

REPORT ON

“Online Hospital and Blood Donation Management System”

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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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APPROVAL

This Project/internship titled “**Online Hospital and Blood Donation Management System**”, submitted by **Delower Hossain**, ID No: **183-15-11797** 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 **06-01-2022**.

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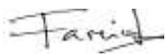
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We hereby declare that, this project has been done by us under the supervision of Zerín Nasrín Tumpa, Lecturer, Department of CSE Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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ABSTRACT

Online Hospital and Blood Donation has been created for the citizens of the country so that they get a good service. I have created this software because it is on the same platform so that the citizens have two types of benefits very easily. Citizens of a country can easily access hospital online booking and blood donation through my system. I created this software because no platform has been created in Bangladesh before so that citizens can send requests for hospital booking and blood donation at the same time. By doing background study I was able to realize that. Through my system a citizen can easily book any hospital without any hesitation. The biggest benefit in my system is that a citizen can easily book any hospital online without any hassle. These donors do not have the virus in their blood, they are categorized separately so that any citizen can easily find them. By doing background study I came to realize that the citizens of our country are being deprived of the hospital and blood donation management system. The service that has not yet been launched in our country, we have launched the service for the citizens for the hospital management system and blood donation. And this report explains how I developed the system in the form of figures. The diagrams are used Hierarchy, Use case and E-R diagrams. I have highlighted the features of my system through diagrams. Comparing the current applications with the hospital and blood donation systems, I have pie charted out what features I have included in my system. Then I developed Total System according to this diagram. Then I used HTML,CSS, and Bootstrap 4 to design the front. And PHP, JavaScript has been used to develop the back end. And MySQL database is used in this system. The report is given as Snapshot of the database. And in the future I will apply data science and artificial intelligence to this system so that my system will be automated. The main thing that will be done in my system through Data Science and Artificial Intelligence is that any user will automatically get notification of different types of services. In general, if the number of users of a website increases, it becomes difficult to control all those users. Moreover, Data Science is used to provide different system services to different clients. Moreover, data science is used to digitize or make any software famous because data science is one such process which is perfect for digital business. With data science I have millions of users in the system can be easily accessed and they have a variety of services. And the main thing I will do using data science is to do development work automatically with different hospital admins. And I will use artificial intelligence in the system because it will automatically register different patients and after registration will separate those who have any virus in their blood.

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Chapter 1

Introduction

1.1 Introduction

Online Hospital and Blood Donation System is a unique application. Now the future that is included in this software is not kept in any other application. Generally Bangladesh Online Hospital Management System and Online Blood Donation System these two applications are lagging far behind. With online hospital and blood donation system, a user can easily get an exceptional service. Through the system a user can easily get two types of services which are very rare in my country. These two services are one platform. The first is the hospital management system through online which any user can easily book the hospital of his choice. In the hospital management system, the hospitals are arranged in district wise format. As a result, any citizen can easily find his district based hospitals. In addition to the online booking system, there is another great feature here. These are doctor's prescriptions and reports of various tests. This means that through my system a patient can easily get any prescription and test report from the doctor and admin. Background analysis alone shows that this service has not been launched in our country yet. Second servicing is a blood donation management system. I have designed the system in such a way that all the citizens of a country and all the hospitals can be involved for blood donation. So that the blood supply of our country is in the right proportion according to the patient need. A patient can easily find a blood donor through my system who has no virus in their blood. And all the citizens of the country can be connected to this software of mine. Moreover my system has been made district based. And the users of this system that I will have are all the citizens and individuals of the country, if the doctor wants, they can also stay and the admin can stay in the individual hospital and also the students of all the institutions. So in a word people of all classes and all professions of the country can live with this system of mine. And they will be able to get all kinds of services. And this system of mine has been developed by PHP, HTML , CSS , Bootstrap 4, MySQL. And in the future I will use data science and machine learning to improve this software and get better performance.

1.2 Motivation

At present, the citizens of our country make hospital bookings directly to the hospital and directly by phone to get a doctor's appointment. If any citizen of our country has fallen ill, he seeks blood from his relatives. And if he can't find the blood group among his relatives, then he has a problem. Moreover, the background analysis shows that the amount of blood we need is not enough to supply our country. A report has found that donors donate blood to a sick patient without checking if there is a virus in their blood, making the patient more ill. Moreover, many patients come from far and wide to see a doctor. As a result, they have a lot of problems like travel expenses increase a lot and the doctor is not available properly. If they have a patient who is very ill, the ICU cannot find out if he is in a hospital immediately. Nowadays patients would benefit a lot if they could get their blood test or test report of various diseases online according to their needs. At the same time, the patients wanted to be able to book online so that they would have a financial benefit if they had a system. So to solve these needs of the patients and their problems, I thought, I have created such a kind of software which will have many features from which patients can get services very easily. So the government wants to digitize the country so I created this software to provide digital services to the patients so that they can get the services very easily at low cost. Moreover, when all the citizens of the country will be my system, many features of this system will have to be enhanced and developers will have to be hired for development. In addition to serving all the citizens of the country, many will get jobs to develop my system. Besides, I will need a lot of citizens to volunteer in the system so that they will also get jobs. Because my software is arranged in district based hospitals so that all the hospital features are easily available and patients can make bookings. This will require other software developers and many citizens to maintain my district based software. So, I am hopeful that if I can run the software, it will be of great benefit to all the citizens of the country.

1.3 Target user

1. All citizens
2. All patients
3. All donors
- 4 .All hospital's admin
5. All Institution's admin

1.4 Aims of online hospital and blood donation management system

Through my system, a patient can easily get good blood from someone. In our country, a donor wants to give blood to a sick person without testing his blood. That is, he does not know if there is any malaria virus in his blood. According to background analysis, patients have contracted various diseases after taking blood from blood donor. There are many camps and online applications for blood donation in our country but they do not include any feature to provide safe blood. If a donor wants, no other patient will be able to donate blood without blood test.

We have developed this system in such a way that if a citizen is interested in donating blood, he must register. And then his blood group must be stored in our database. And we have developed an interface in this system to add blood groups. However, we will not publish the blood type of the donor who first registers to donate blood in our web application in the first web application. First we will check if there is any virus in his blood. After checking, if there is any infection or virus in his blood, then his blood group will not be publicly published in the web application. But in the initial case, his blood group will be in our main database. And I have designed a page layout in this system to represent this data from the main database to the web application. And this page layout can only be seen by admins of different hospitals. And the admins of this hospital will send blood requests from all the 1st registered donors from that page layout.

Even then, donors will go directly to the hospital except for their request. And the hospital admins will not take blood directly from them. First check if there is any virus in

their blood. If there is a virus in the blood then the hospital admins will not take blood from them. And if there is no virus, they will take blood. We will have given them such instructions. The blood of those from whom the admins of the hospital will take blood will be genuine. And the full details of who the hospital admins will take blood from will be in our database and in our system. And we will also have notifications on which donors the hospital admins have accepted and which donors have been denied. This is how we get information about those who do not have any virus in their blood.

And we will then publish the information of these donors in the application after confirming the hand percentage. And we will then publish the information of these donors in the application after confirming the hand percentage.

Moreover, the admins of the hospital will be able to store the data in our database. Hospital admins will be able to add information about the blood group of their hospital to our system. And in hospitals, blood without virus is usually kept. But it is better to say one thing. Any user or citizen can send a request for blood directly to any hospital if they want. Because hospitals usually keep safe blood.

1.5 Objectives of Hospital Management System

1. Designed to serve patients.
2. Hospital has been used to reduce their operation costs.
3. The issue is highlighted so that the management can make a good decision.
4. The communication system has been developed in different departments.
5. Team and Top management is a point-to-point control system.

The hospital management system manages the activities of the main departments of a hospital such as:

1. Very well done for office management.

2. Time is scheduled for patient management.
3. Arrangements have been made to serve the patients
4. Different modules have been arranged for the department
5. Patients have been treated with billing.
6. Arrangements have been made for medical reporting and stores.
7. Arrangements have been made for financial accounting.

1.6 Objectives of Blood Donation Management System

1. Donor and patients' problems have been identified.
2. Donor and patient address challenges have been addressed.
3. Information has been collected on when Donor can donate blood and when he has donated blood.
4. Work has been done to make the citizens feel happy to donate blood.

Chapter 2

Background Analysis

2.1 Background Analysis of Online Hospital Management System

Different hospitals in our country have their own great software. All the features of this software are to take advantage of all their internal facilities. But patients do not get any benefit from all these software. The system is automated but patients do not benefit from it. I hear their problems directly from some patients. They said that if hospitals had a system for direct online booking, they would have many opportunities. Now they also said that if there was a specific one for each patient then it would be much better for them. And they also say that if they have their test reports and prescriptions and their more useful documentation or information or advice that any patient can get it online. And they point out more problems. Many hospitals in our country have to provide serials for emergency patients. That is a very serious problem for a dying patient. They point out these problems because many patients often come from far and wide to see a doctor. And when they come straight to the hospital they have to get a lot of big serials to get a doctor's appointment. So they said if they had an online booking system they would not have hassle. In addition to the benefits of such online bookings, if the reports could be submitted online in any way, they would have benefited a lot. Because they have to go to the hospital again the next day for the report. It's really hard for them. Moreover, when they talk directly to the doctor, the doctors do not want to give them too much time. Many patients do not get a chance to talk to their doctor about their problem completely. They wanted the hospital admins to set a minimum time for a doctor to see the patient. Then there would be a lot of benefits for them. So I made a system according to the needs of the patients which will help them a lot. I have created this application according to the needs and demands of the users. I developed this system by solving the problems I heard from them. With this system a patient can easily book online for doctor's appointment and collect their required reports from online.

And through our system, all the patients will request the doctors to get the appointment, a minimum time fix for all these patients .So that they can fully discuss their problem with the doctor. If necessary, we will talk to the admins of the hospital. If such a patient wants, he can book his district based hospitals online through my software. Because I have the opportunity to make online bookings in district based hospitals with this software.

