for patients and doctors to make appointments.

Even though Bangladesh is a developing country, there are many internet users. So, consumers need a link to connect to their selected doctors online.

To make an appointment, we plan to build a "Doctor Management System" website. As a result, regular people all over the world, wherever they may be, will have an easier time getting the care they need when they need it.

Using this approach, people may simply find out the doctor's counseling period and schedule a meeting. People will be more comfortable looking for their expected doctors on an appropriately categorized list

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Chapter 1

Introduction

1.1 Introduction

The Doctor Management System is a platform that allows clients to search for doctors throughout a hospital's many departments depending on their individual needs. They will be able to build and edit profiles, view a list of doctors, and schedule appointments. Emergency Patients can request for an early schedule. Users can update their medical history. Doctors can log in as doctors and check activity and the medical data of their patients, allowing them to provide better treatment or advice. Besides, other purposes are:

- Create a system that includes several key functions, such as searching for doctors by category.
- Secure doctors and users personal information.
- Make the website user friendly.
- To deliver the service, all that data on the website will be up-to-date, secured and verified.

1.2 Motivation

Our Country is an overcrowded country, with a population of 170M people. In this modern age we are shopping online, ordering food online, even students are joining online classes due to Covid-19. The only flaw is that a fully online based doctor management system is not developed yet. Where patients will be able to interact with doctors and easily get an appointment without going to the hospital. For any emergency situation users can make an appointment early. It will save time and money both. At a given time a patient will come to the hospital and will get treatment. The website will give every user a specific ID or username which will record all the previous data and prescriptions, so patients don't have to carry previous reports with them. As a result, the scope for this project is huge for the future.

1.3 Objective

The major purpose of this website is to implement an intelligent management system that will allow users to find doctors in a hospital at any time. This will make the process of finding a doctor and making an appointment easier for everyone.

System Features (Functional Requirement)

<u>Admin</u>

- ✤ Create
- ✤ Update
- Delete User/Doctor

Unregistered User

- Check availability of a doctor
- Create account and login
- See doctors by category
- ✤ See users reviews

Registered User

- Check availability of doctors
- Give ratings and reviews
- ✤ Create account and login
- Book appointment
- ✤ See appointment history
- Print appointment
- Cancel appointment

Comment via:

Email Approval

Individual Module

- Chamber address, Rating, Fee, facilities and other information
- Add Patient review
- Schedule time for emergency

Individual User Module

✤ Registered user's account information.

- Edit/Modify existing users information.
- Customization according to users choice.

Booking

- Viewing available doctors in hospital
- ✤ Book and cancel appointment
- ✤ Approve appointment

Payment

✤ Doctors can see their total income.

1.4 Expected Outcome

There is an online scheduling system is commonly referrd a Web-Base pattern that allows Individuals to conveniently and securely book people appointments and reservation online through any web connected devices such as computer, laptop,tablets, smart phone etc. Once a The chosen time and date The system will provide documented documentation and booking confirmation.for the following demand.Our system can be used for a range of services because of its versatility, and activities for the patient and the physician include

Time Saving

People who schedule appointments online save time since they no longer have to take time out of their busy plans to call their medical, healthcare, or wellness provider, whose staff spends a lot of time on the phone and can't manage appointments correctly. To book 100 patients, for instance, takes a phone booking system four minutes. Whereas our system will finish more quickly.

Monetary saving

Staff members in doctors' offices are always willing to accept payment in exchange for scheduling patients. Using this method to achieve a faster charge is unethical. People can view any doctor's actual availability in our system, allowing them to schedule an appointment anytime quickly they need one without having to tip the staff.

Sustain tranquility

People must go to the chambers and wait until the doctor is available if they become unwell and wish to see a doctor for a checkup. While waiting for an appointment, the patient also queues up. Therefore, there is a chance of an unclean atmosphere. If the doctor postpones the appointment due to an emergency, the patients will be trying to stir up trouble there. The patient will be able to see when doctors are available under this approach, eliminating the need for lengthy waits in lines and allowing them to quickly avoid crowds

1.5 Project Management and Finance

Expected time of this project is approximately 1 Year.