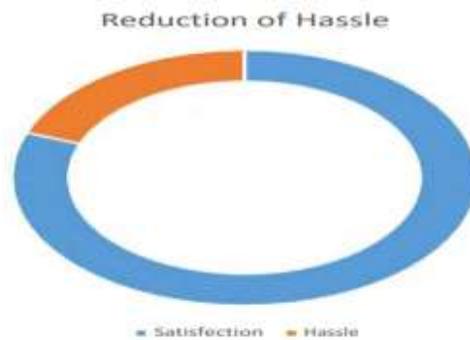


Figure 1: Reduction of Hassle in Hospital Management System.

Current Hospital Management System

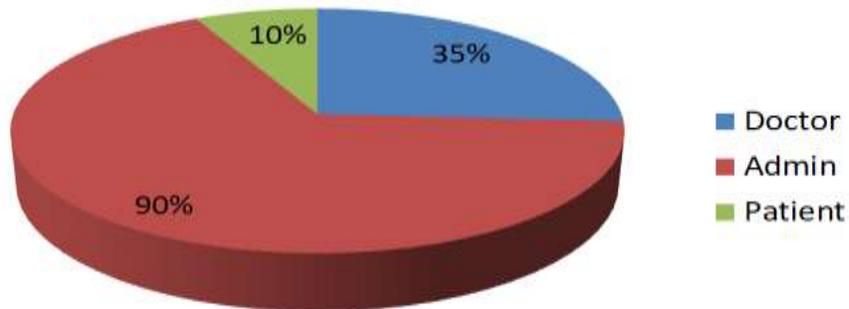


Figure 2: Current Hospital Management System

2.2 Background Analysis of Online Blood Donation Management System

Every year many people in our country die due to lack of blood. One report found that many people in our country have accidents. And those people need a lot of blood to survive immediately. And in our country every year many patients get infected with different diseases. Usually all the diseases that require blood are the diseases such that thalassemia, sickle cell disease and cancer. And they need particularly good blood to survive this disease. A pregnant woman needs a lot of blood when she has her off-delivery surgery. And there is no instant blood group in our country for all these diseases. Again many times blood is not available in our country. But to solve all these problems in our country immediately blood donation club and blood donation management system. Safe blood can donate a person's life (WHO, 2018). In 1950 Bangladesh Blood Transfusion Service has been launched. And it happened at Dhaka Medical Hospital College. (Islam, 2009). Then the blood transfusion service has to come to Bangladesh as per the need. But at present there are not many Blood Donation Clubs of Responsibility. Moreover, donating a safe blood to different patients has many restrictions in our country. And no public-private center has been set up in our country to check the blood of donors. As a result, different patients become newly anxious. This is because after donating blood from one person to another, different types of diseases can occur such as HIV, viral hepatitis and many other transmissible. One report found that 26% voluntarily donate blood each year. And 47% receive blood from the professional donor. And 27% is available from family members. (Islam, 2019). Although The Bangladesh Blood Donation System was launched in 1950. This service was introduced in 1978 for those who want to donate blood voluntarily through the evening camp was launched at Dhaka Medical College Hospital. According to (WHO) 2018 report, 800,000 people needed human blood. But only 600,000 of them received blood from various private and public sources. And only 31% of those who went to donate blood voluntarily (WHO, 2018). And looking at those things, it is clear that the kind of blood that is being dematerialized is not actually being supplied. At present all the web applications or websites for blood donation in Bangladesh such as SAVE LIFE,

DonateBloodBd, Muslim AID, TopinBangladesh, Rocto, SeraDoctor, etc. I visited this web application and saw that they just put the interface on their website with the opportunity to add blood from the work of different donors. I became aware of the matter by contacting them directly. No interface has been developed for their web application to communicate with doctors or hospitals. As a result, if a patient is in a critical condition in a hospital and the hospital will not be able to communicate with the admins through this system on an urgent basis. But our system has been developed in such a way that every hospital in Bangladesh will have an interface with the admin. And as a result, the admin of one hospital will not be able to know what is in another hospital through their system. If you want, the admin of a hospital can find out what blood group is currently available in all the hospitals in Bangladesh and can see if they can contact them if necessary. Moreover, there is no connection with any institute in their application. The process of collecting blood from different organizations has not been developed in their system. As a result students are not able to get acquainted with their system. Most of the students in our country are interested in donating blood. But I have designed my system in such a way that all the students of different schools, colleges, madrasah and universities of Bangladesh can be interconnect in this application. Our development team will work to ensure that each institute is interconnected with our system. We know from this backgrounds analysis is that the blood supply in our country is not exactly what it needs. From the above scenario I can see that when a blood donor wants to donate blood to a patient, the blood in the blood donor is not checked up properly. And from the above I have decided that I will develop a system where all the citizens of the country and all the hospitals of the country will be involved for blood donation. And I believe that if everyone was involved with my system, at least no patient would die for lack of blood. The system also allows a patient to receive safe blood from a blood donor.

The proportion of those who donate blood

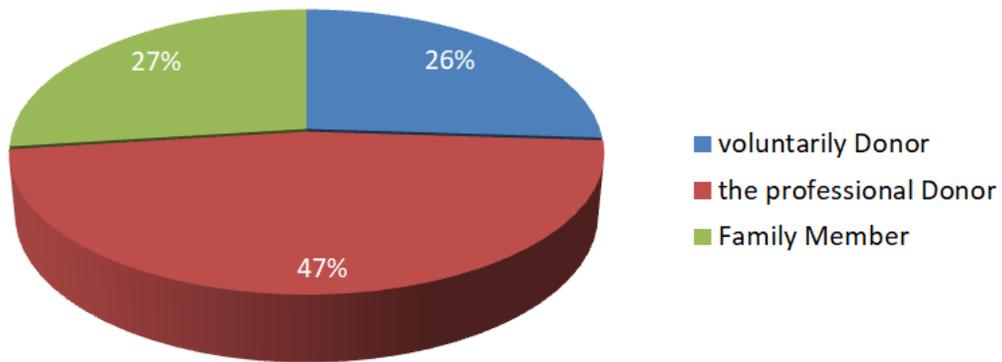


Figure 3: The proportion of those who donate blood.

2.3 Compare with other Software

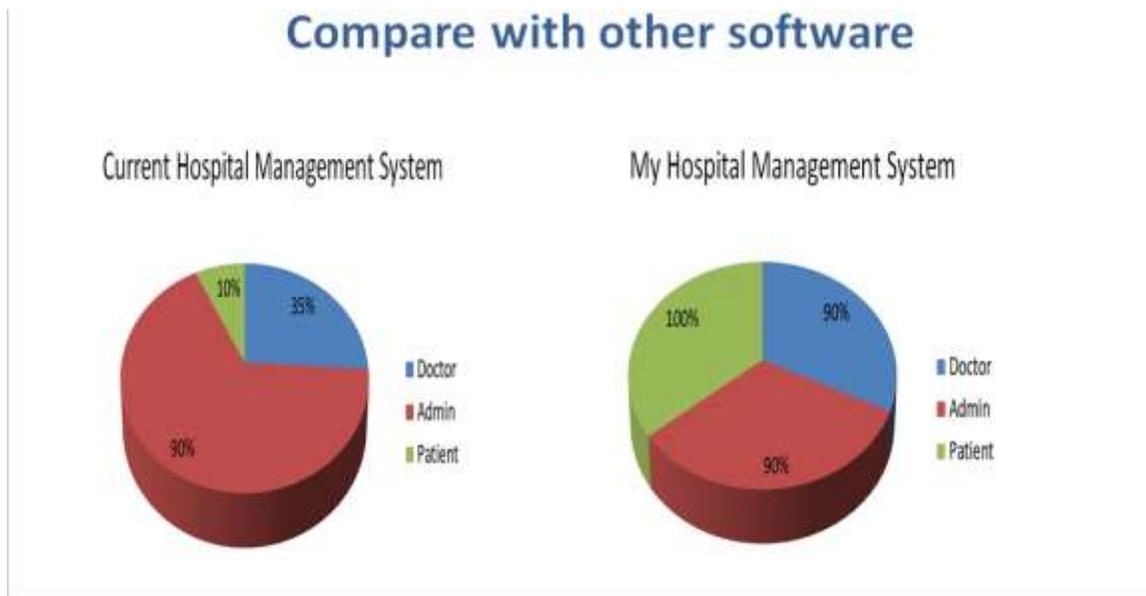


Figure 4: Compare with other software in pie chart

This pie chart highlights the differences between my software and other current software. And I have given priority to the system first to the patients then to the doctor then to the admins. We can see that the position of patients here is very low and the

position of admin of doctors is relatively high. But I can see through the system that the position of the patients is the most because if the position is more then they can easily take advantage. Moreover, the features of Doctor and Admins in my system are included much more than other software. I hope all the citizens of the country will enjoy this system very much. Hopefully they will benefit a lot from my system.

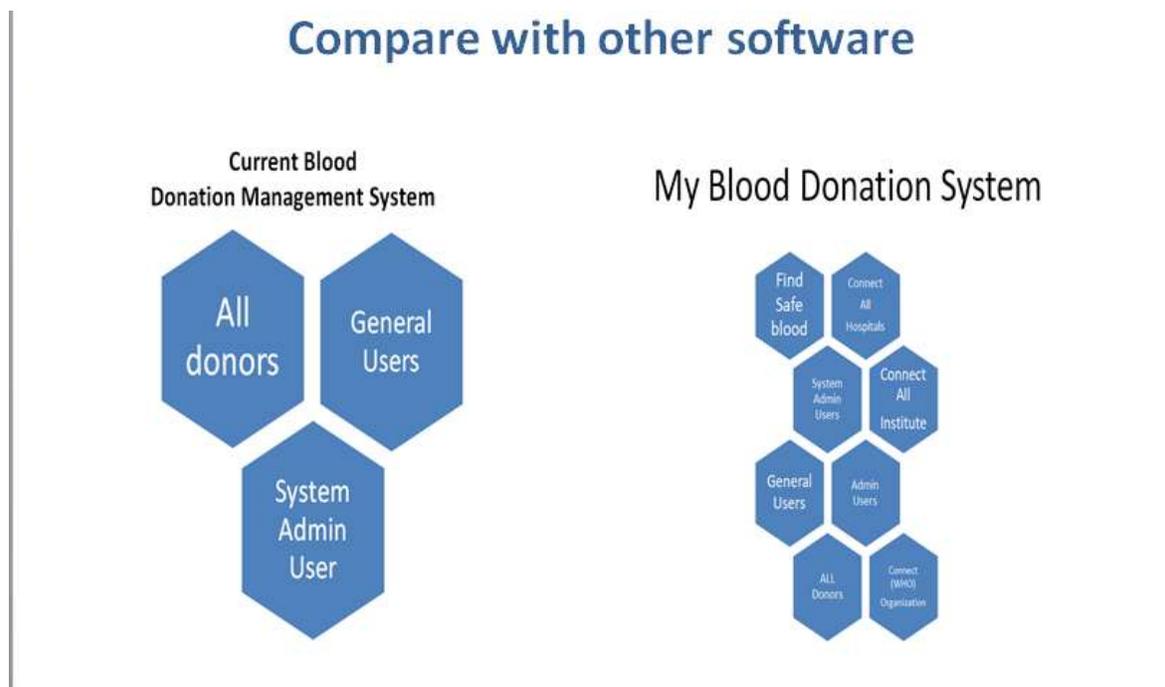


Figure 5: Compare with other software in hierarchy chart

My software has more features than any of the software currently available for online hospital and blood donation. Other features of the Blood Donation Management System are all donors, General users, system admin user. But there are many more features in my system including find safe blood, connect all hospitals, system admin user, connect all institute, general users, connect all hospitals, all donors. That means this system will have all the blood camps, all the hospitals and all the institutes connected with the

system. As a result, citizens of all levels of the country will be able to get services from this system very easily.

Chapter 3

Requirement Specification

3.1 Hierarchy Diagram of Online Hospital and Blood Donation Management System

Hierarchy diagram of Online Hospital and Blood Donation System

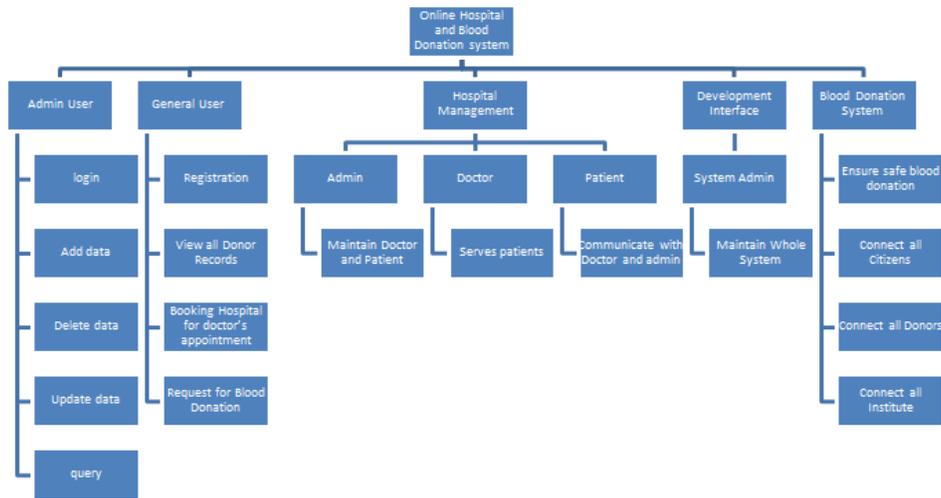


Figure 6: Hierarchy diagram of Online Hospital and Blood Donation System.

This diagram is very important. This diagram outlines what features will be available this diagram. There are examples above, there are features, and these are basically admin user, general user, hospital management, department interface, Blood Donation System. And, all the features have been highlighted in the sub category. We can understand that by looking at the diagram.

3.2 Use case Diagram of Online Hospital and Blood Donation Management System

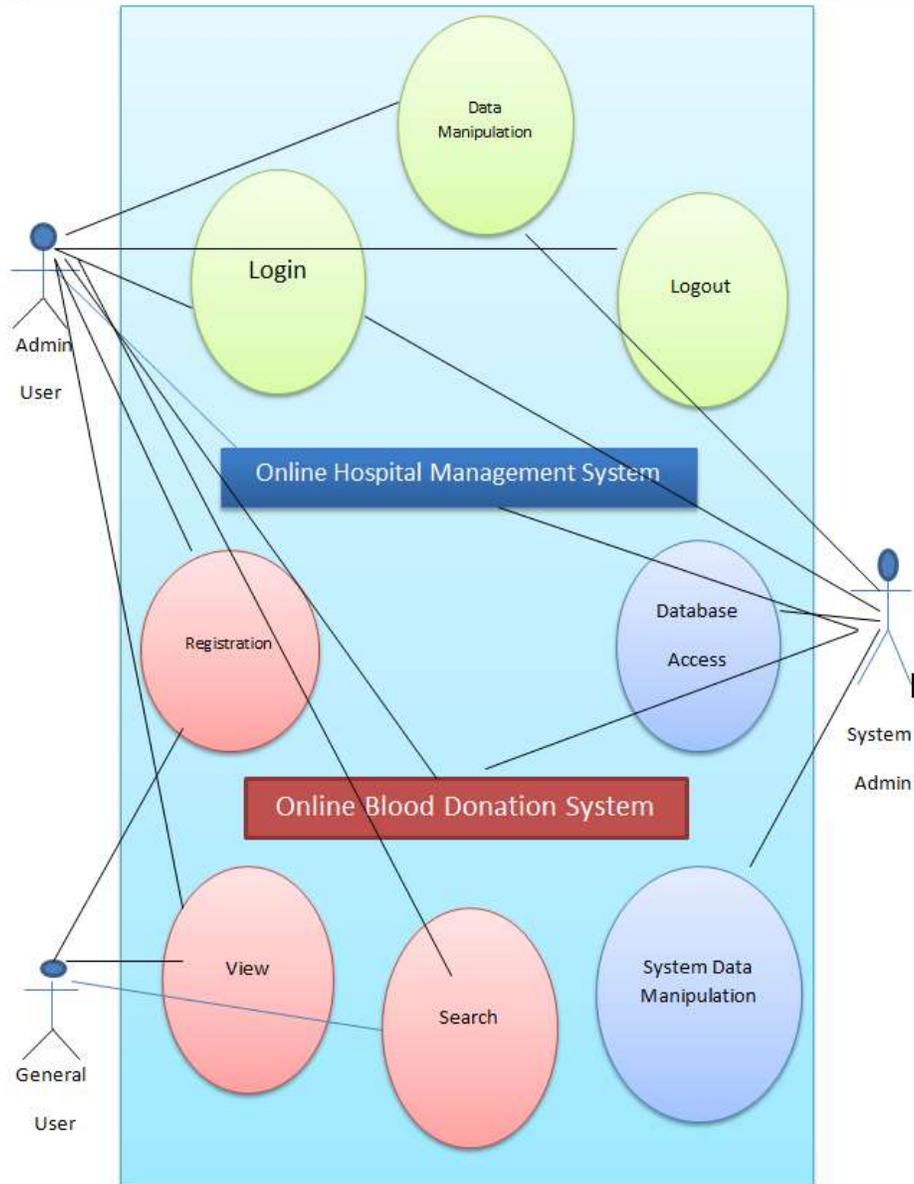


Figure 7: Use case Diagram of Online Hospital and Blood Donation Management System

This Use Case diagram shows what a doctor or admin or a citizen has to do with their functional functions. That is, the details of their work can be understood from this use case diagram.

3.3 E-R Diagram of Hospital Management System

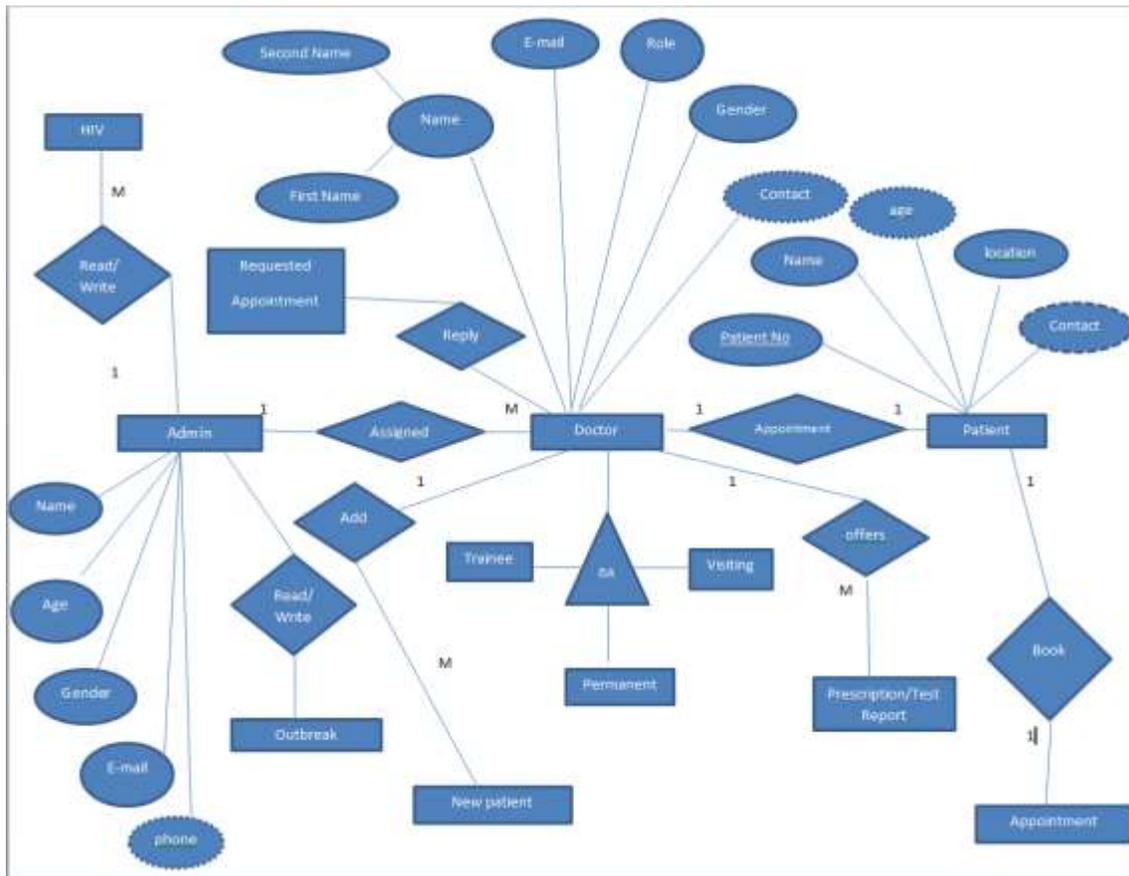


Figure 8: E-R Diagram of Hospital Management System

This E-R diagram shows all the futures of hospital management system. This diagram shows what doctors, patients and admins can do. Their functionality will be highlighted in the system in this E-R diagram. Moreover, their attitudes have been highlighted in this system. And this E-R diagram shows what kind of features an online hospital management system can have. Explain how an entity will relate to another entity.