Table 1.1: Project Schedule

Term	Description
BA	Business Analyst
PM	Project Manager
Dev	Developer
QT	Quality Tester

Description	Cost Assumption
Site launch	1,000 BDT
Maintenance	5,000 BDT
Developers	50,0000 BDT
Total	56,0000 BDT

	A	В	c	D	E	F	G
1		Proje	ct Sch	edule			
2					Project Start I	Date:	01/01/2020
3					Project End D	ate:	1/1/2021
4							
5	WBS	Task	Lead	Start	End	Work Days	Complete %
6							
7	1	Project Analysis	PM/BA	21/01/2020	21/3/2020		
8	1.1	Define user Requirments		21/01/2020	11/2/2020	16	100%
9	1.2	Analyze website Requirments		12/2/2020	22/2/2020	9	100%
0	1.3	Cost and Functionality Analysis		23/2/2020	21/3/2020	20	100%
HE.	2	Design	PM/D	21/3/2020	19/5/2020		
2	2.1	Define standerds for project	1991-1999 (1992)	21/3/2020	30/3/2020	7	100%
3	2.2	Design website structure		31/3/2020	9/4/2020	7	100%
4	2.3	Desktop/user interface		10/4/2020	25/4/2020	12	100%
5	2.4	Security Feature		26/6/2020	3/5/2020	6	0%
6	2.5	Prototyping		3/5/2020	19/5/2020	11	100%
7	3	System Development	D/QT	20/5/2020	20/9/2020		
8	3.1	Web Pages		20/5/2020	15/6/2020	20	50%
9	3.2	Database		16/6/2020	18/8/2020	45	0%
0	3.3	Unit / Component Test		19/9/2020	20/9/2020	22	0%
ŧ.	4	System Intergration	D/QT	21/9/2020	18/10/2020		
12	4.1	Link pagess and images		21/9/2020	30/9/2020	6	50%
3	4.2	Link Datebase		1/10/2020	18/10/2020	14	0%
4	5	Overall System Test	QT	19/10/2020	5/1/2020		
5	5.1	Page Links		19/10/2020	11/11/2020	16	0%
26	5.2	user Interface		12/11/2020	24/11/2020	9	5%
27	5.3	Database access		25/11/2020	15/12/2020	15	20%
28	5.4	Exception handleing		16/12/2020	5/1/2021	15	0%
9	6	Trail Trading	PM	6/1/2021	20/1/2021		
30	6.1	Connection to the internet		6/1/2021	20/1/2021	11	0%
31							
22							

Figure 1.1 Project Schedule

Domain & Hosting Package

Domain

✤ com 500 tk. Year

Hosting Package 1:

- ✤ 1GB Storage
- ✤ 20GB/monthly Bandwidth

- ✤ 10 SSD Server
- Sub Domains
- Email Accounts
- Databases
- ✤ 1000 tk. Year

Hosting Package 2: Perfect for medium sized websites

- ✤ 2GB Storage
- ✤ 40 GB/Monthly bandwidth
- 10 SSD Server
- Web Server
- Three Domains
- Sub Domains
- Email Accounts
- Databases
- ✤ 1500 tk. Year

Hosting Package 3: For the demanding sites

- ✤ GB Storage
- ✤ 150 GB/Monthly Bandwidth
- 10 SSD Server
- Web Server
- Five Domains
- Sub Domains
- Email Accounts
- Databases
- ✤ 2500 tk. year

Hosting Package 4: For the highly demanding sites

- ✤ 20 GB Storage
- ✤ 500 GB/Monthly Bandwidth
- ✤ 10 SSD Server

- Web Server
- Nine Domains
- Sub DomainsEmail Accounts
- Databases
- ✤ 5000 tk. year

1.6 Report Layout

I developed the Web-based system which name is "Doctors management system". I tried to make sure the project have completed in time. I have designed our workflow follows by above:

In chapter 2, brief discussion on related works that are already implemented. And I made comparison with other. I have figured out the problem of current system and tried to solve. What kind of Challenges I have faced for completing this project also discussed on this chapter.

In chapter 3 named Requirement Specification where I focused about business process modeling, requirement collection and analysis, use case modeling and descriptions, logical data model, design requirements.

On chapter 4 named Design Specification I have tried to show the front-end design, backend design and Interaction design and UX. As well as I listed the component that we used to build the system.

In chapter 5 named Implementation and testing where I discuss about the Implementation of Database, Implementation of Front-end Design, Testing Implementation, Test Result and Reports.

On chapter 7 I have discussed about the present condition and future scope of our project. Also I have tried to cover the whole things what I have done in our project is referred as conclusion.

Chapter 2:

Background

2.1 Preliminaries/Terminologies

I have some preliminary research to do before designing a system. Investigating a system's history is beneficial. Additionally, it aids in identifying the system's flaws so that the appropriate actions may be performed to advance the project by adding and updating new features. My main objective in working on this project is to schedule an appointment quickly and without causing any inconvenience to any patients. I created this project for regular people who need to consult with any doctors. They can schedule appointments online quickly and get checkups at the time of their choosing. In addition, a list of blood donors is available for any donation, and ambulance service is available for hire and hospitalization immediately.

On the other hand, this arrangement allows users to buy their necessary medications simultaneously.