3.4 Use case Diagram of Blood Donation System

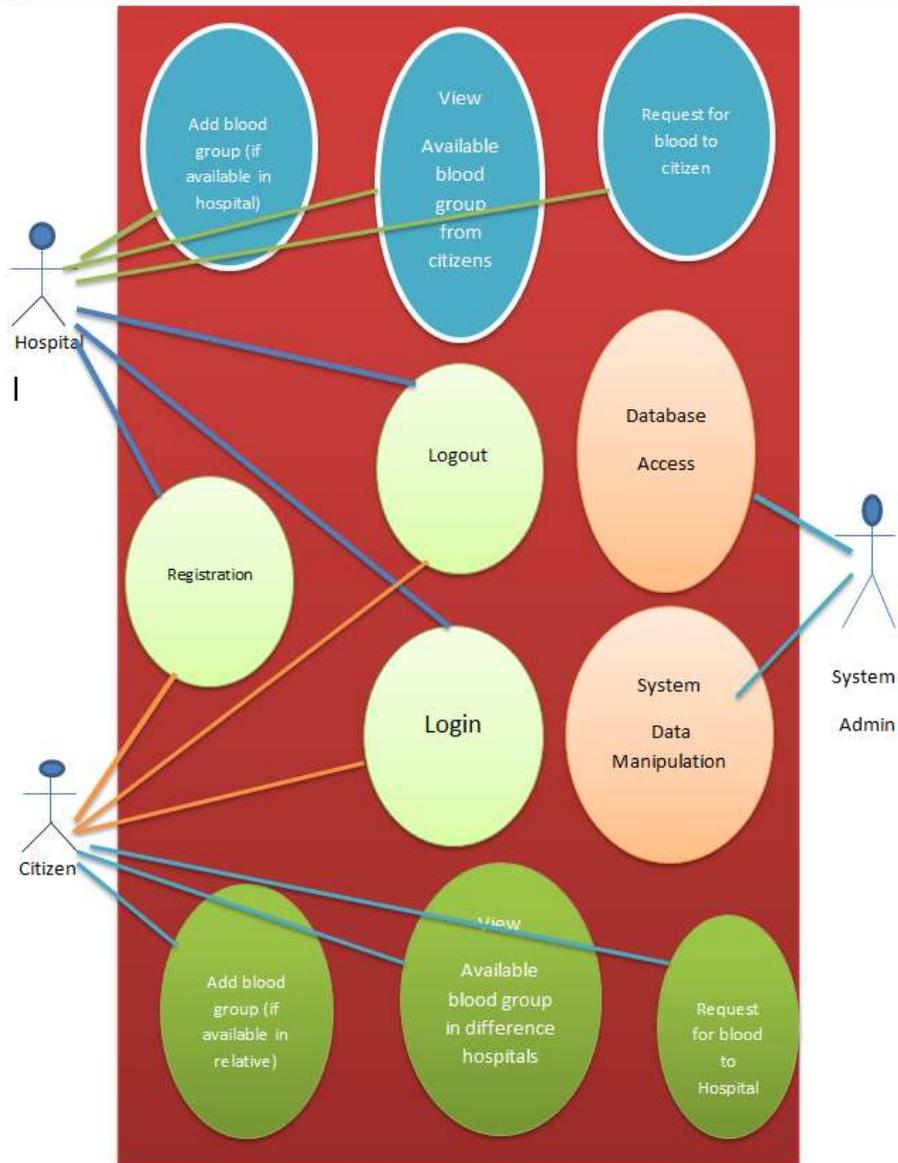


Figure 9: Use Case Diagram of Blood Donation Management System

This use case diagram shows all the feature of Blood Donation System. This Diagram shows what Hospital admin, Citizen and system admin can do. And the features of all these admin, system admin, doctors and citizens are highlighted through oval shape.

3.5 Programming Language

1. PHP

PHP is a language that interacts websites and applications with databases. If you want to send data from any form of website to database then you have to do it through PHP language. PHP can also be used if you want to move data from database to website. Moreover, you can easily extract data, delete data, query data from the database through PHP language.

2. JavaScript

JavaScript is a writing based programming language that makes any website look beautiful. It is used client side and server-side. JavaScript is a language that changes the attribute of HTML and CSS. JavaScript helps a website to load in a very short time.

3. JQuery

JQuery is a library of JavaScript that handles HTML documents. JQUERY works with animation and various effects in HTML.

4. HTML

HTML means hypertext markup language used to design any website or web applications. HTML Creates different web pages and structures on different webpage.

5. CSS

How to display different elements of HTML is to be told through CSS language. CSS full form is Cascading style sheet.

6. BOOTSTRAP 4

BOOTSTRAP 4 is the framework of HTML,CSS,JAVASCRIPT. It is used to make different websites responsive.

3.6 Tools

1. Any kind of editor (Sublime text, atom, Brackets, notepad++, notepad)

2. XAMPP

3. Any kind of browser (Google chrome, Firefox, Opera mini, Microsoft edge, etc.)

XAMPP:

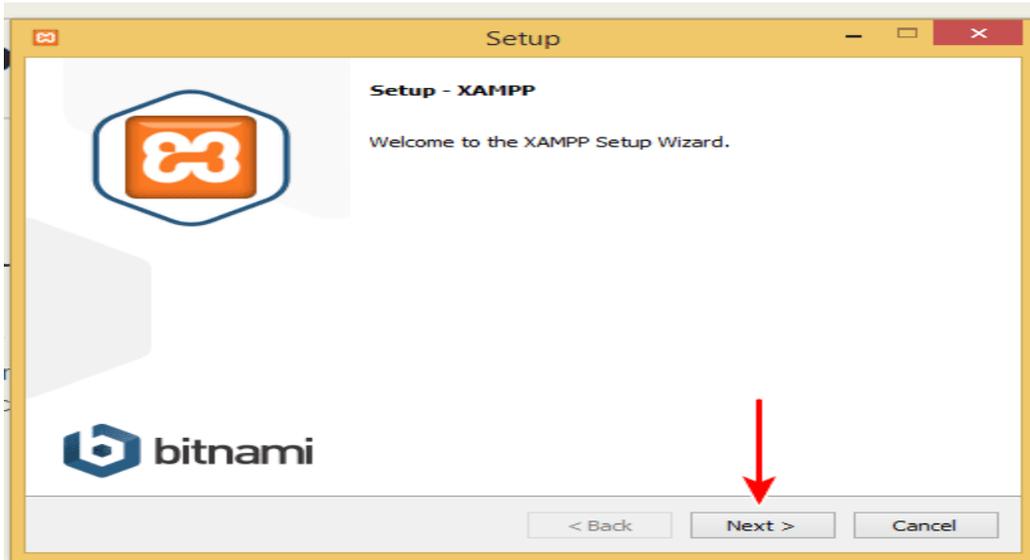
XAMPP is a platform where you can easily work offline. That is, you can work with any web application on local server.

XAMPP installs process:

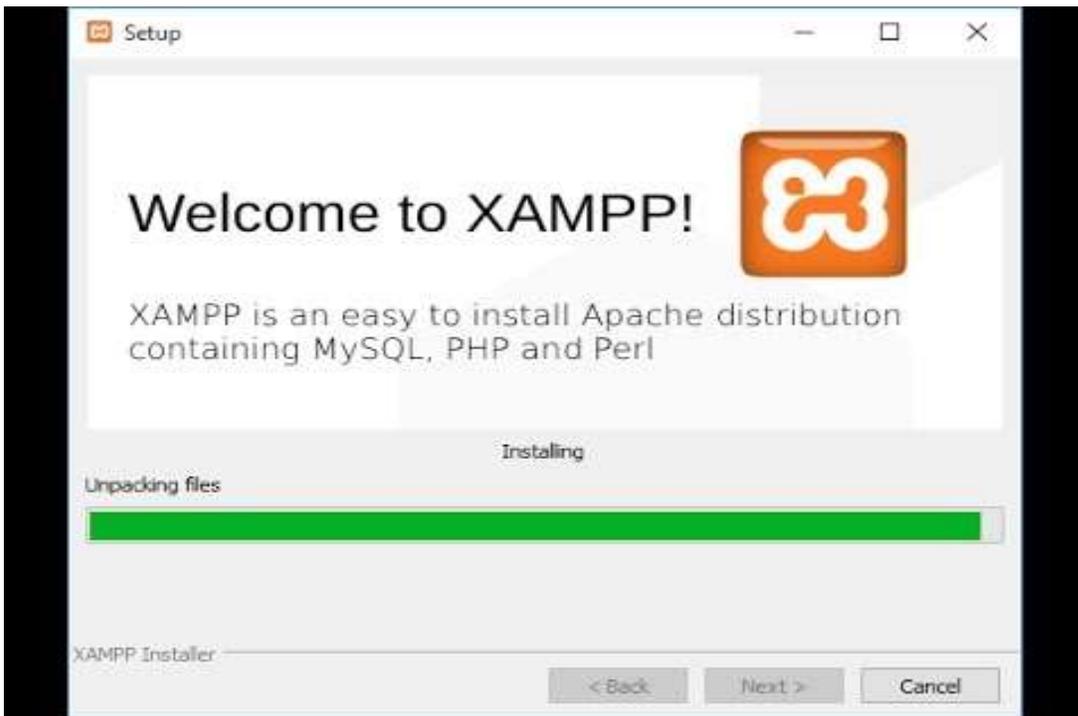
step 1: Download Xampp and hit Xampp exe file.