Consequently, they won't worry about purchasing any medication when they need it. It will be highly beneficial for consumers if they can access every solution simultaneously via the internet. So, individuals will become more interested in using the internet and will use a web-based system to obtain all medical explanations.

2.2 Related works

Some related systems are available right now, but not a large number, and no one is similar. Many of the designs have some limitations. From studying this similar project, I got interested in developing our system. Some of the related methods of our project are mentioned below. We have explored many websites related to medical health consciousness. First, my attention caught in 'Doctorola.com.' In their system, users need to search for doctors or hospitals from different locations and get them to book appointments. There is no user login option and personal profile, so users are detached from getting extra facilities for future purposes. Another project is 'Doctorsbd.com.' This site provides only a doctor's list. Users can be only able to know their service location from here.

2.3 Comparative Analysis

My modern age of technology is greatly dependent on the internet. An online system is also known as a Web-based system as the world is going so faster, so there is always a desire to communicate quickly and effectively. No such things come out without any limitations, but I focused on overcoming the best I could do. My main focus was to determine the features of the patients. They are the large community of this system and deserve to get the most out of it. By using this system, both doctors and patients become beneficial. Many Patients daily visit healthcare clinics or hospitals and face problems regarding having no knowledge about doctor specialty, waiting for a long time to get doctor appointment and patients have no about doctor fee. There are several ways to book an appointment. A person can go to the hospital directly for consultation or make an appointment from home through the internet by Web-based system. To solve this problem, I have developed an appointment system that improves patient satisfaction, like the patient can get reliable and timely access. So that I wish to offer such a system that will help them a lot; my system will provide the best result and save their valuable time too.

2.4 Scope of the Problem

As I said, patients face some difficulties with appointments with doctors. My present system

isn't as the requirement is going. So, I can recapitulate some problems here;

- Using different numbers on the platform may not be enough for every patient to make an appointment with a doctor.
- ✤ There is some manual system for an appointment, but this is entirely online-based.
- The people are not fully trusted in the online system, so they will not get benefits from this system.

For patients, help

- ✤ There is huge collection of doctor information
- ✤ Smart way of appointment
- ✤ Medicine purchase system
- Find doctor based on specialization system
- Reduce the appointment delay
- ✤ Can upload prescription for future
- Reduce cost

For Doctor's helps

- ✤ No need any assistant for appointment
- ✤ Easily access to history of medication of a patient
- Doctors can see there total income from the website

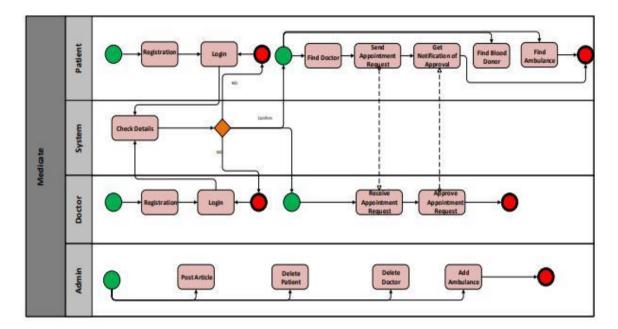
2.5 Challenges

Every work has some challenges. So, we have to face a small number of challenges too.

- 1. As it's a Web-based system, people need to make appointments and reservations online through web-connected devices such as computers, laptops, smartphones, tablets, etc., then the system will not help them.
- 2. If a doctor doesn't check the notification for confirmation that the patient books, then this system's main motto will fail.

Chapter 3:

Requirement Specification



3.1 Business Process Modeling

Figure 3.1: Business Process Modeling of Medicate

3.2 Requirement Collection and Analysis

Requirement collection and analysis are a very crucial part of any project. Without analysis, collection of data, or good planning, a project will never complete correctly. When I am developing a project, the project's delivery time has already been given. That's why project work must be planned and executed for delivery. My project is an online Web-based doctor Management system. Analysis and requirement collection was my big challenge when I started thinking about this project. After starting the analysis, I figure out some significant features that boost my project.

Requirements for server:

- Processor: Core i3 5th Gen
- ✤ RAM: 8 GB
- ✤ System Type: Linux
- ✤ Storage: 1TB HDD
- For Storage Service: Network File System

Minimum requirements for client: (Assumption)

- Processor: Dual Core
- ✤ RAM: 2 GB
- System: Windows, MAC OS, Linux
- Srowser: Google Chrome, Edge, FireFox, Opera etc.

Software

- Microsoft Visual Studio
- ✤ PHP
- ✤ Xampp

3.3 Use Case Modeling and Description

Use Case Diagram

Admin Functionality:

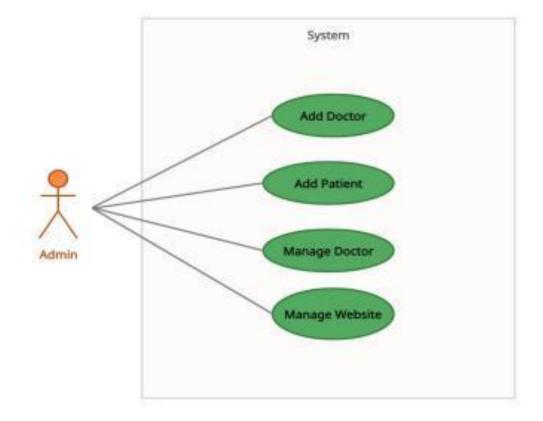


Figure 3.2: Use Case Diagram Admin Functionality

The functionality of an admin is as follows:

- ✤ Add a new user
- Delete user
- ✤ Manage user
- ✤ Manage appointment schedule
- ✤ Update Content
- ✤ Behave as a staff.

Doctor Functionality:

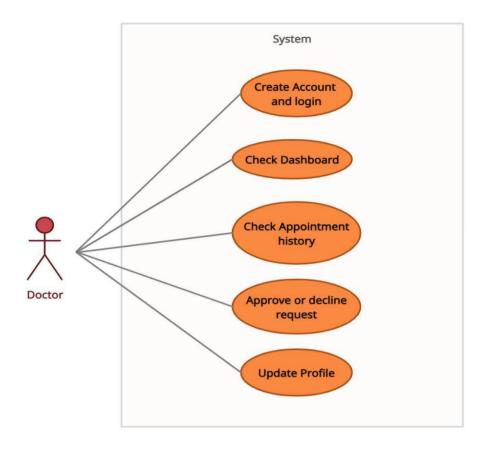


Figure 3.3: Use Case Diagram Doctor Functionality

The functionality of a staff is as follows:

- Ensure users' needs
- ✤ Can sale medicine
- Can manage emergency room (if needed)
- Cancel scheduled appointment
- Provide hospital facilities
- Provide information

Unregistered Users:

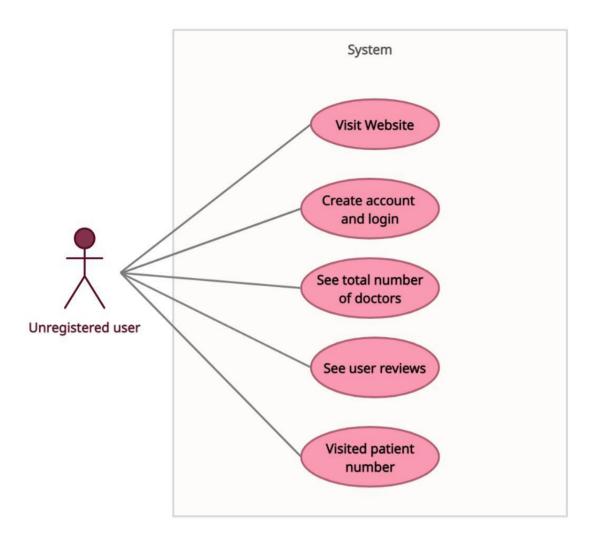


Figure 3.4: Use Case Diagram Unregistered Users

The function of Unregistered user:

- Create an account
- ✤ Can visit the website
- ✤ Can view content on website

Registered User:

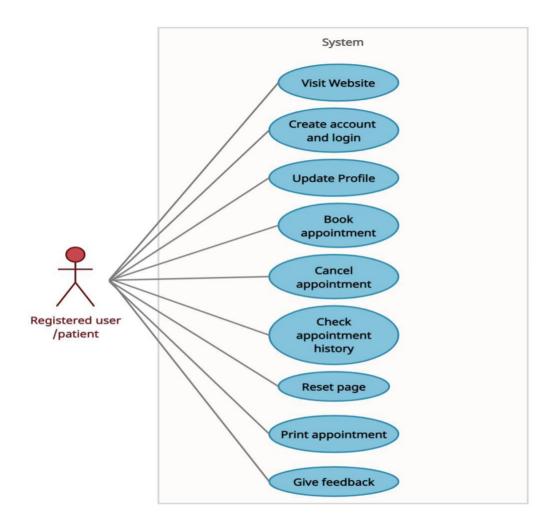


Figure 3.5: Use Case Diagram Registered Users/Patient

The function of Registered user:

- ✤ Can visit website
- Can view information and history
- ✤ Can share experience by giving a review
- ✤ Can book cabin (if needed)
- ✤ Can pay online

Table 3.3.1 Use Case Description for Sign Up

Use Case Name	Sign Up
Actor	Doctor,User
Precondition	Must have to complete registration
	1. Inter Full Name
	2. Inter Email
Internal Path	3.Inter Password
	4. Inter Confirm Password
	5. Click "Sign Up" Button
	1.1 Name can'n be blank
	1.2 Email must be valid
	1.3 Email not use in luminar befor
Exceptional Path	1.4 Password can'n be blank
	1.5 Password is strong Enough
	1.6 Confirm password must match the
	password