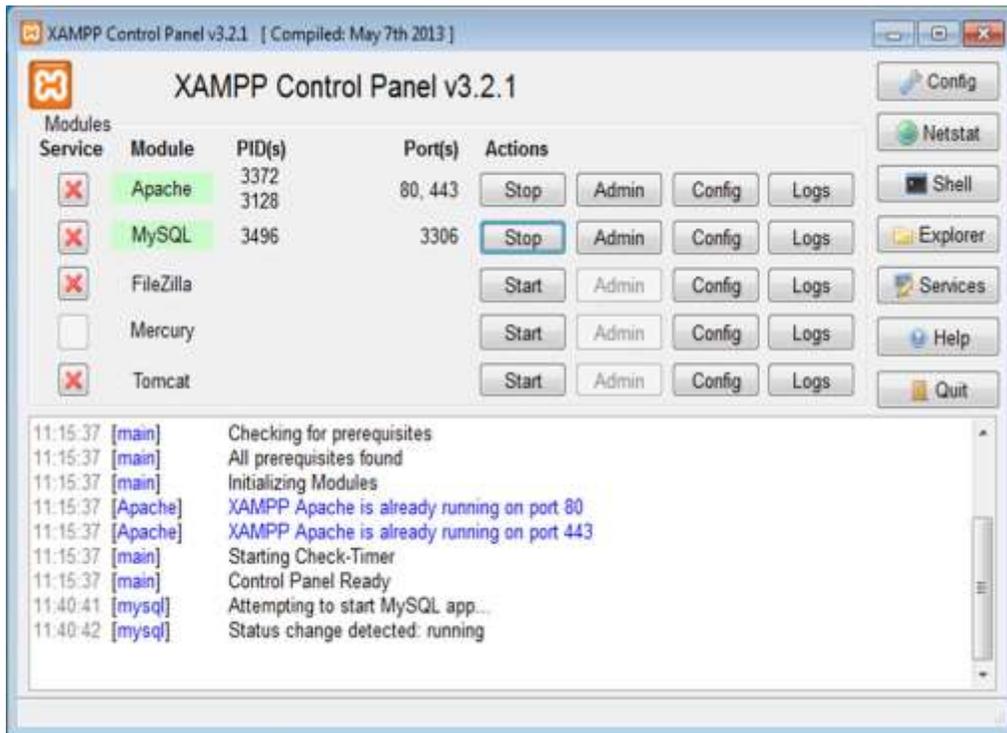
Step 2: click next button



Step 3: Running installing process



Step 4: start on Apache server and MySQL



Chapter 4

Design Specification

4.1 System Design of Online Hospital and Blood Donation Management System

- Home page interface

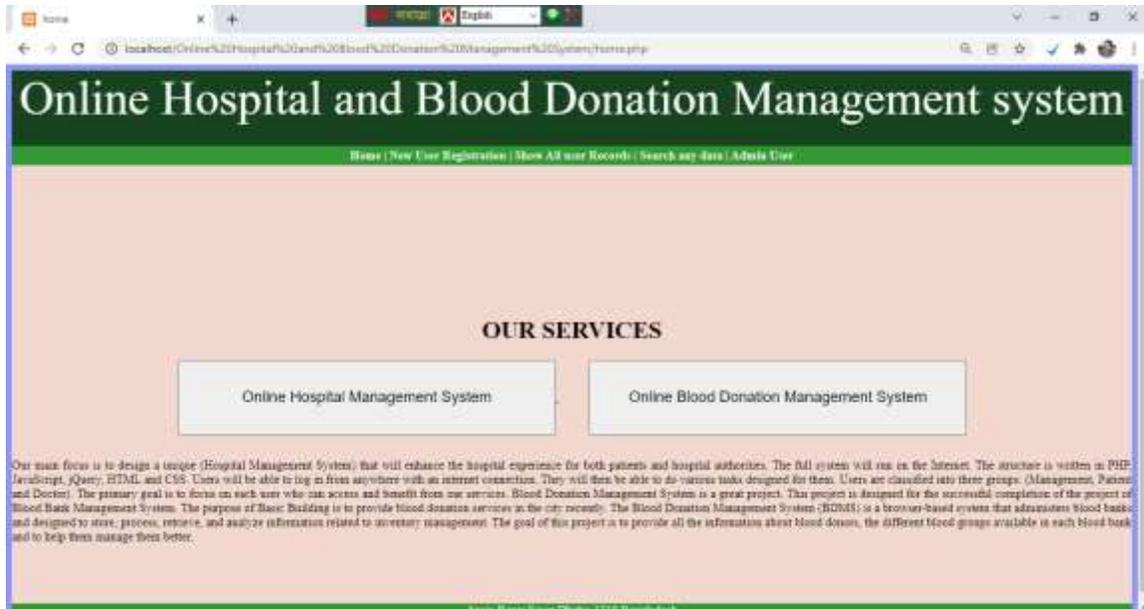


Figure 10: Home page of Online Hospital and Blood Donation Management System

This interface is the home interface. There are two types of services on this homepage. The first is the hospital management system. The second is blood donation management. Moreover we get to see the menu bar above. This menu bar is for general users. An ordinary user can register us in this system through new user registration. A user will be able to view all user information through the menu bar in the view all user record. Any information can be easily found through the search interface. Through admin users, all the users of Islam who are usually admin will login through the interface.

General

User Feature

- Registration process of New User

The screenshot shows a web browser window displaying the registration page of an 'Online Hospital and Blood Donation Management System'. The page has a green header with the system name. Below the header, there is a navigation bar with links: 'Home', 'New User Registration', 'Show All user Records', 'Search any data', and 'Admin User'. The main content area features a 'User Registration Form' with the following fields and values:

User Registration Form	
User ID	101111787
User Name	Mr. Debow Hossain
User's Father Name	Shamsul Hossain
User's Mother Name	Fazla Begum
E-mail	nohossain@gmail.com
Contact Number	01743029154
Gender	male
Address	Anda Bazar, Sherat, Dhaka
Qualification	BSc
Designation	programmer
Salary	120000
<input type="submit" value="submit"/>	

At the bottom of the page, there is a footer that reads 'Anwar Hossain Server, Dhaka-1210, Bangladesh'.

Figure 11: Registration process of Online Hospital and Blood Donation Management System

Through this interface a user will submit with all the necessary information. Through user interface A user have to typed User ID, User Name, Your Father Name, Your Mother Name, E-mail, Contact Number, Gender, Qualification, Designation, Salary. After filling in the information, he must click on the submit button.

- Confirmation Message

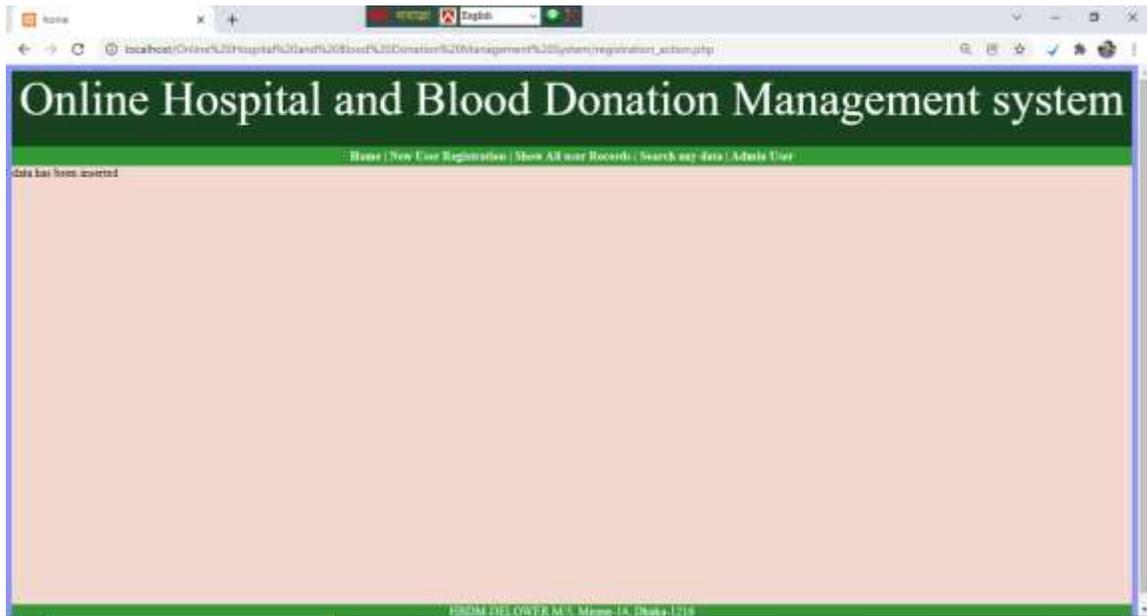


Figure 12: Confirmation Message of Online Hospital and Blood Donation Management System

Through this interface, a user can write his / her confirmation message with all the information he / she filled in with. After clicking the submit button, if the data matches the data in the database then it will be inserted and if the data does not match with the database then it will not be inserted.