Table 3.3.2 Use Case Description for Log In

Use Case Name	Log In
Actor	User
Precondition	N/A
	1. Enter Username or Email
Internal Path	2. Enter Password
	3. Click "Login" Button
	1.1 Username must be valid
Exceptional Path	1.2 Account must be activated
	1.3 Password must match

Update Profile
Registered User
Log In
1. Username
2. Email
3. Address
4. Phone Number
5. Gender
6. Password
1.1 Can'n be blank
1.2 Must be valid

Table 3.3.3 Use Case Description for Update Profile

Table 3.3.4 Use Case Description for Doctor, User Login

Use Case Name	Login
Actor	Doctor, User
Precondition	N/A
	1. Puts email id in the email section
Internal Path	2. Puts password in the password section
	3. Presses the login button
Exceptional Path	1.1 Password is wrong
	1.2 Password is empty

Table 3.3.5 Use Case Description for Find Doctor

Use Case Name	Find Doctor
Actor	User
Precondition	Actor has must logged in
Internal Path	1. Actor search doctor
	2. Actor views doctor
Exceptional Path	1.1 Doctors list can't be empty

Table 3.3.6 Use Case Description for Make appointment

Use Case Name	Make appointment
Actor	User
Precondition	Actor has must logged in
	1.Userviews appointment
Internal Path	2. Userselects appointment
	3. Userbooks appointment
Exceptional Path	1.1 Appointment can't be empty

Table 3.3.7 Use Case Description for Approval appointment

Use Case Name	Approval appointment
Actor	Doctor
Precondition	Actor has must logged in
	1. Doctor views request
Internal Path	2. Doctor makes approval
	3. Doctor cancels approval
Exceptional Path	1.1 Doctors list can't be empty

3.4 Logical Data Model

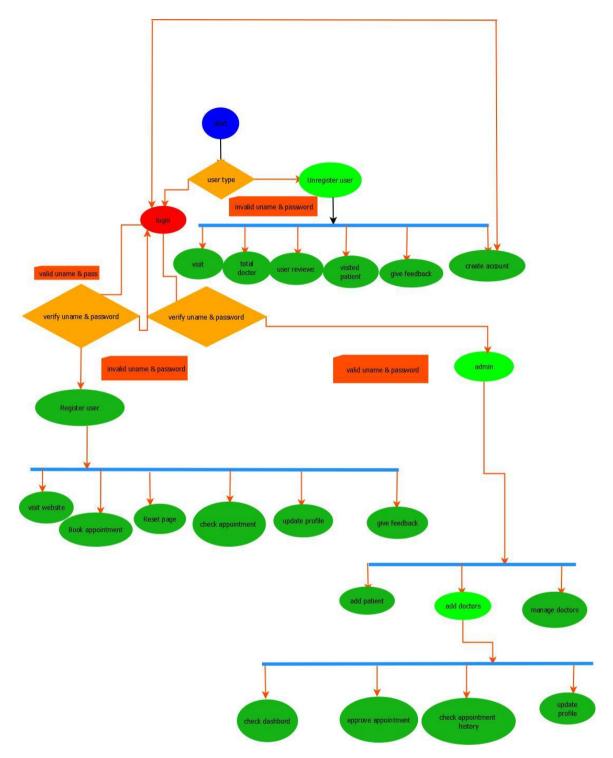


Figure 3.6:Logical Data Model

ER diagram:

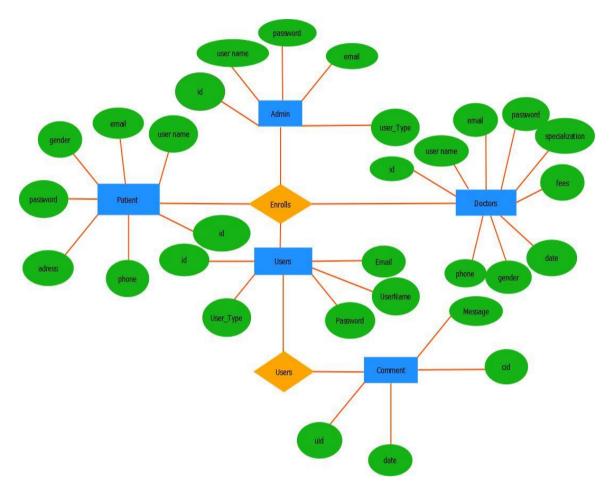


Figure 3.7:ER diagram

3.5 Design Requirement

When I design software or a system, I consider some requirements to make the project efficient. I have tried to build a user-friendly web application. My system user interface is straightforward, and everyone can use it without facing any problems. For better knowledge, I have drawn a business process, use case diagram, activity diagram, and logical data model. I have used MySQL for designing our database. For front-end design, I have used HTML and CSS. We have used OOP, Laravel framework, and PHP for the back-end design.