- Searching process

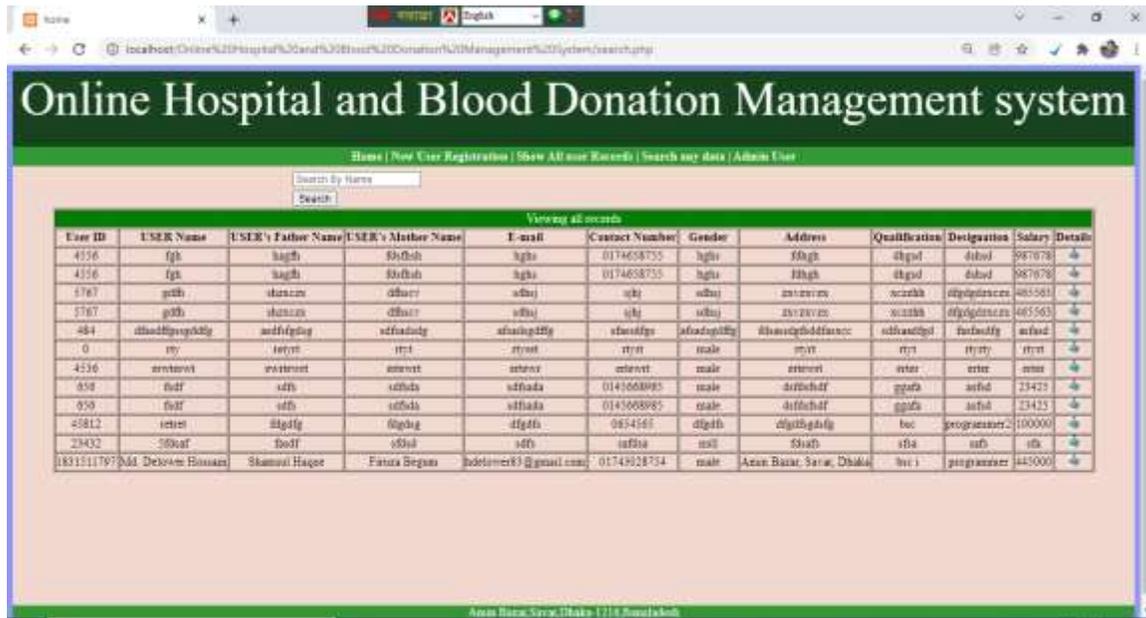


Figure 14: Searching process interface of Online Hospital and Blood Donation Management System

If a user sees another user's information through the interface, that is done through searching. If a user wants to find a specific user then he has to use the searching process. If any user wants, he can search with the name of any column of other user. If he wants, he can search with user ID, username, father name, mother name, user's email address and user contact number, gender, address, qualification, designations, salary, details. The feature that contains the details here is how any citizen can see his Individual information on another page.

- Searching result interface



Figure 15: Searching result interface of Online Hospital and Blood Donation Management System

This interface is kept to see the results after searching. When a citizen searches another citizen for a information, he will first compare it with the database and finally bring it to the interface after searching from the database. And this task has been done through php language. User ID is unique. As a result of keeping unique, no data will come twice, searching data will not come more than once.

Admin

User Feature

- Admin user login Interface

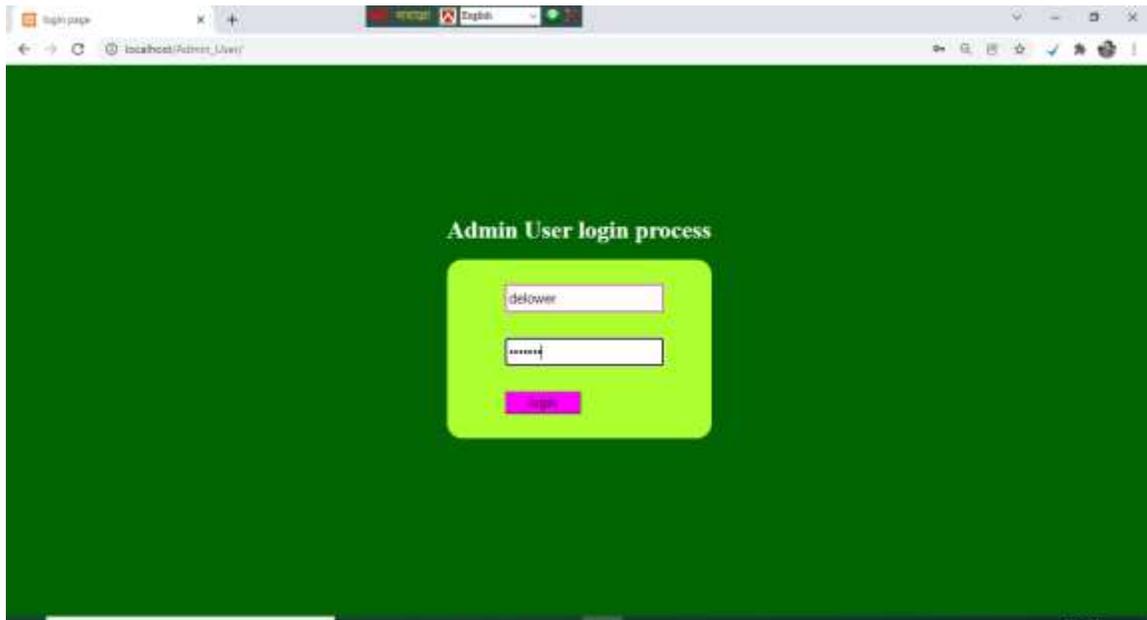


Figure 16: Admin user login interface of Online Hospital and Blood Donation Management System

This interface is usually reserved for admin users. Users who want to work as an admin or as a developer in my system must login. Because the development data I have kept separately in my database. If a user wants to access their development interface, they must provide their username and password. This means that the data that he will give in this interface will be able to access it if the data of my database matches with him.

- View all citizen records

Online Hospital and Blood Donation Management system

Home | New User Registration | Show All user Records | Search any data | Logout

Viewing all records

User ID	User Name	User's Father Name	User's Mother Name	E-mail	Contact Number	Gender	Address	Qualification	Designation	Salary	Delete	Edit	Details
4356	lgh	lghh	flghh	lgha	0174858755	lgha	flgh	lghd	lghd	987878	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4356	lgh	lghh	flghh	lgha	0174858755	lgha	flgh	lghd	lghd	987878	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5767	gdh	ghn	dhg	gdh		gdh	ghn	dhg	ghn	455565	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5767	gdh	ghn	dhg	gdh		gdh	ghn	dhg	ghn	455565	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
484	dfhghghghgh	ghghghgh	ghghghgh	ghghghgh	ghghghgh	ghghghgh	ghghghghghgh	ghghghgh	ghghghgh	ghghgh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	gh	ghgh	ghgh	ghgh	ghgh	ghgh	ghgh	ghgh	ghgh	ghgh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4356	ghghghgh	ghghghgh	ghghghgh	ghghghgh	ghghghgh	ghghghgh	ghghghgh	ghghghgh	ghghghgh	ghghghgh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
606	ghgh	ghgh	ghgh	ghgh	0145688945	male	ghghghgh	ghgh	ghgh	23421	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
906	ghgh	ghgh	ghgh	ghgh	0145688945	male	ghghghgh	ghgh	ghgh	23421	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45812	ghgh	ghghgh	ghghgh	ghghgh	8654565	ghgh	ghghghghgh	ghgh	programmer	100000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23421	ghgh	ghgh	ghgh	ghgh	ghgh	ghgh	ghgh	ghgh	ghgh	ghgh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1891511597	Md. Delveer Hossain	Shamul Hagar	Paura Begun	delveer83@gmail.com	01743028754	male	Amn Hanz, Sarai, Dhaka	bc	programmer	443000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Amn Hanz, Sarai, Dhaka 1214 Jomalekh

Figure 17: View all citizen records interface of Online Hospital and Blood Donation Management System

Through the interface, an admin will be able to see all the information of all the citizens of the country. And if an admin user wants, he can delete, update, and modify the information of any citizen of the country. This means that an admin user can change the user ID, username, father's name, mother's name, email, contact number, gender, and address of any citizen.

- Confirmation message after modify the data

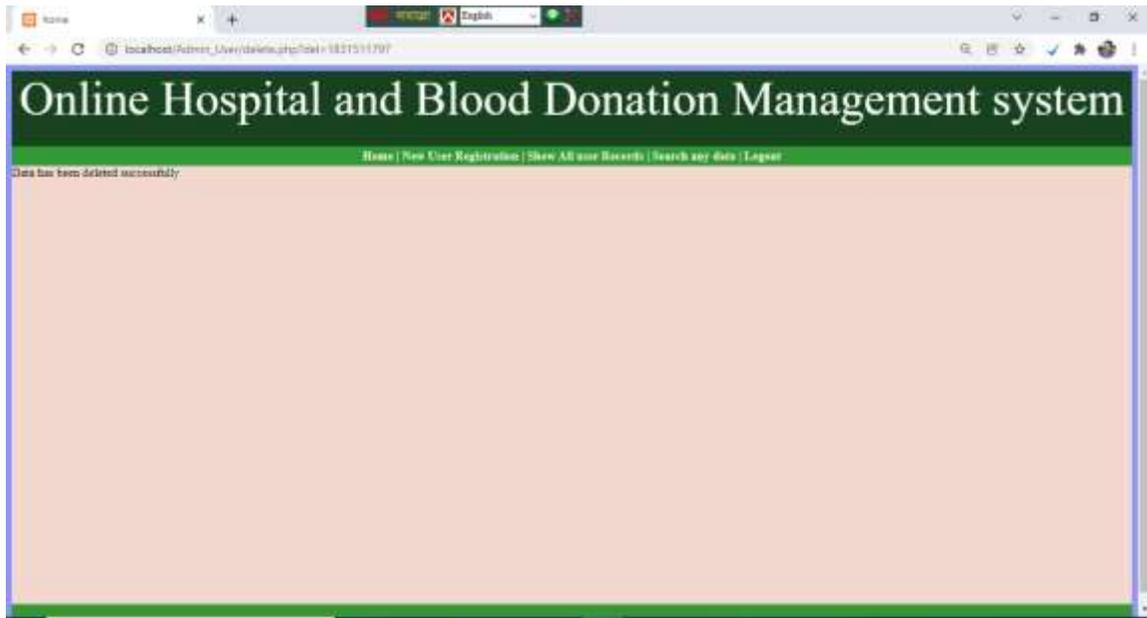


Figure 18: Confirmation message interface of Online Hospital and Blood Donation Management System

This interface is a confirmation interface where a message will be displayed if an admin updates and modifies the data of a citizen then his confirmation message will be seen there. That is, if an admin updates the data of a city, then PHP language modifies that data from the database and brings the result interface.

- View all records after modify the data

User ID	User Name	User's Father Name	User's Mother Name	Email	Contact Number	Gender	Address	Qualification	Designation	Salary	Delete	Edit	Details
4236	lgh	lghh	lghh	lghh	017469752	lghh	lghh	lghh	lghh	947671	✖	✎	🔍
4556	lgh	lghh	lghh	lghh	017469752	lghh	lghh	lghh	lghh	947671	✖	✎	🔍
5767	gdfh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	463583	✖	✎	🔍
5767	gdfh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	463583	✖	✎	🔍
484	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	✖	✎	🔍
0	ghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	✖	✎	🔍
4536	ghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	✖	✎	🔍
488	ghh	ghhghh	ghhghh	ghhghh	014566888	ghhghh	ghhghhghh	ghhghh	ghhghh	23425	✖	✎	🔍
488	ghh	ghhghh	ghhghh	ghhghh	014566888	ghhghh	ghhghhghh	ghhghh	ghhghh	23425	✖	✎	🔍
45812	ghhghh	ghhghhghhghh	ghhghhghhghh	ghhghhghhghh	0074565	ghhghh	ghhghhghhghh	ghhghh	ghhghhghhghh	200000	✖	✎	🔍
23422	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	ghhghh	✖	✎	🔍

Figure 19: View all records after modify the data by admin user

Through this interface an admin can see the data modified. After updating and modifying the admin data, the data can be modified here in the database again. An admin has changed any information of the citizen i.e. group username user name, fathers name, mothers name, email contact, number blood group etc. This means that admin user can easily see the information of the citizens that has changed.