Chapter 4:

Design Specification

4.1 Front-end Design

The front end is usually designed in two parts—web design and front end web development. We use HTML, CSS, and JavaScript for our front-end design. These include things like fonts, drop-down menus, contact forms, etc. In this section, we have some home page frontend designs.

4.2 Back End Design

The backend is usually designed in three parts. A server, an application, and a database. User inputs the data that is needed the application stores it in a database created on a server. We used Laravel framework, phystorm 2019.1, etc.

4.3 Interaction Design and User Experience (UX)

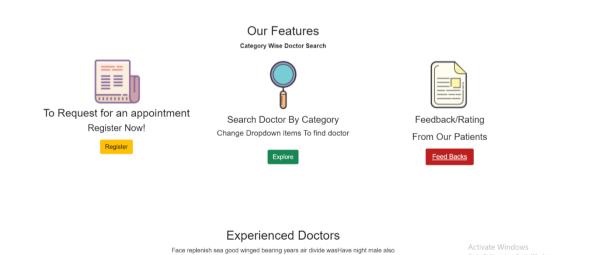


Figure 4:3:Request Appointment, Search Doctor category, Feedback

Users see this interface when they first come to make an appointment. From the doctor category, they choose the doctor of their choice and register for the doctor's appointment. After the treatment, the user can write their opinion about the service received in the feedback option.

Experienced Doctors







Figure 4.4:Total doctor, Appoinment Approve, User review, visited Patiented.

Here I can see how many total doctors there are, how many appointments have been approved, how many users have given feedback and what feedback they have given, how many patient visits have been seen.

	Doc	tors								×
	Sele	ct Doctor Categ	ory v Reset					Start	End	
	Sn	Username	Specialization	Fees	Gender	Date	Day	Time	Time	
To Request for an	1	ridwan	Neurologist	200	Male	10July- 17July	Sunday	12:30	8:00	back/Rating
Register N Register	2	fahim	Eye	500	Male	20July- 10May	Monday Wednesday	12pm	3pm	Our Patients
_	3	rabeya boshri	Pathology	2000	Female	2021- 04-22	Wednesday	10:00	15:00	eed Backs
	4								•	
									Close	
			Exc	berie	nced l	Docto	rs			
		Face re	plenish sea good w					ale also		
At a glance										

Figure 4.5:Doctor SpecialIzation List

Many times patients do not understand which doctor is competent for which disease while undergoing treatment. But they can see here why the doctor is competent for a particular disease and can book an appointment with the doctor of their choice

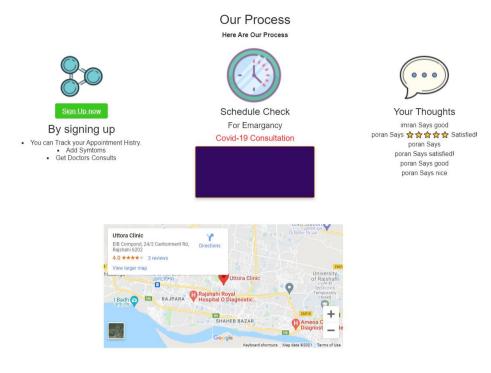


Figure 4.6:Process

By signing up, users can see their appointment history, emergency schedule can be checked. Feedback can be seen.

DOCTOR MANAGMENT "To serve humanity" The frust has promised to provide low-cost healthcare services to the people of Bangladesh.	SERVICES Covid 19 Test Diagnostic Services Cardiac Services Dental Checkup	USEFUL LINKS Eacebook Twitter	CONTACT US Uttora Clinic ElB Compond, 24/2 Cantonment Rd, Rajshahi 6202 info@doctormanagment.com Utotime: +8801904547587 Emergency: +8801755933719	
f Ƴ G+ ∰				Activate Windows Go to Settings to activate Windows.

Figure 4.7:Doctor management, Services, Usefull links and Contact features.

Here is the mail contact emergency number for users to directly talk to the authorities about the service. Users can talk to the contact number as per their convenience

	Doctor Management System	
Dashboard		
Approve Apointment	Welcome To Your Dashboard ridwan	
Apointment History	Net Income	
Update Profile	400	
	Pending Request	
	5	
	Activate Windows Go to Settings to activate	

Figure 4.8:Doctor dashboard

This is the doctor's dashboard. When a patient books an appointment, the pending status can be seen on the doctor's dashboard. The doctor can approve the appointment from here. Can view appointment history and update profile and doctor also see their net income.