- Add new user

The screenshot shows a web browser window displaying the 'Online Hospital and Blood Donation Management system'. The page has a green header with the system name and a navigation menu. The main content area is a light pink background with a central registration form titled 'Employee Registration Form'. The form contains the following fields:

User ID	23432
User Name	Dalwin
User's Father Name	Dharmal
User's Mother Name	Frace Begum
E-mail	rsblouer6@gmail.com
Contact Number	9499
Gender	male
Address	Amir, Saker, Saker, Dhama
Qualification	MBBS
Designation	Programmer
Salary	10000

At the bottom right of the form is a 'submit' button. The footer of the page reads 'Amir Saker Saker Dhama 1211 Dhama Dhama'.

Figure 20: Add new user interface by admin user

If an admin wants, he can add a new user to our system. This means that all the information that new users have to input through this admin user interface. That is the user ID, username, father name, mother name, contact number, gender, blood group etc. After adding all the information, click on submit button and then it will go to the database. This work has been developed through PHP language.

- Confirmation message after add the new user in the system

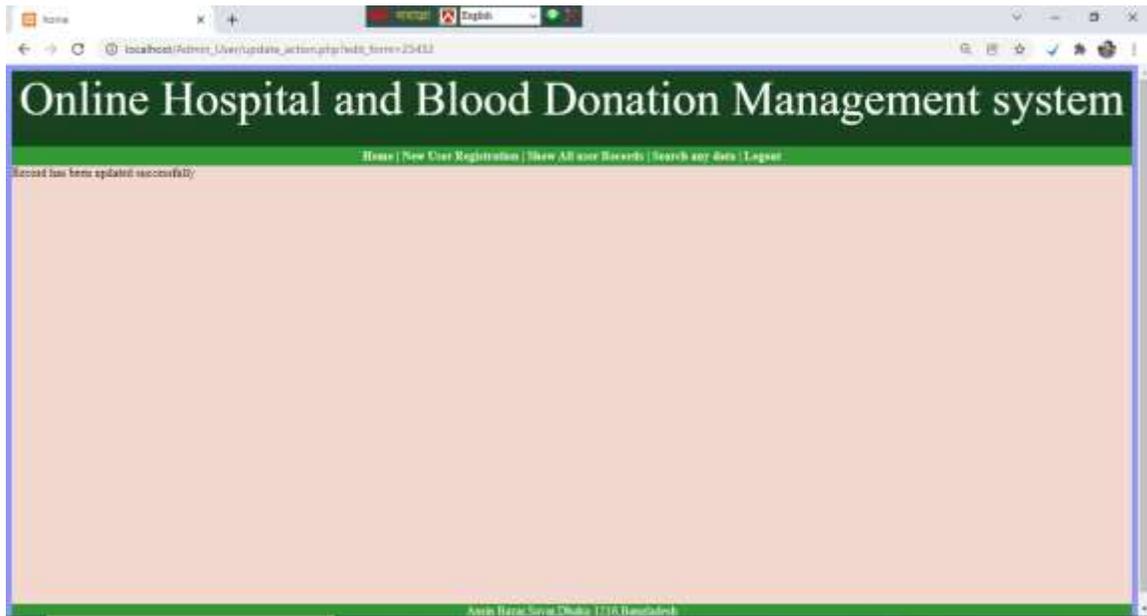


Figure 21: Confirmation message after add the new user interface by admin user

The interface will usually give a confirmation message after the admin adds a new user. And if it displays a confirmation message here, then we have to understand that the data has gone to the database. And if the confirmation message says data has not been inserted, and then we must understand that we did not get this data into the database.

- View all records after add new user

User ID	User Name	User's Father Name	User's Mother Name	E-mail	Contact Number	Gender	Address	Qualification	Designation	Salary	Delete	Edit	Detail
4556	lagh	lagfh	lagfmh	lagh	0174858755	lagh	lagh	lagh	lagh	987678	✖	✎	🔍
4558	lagh	lagfh	lagfmh	lagh	0174858755	lagh	lagh	lagh	lagh	987678	✖	✎	🔍
5767	ghf	ghdxxn	ghdxy	ghdxy	ghd	ghd	ghdxxn	ghdxxn	ghdxxn	485563	✖	✎	🔍
5767	ghf	ghdxxn	ghdxy	ghdxy	ghd	ghd	ghdxxn	ghdxxn	ghdxxn	485563	✖	✎	🔍
484	ghdghjghjghj	ghdghjghj	ghdghjghj	ghdghjghj	ghdghjghj	ghdghjghj	ghdghjghjghjghj	ghdghjghj	ghdghjghj	ghdghjghj	✖	✎	🔍
9	ghj	ghjghj	ghjghj	ghjghj	ghjghj	ghjghj	ghjghjghjghj	ghjghjghj	ghjghjghj	ghjghjghj	✖	✎	🔍
4558	ghjghjghjghj	ghjghjghj	ghjghjghj	ghjghjghj	ghjghjghj	ghjghjghj	ghjghjghjghjghj	ghjghjghj	ghjghjghj	ghjghjghj	✖	✎	🔍
458	ghjghj	ghjghj	ghjghjghj	ghjghjghj	0145888885	ghjghjghj	ghjghjghj	ghjghjghj	ghjghjghj	23425	✖	✎	🔍
458	ghjghj	ghjghj	ghjghjghj	ghjghjghj	0145888885	ghjghjghj	ghjghjghj	ghjghjghj	ghjghjghj	23425	✖	✎	🔍
45812	ghjghjghj	ghjghjghj	ghjghjghj	ghjghjghj	0674567	ghjghjghj	ghjghjghjghj	ghjghjghj	ghjghjghjghj	100000	✖	✎	🔍
23432	Deliver	Shamul	Firoza Begum	shdelover10@gmail.com	shdel	shdelover10@gmail.com	Amn Hazar Sava DhaKa	shc	Programmer	40000	✖	✎	🔍

Figure 22: View all records after add new user interface by admin user

Through this interface, an admin user who has just added new users will be able to see his information. Now the data has been extracted from the database through the interface and brought through PHP language. The system admin is giving permission to the admin users to do all these things. Admin users can create data of individual users if they want and they can extract data from database and bring it to this server. And these admin users have retrieving all data from these databases to this interface using PHP language and extracting all these databases from the update modified and deleted.

- Searching process by admin user

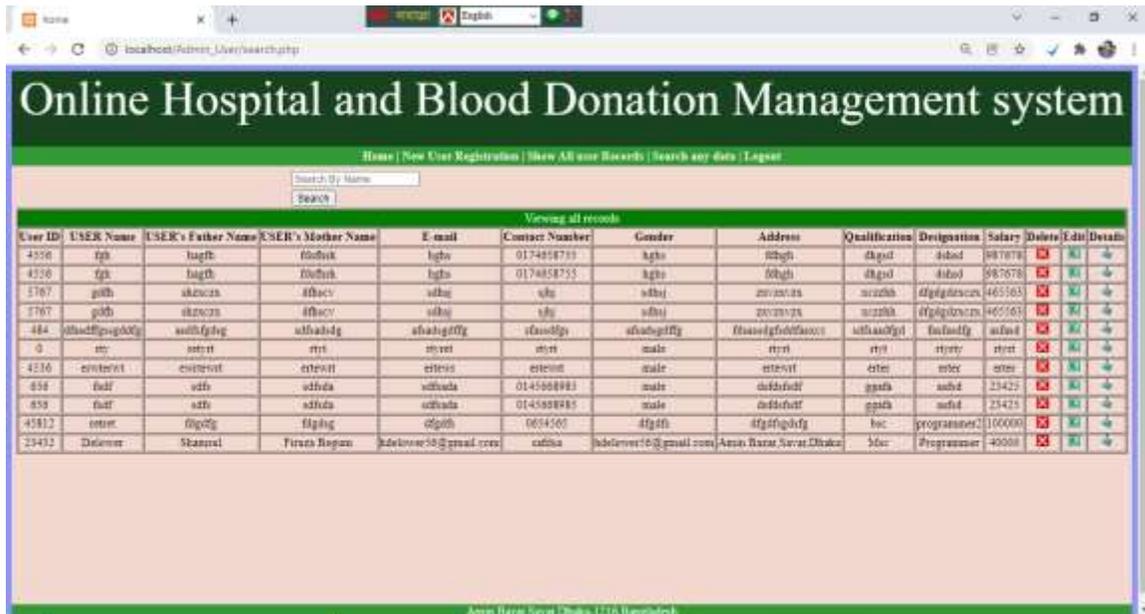


Figure 23: Searching process by admin user interface by admin user

Through the interface, an admin user can search for the information of any citizen if he wants. And if necessary, Admin can update and modify that specific data. If the admin wants to modify the specific user data then the modified data will first go to the database then from that database will come through the interface through php language. Admin will be able to delete certain user data through delete icon and specific information through update icon. The red icon here indicates the delete icon and the green account indicates the update icon.