	Doctor Management System	
		PORAN
Dashboard		
Book Apointment	�� Tell 숬 about 숬 us 淼	
Apointment History	Dhaka at large Hospitals in Uttara Nearby Hospitals	We would like to here From
Update Profile		You
Feedback		
		Feed Back Date 07/13/2021
	II ¥2 0007459 ₽ YouTube []	
		Activate Windows Go to Settings to activate Windows.

Figure 4.9:Patient Dashboard

This is the patient dashboard. Here patients can book appointments with specialist doctors of their choice. They can view their appointment history and update their profile. At the end of the service they can give their feedback

The main task of this part is to ensure or make all things more accessible, helpful, and userfriendly. The implementation Requirement was given us a perfect idea. The list of implementation requirements is given below:

- ✤ Easier to create
- ✤ Easier to interact
- ✤ User-friendly
- ✤ delightful
- Dynamic pages
- ✤ Easier to manage

Chapter 5:

Implementation and Testing

5.1 Implementation of Databas

MySQL was used by me to construct our database. The relational database management system MySQL is free and open-source. It functions as a server and lets several users create and manage a large number of databases. It is a key part of the LAMP stack, which is an open source web application framework for creating websites. Linux, Apache, MySQL, and PHP are referred to as LAMP.

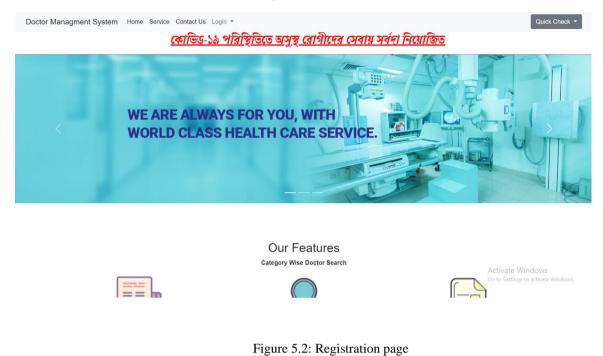
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 patients pharmacists 	comments	🊖 🔲 B	rowse 🔐 Structure	👒 Search	Si Insert	👷 Empty	🔵 Drop		4 InnoDB	utf8mb4_general_ci	16.0 KiB			
information_schema	doctors	🏫 🔲 B	rowse 🔀 Structure	💘 Search	3-i Insert	👷 Empty	🥥 Drop		5 InnoDB	utf8mb4_general_ci	32.0 KiB	-		
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	🔒 Print 📠 Data	dictionary												
	Create new	table												
											éctivati	Windov		
	Table name		Number of colum	ins							Go to Set			

Figure 5.1: Database Implementation

This is the full 18 Tables in this database in this system. For Role &Authorization, admin table, bookappionment table, comments table, doctors table, patient table, pharmacists table

5.2 Implementation of Front-end Design

This is the Home page of "Doctor Management system". A user needs to be log in to get access in the wed site as well as for using.



This is the registration page of "Doctor Management system". Doctor, patient have to registration for access and using

Do	ctor Management System	
НОМЕ	ABOUT US SERVICE CONTACT US	
	Register As User/Patient ^{Username}	
	Email	
	Password	
	Password Confirmation	
	Register Already a member? <u>Sign In</u>	Activate Windows Go to Settings to activate Windows.

Figure 5.3: login page/register page

This is the login page of "Doctor Management system". To login user have to enter valid email and password .If user forget password then here is an option to recover password.

	DASHBOA	RD
Dashboard		
Book Apointment	Update Profile	
Apointment History	Username	
Update Profile	Email	
	Address	
	Phone Number	
	Gender	
	Select Gender	
	Password	

Figure 5.4: Patient Dashboard

This is the doctor search update profile option for patient. Patient can search doctor by area, name and section and update their profle.

🛅 🛛 🦀 localhost / 127.0.0.1 / hms / do:	× 🔯 Admin Section - Manage Admin x +	- 0 ×
← C ③ localhost/DMS/de		A G 🗢 🌒 🚥 G G 🛱 🍈 …
	Doctor Manage	ement System
		Pending Request
Dashboard		LOGOUT
	Welcome To	Your Dashboard Abdulla
Approve Apointment	🔲 On Day Patient Visit Statistics 📊	🗊 On Month Patient Visit Statistics 🗹
Apointment History	Patient Visited [Person Wise]	Approved & Visited Patient Comparison [Person Wise]
Update Profile	1.0	2.0
	0.5	15
	0.0	1.0
		0.5
	-0.5	0.0
	-1.0 Sun Mon Tues Wed Thus Fri	-0.5 Sat Jan Mar May Jul Sep Nov Feb Apr Jun Aug Oct Dec — Approved Recut satient.
		Go to Settings to activate Windows.
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Figure 5.5: Patient select specialized doctor.

This is the doctor's dashboard. When a patient books an appointment, the pending status can be seen on the doctor's dashboard. The doctor can approve the appointment from here. Can view appointment history and update profile.

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- C 🛈 localhost/I							° tè 🔍	••••	• 3	¢ @	南
		i i	Doctor Mana	igemen	t Syst	tem					
											RA
Dashboard		r Specializatio lect Doctor				Gender	Select		~		
Book Apointment											
Apointment History	Re	set		Book App	ointme	nt					
Update Profile											
Feedback	Sn	Username	Specialization	Fees	Gender	Date	Day	Start Time	End Time	Status	
	1	Jimsarker	jimsarker@gmail.com	Pathology	1500	Male					
		XVZZZZ	xyz@gmail.com	Eye Specialist	1000	Male	5	friday	10am	4pm	
	2	XYZZZZ		2000 C							
	2	Abdulla	raju0000@gmail.com	Surgery	1500	Male			vate Win Settings to	dows activate Wi	ndows.

Here, Patient can select the specialized doctors for their appointment.

Figure 5.6: Appoinment pending

Doctors see their appointment pending if doctor approved or not.

	Do	ctor Manage	men	t System				
							DASHB	DAI
							LOGOU	
		A	prove	e Apointme	nt			
SN	Patient Name	Gender	Date	Symptoms	Comment	Action		
1	Fahad	aafporan@gmail.com	Male	03/30/2021		Appove	Decline	
		SN Patient Name	Aj SN Patient Name Gender	Approve SN Patient Name Gender Date	Approve Apointmen SN Patient Name Gender Date Symptoms		Approve Apointment SN Patient Name Gender Date Symptoms Comment Action	DASHBO LOCOU Approve Apointment SN Patient Name Gender Date Symptoms Comment Action

Figure 5.7: Appoinment Approve

This is the doctor's dashboard. When a patient books an appointment, the pending status can be seen on the doctor's dashboard. The doctor can approve the appointment from here. Can view appointment history and update profile.

5.3 Testing Implementation

This test aims to evaluate my system's compliance with the specified requirement. I tried to make this system secure. Every piece of data a user inputs into My design must pass the test.

5.4 Test Results and Reports

Sl No	Test case	Input	Expected outcome	Actual output	Result
1	Email check	Input without @	Invalid email	Invalid email. Must have @	Passed
2	Valid phone number	Input numeric value	correct	Correct	Passed
3	Invalid phone number	Input character	Incorrect	Numeric value required	Passed
4	Special character	Input special character	Special character not allowed	Not allowed	Passed

Table 5.2: Input User Information Test Case

Sl No	Test case	Input	Expected outcome	Actual output	Result
1	Display the webpage	Tested on us browser, chrome	Display successful	Display successful	Passed
2	User name	Wrong	Login failed	Login failed	Passed
3	Blank or Incorrect pass	Wrong password	Login failed	Login failed	Passed
4	Username	Input character	Special character not allowed	Letter and whitespace allowed	Passed

Chapter 6:

Environment and Sustainability

6.1 Operating Environment

The system will be operated by hosting server Linux. The hosting server has 99% uptime. User information is accessible through various browsers like Google Chrome, Edge, Firefox, Opera, etc. This website is a web application where the user application has user interfaces through the browser, and the central part is hosted on an external server. Any version of Windows, macOS, or Linux will work.

6.2 Sustainability Plan

Online system is always a changeable system. It develops day by day, getting better and better and easier for people. This could be a revolutionary web application that may help bonding between doctor and patient. I believe I can make this system more advanced in the future. Advance features and User interface will be updated gradually in future. My system is already user friendly but I will try to make this system more user friendly in the future.

Chapter 7:

Conclusion and Future Scope

7.1 Discussion and Conclusion

The scheduling of medical appointments is a fascinating subject to research. After finishing the assignment, I encountered numerous complex tasks. Our society's healthcare system is becoming more and more vital. So, I decided to create this system. I looked into numerous systems that guided us on how to build our own. I have conversations with folks about the problems they are having. They were thrilled to adopt this approach since it would give them some relief in the modern world. Despite everything I could accomplish, this project was not without its difficulties. Since it's an online system, the patient and the doctor must abide by the regulations when utilizing it; otherwise, the system won't achieve its intended purpose.

7.2 Scope of Further Development

Online system is always a changeable system. It develops day by day, getting better and better to easier for peoples. This could be a revolutionary web application that may help bonding between doctor and patient. We believe we can make this system more advanced in future. Advance features and User interface will be updated in future. Our system is already user friendly but I will try to make this system more user friendly in future.

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