All Citizens

Features

- Home interface of main server

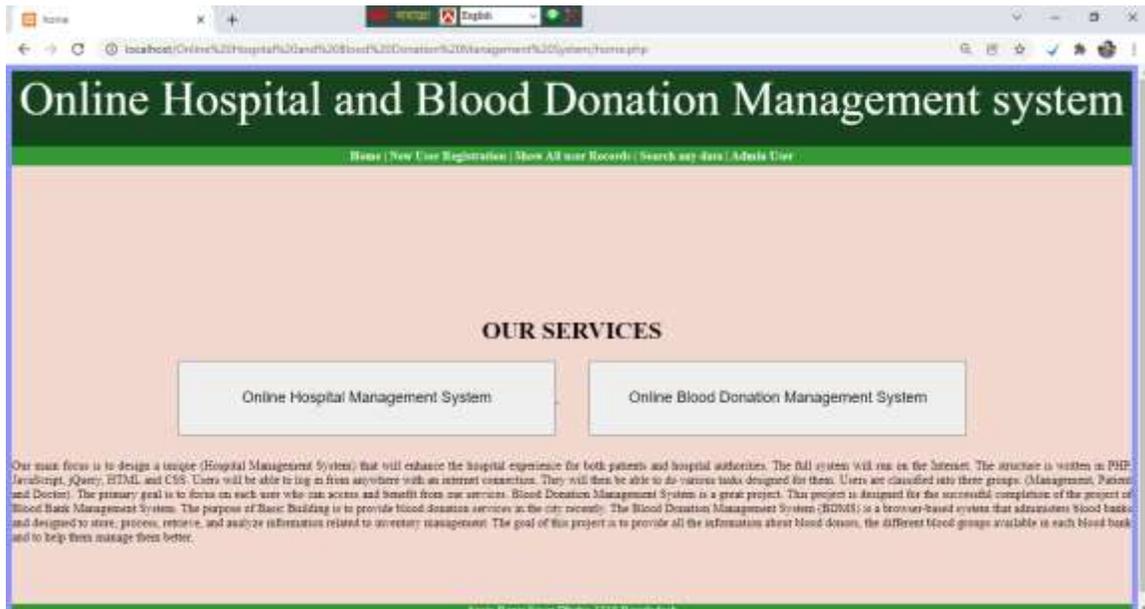


Figure 24: Home interface of main server of Online Hospital and Blood Donation Management System

This Interface is the main interface of my main server. I have already discussed the interface. There are basically two services here. One is the online hospital management system and the other is the online blood donation management system. In addition to this, there is an interface of ordinary citizens and admin user of this interface. Now we will access the main server of Online Hospital Management System by clicking on the Online Hospital Management System button.

- District and division based hospital



Figure 25: District and division based hospital of Online Hospital and Blood Donation Management System

Here we can see directly the interface of the district and division based hospital. This means that any citizen of the country will be able to see and select a number of hospitals in the division of his vision. In general, work has been done with all the hospitals in the seven divisions of the country. This means that the list of all the hospitals in the seven divisions has been included in this system. If any citizen of the country wants to make a booking in the division based hospitals of the country, he can make an online booking from there.

- List of hospitals in Dhaka division



Figure 26: List of hospital in Dhaka division interface

Through the interface we have connected all the hospitals in Dhaka district through the list interface of all the hospitals. And these hospitals are connected to my original Hospital Management System server. Through which any citizen can easily make any hospital booking through this main server of mine. Besides, you will be able to see all the information of all these hospitals through this main server of mine. And the hospitals are basically kept in my database and they are extracted from the database through PHP language and kept in this interface.

- **List of Hospitals in Rajshahi division.**



Figure 27: List of hospital in Rajshahi division interface

Here we can see the list of all the hospitals of Rajshahi division like Dhaka division for similar. If any citizen of Tata Rajshahi Division wants to make a booking in the hospitals of Rajshahi Division, he can do so if he/she wishes. As soon as he/she click on any hospital you will be taken to my main server and from there he/she will be able to book online at the hospitals. And all this information must be in my database.

- List of hospitals in Sylhet division



Figure 28: List of hospital in Sylhet division interface

Here is a list of similarly Sylhet Division Hospital. Citizens of Sylhet can easily book online in these hospitals through my main server. In other words, if a citizen of Sylhet has to make online booking in the hospitals of Sylhet which have hospitals, then he /she will come to my main server and type the required information in my main server and make online booking to get the doctor's appointment. All this information must be in my database.

- Main server interface of Online Hospital Management System



Figure 29: Main server interface of Online Hospital Management System

This interface is the main server interface of the hospital management system. Interest is usually for admin doctor and patient. Admin means hospital admin and doctor still means hospital individual doctors and patients means any district based. Now, if necessary, the citizens of one district will be able to make bookings in the hospitals of other districts. The admin section for admin users and the doctor section for doctoral users and the patients section for patients have been created separately in the database.

- Home Interface of Main Server

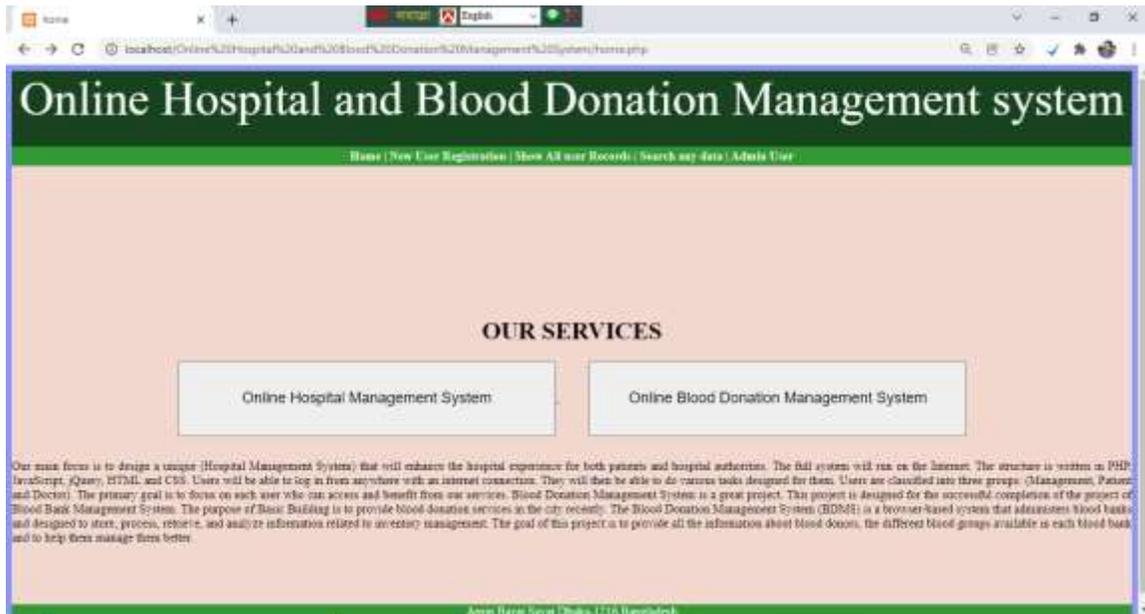


Figure 30: Home Interface of main of Online Hospital and Blood Donation Management system

We have already discussed the interface. The interface basically provides two types of services. There is also a menu bar for users. Here is the interface for accessing admin users. Previously we moved directly from here to the online hospital management system. We will now move directly to the online blood donation management system. To access the Blood Donation Management System, we need to click on the Blood Donation Management System button. Clicking on the button will take you to the online blood donation system application.

- Home page interface of Online Blood Donation Management System



Figure 31: Home page interface of Online Blood Donation Management System

This interface is the main interface of the online blood donation management system through which you can easily see the services of all interfaces. These are the interfaces that any citizen can easily go to any interface through the interface such as register, login, all institutes, all blood groups, all donors and find safe blood group. Moreover, a citizen will be able to know the blood information of all the blood groups in the interface. Here the general public of the country will be able to access the original Blood Donation Management System through the login or registration interface. To access the main server, he/she must first register and then login. He must provide the required information for registration.

- Searching process to get specific donor from all available donor's record



Figure 33: Searching process to get specific donor from all available donor's record

Through this interface a citizen can easily find any donor through the searching process. This means that if a person becomes ill and if he / she wants to find a book immediately, he / she can easily find the desired donor through this interface. The above a- blood group has been searched as an example in the above interface and after searching my system has come up with the desired output which we can see in the above figure.

- Searching process to get specific donor who have no virus in their blood



Figure 34: Searching process to get specific donor who have no virus in their blood

Through this interface, patients will be able to see the list of donors who have no virus in their blood. The blood of all the donor was first tested by the hospital to find that there was no virus in their blood. Then our development team takes information from them and reports it to our database. And PHP language is used to this interface by extract data from the database. And my system is designed in such a way that donor can first communicate directly with the hospital. The donor will go to the hospital to donate blood and the hospital will check their blood and then they will keep the blood if there is no virus in their blood. Donors who have viruses in their blood will send us information with viruses that have no viruses in their blood. They will have such instructions from our development team. And this system and any citizen can find any blood donor through the searching process.

- Institute Registration Process

The screenshot shows a web browser window with a red header bar containing the text "Collection Blood From All Institute". Below the header is a registration form titled "Institute (New Student Registration) | Home | Register | Blood Donor". The form is titled "New Student Registration Form" and contains the following fields:

Student ID	1234567
Student Name	12345678901234567890
Student's Father Name	12345678901234567890
Student's Mother Name	12345678901234567890
Blood Group	A
Last Date Received Blood	2-12-2021
Institute Name	12345678901234567890
Date of Birth	20-05-1999
Age	21
Address and Contact Number	123456789012345678901234567890
Gender	Male

At the bottom right of the form is a "Save" button. The footer of the page reads "Admin: 123456789012345678901234567890".

Figure 35: Institute Registration Process

We have designed our interface in such a way that all the organizations in the country can be connected to our system. In other words, through this form, we will take into our system through the form the blood group of each student in each educational institution. Any student who is available for any institution should highlight that institution here. And in this form we will have the names of all the educational institutions of the country attached. Besides, students have to give all other information through this form. The information will include Student ID, Students' Name, Students' Father's Name, Mother's Name, Students' Blood Group and their Address and Mobile Number. This form can be done by the students themselves or by the administrators of the institution if they wish.

- Confirmation message after filled up the institute registration process.



Figure 36: Confirmation message after filled up the institute registration process.

This interface is reserved for sending confirmation messages. This means that each institute individual will fill in the information of the students as soon as the confirmation is submitted then the confirmation message will be seen data has been inserted and if not then the confirmation message will be data has not inserted. The interface has the interface of all other pages so that any user can go to all the other pages if he wants such as institute, new student registration, home, hospital, blood donation.

- Searching process to find any institute’s student information

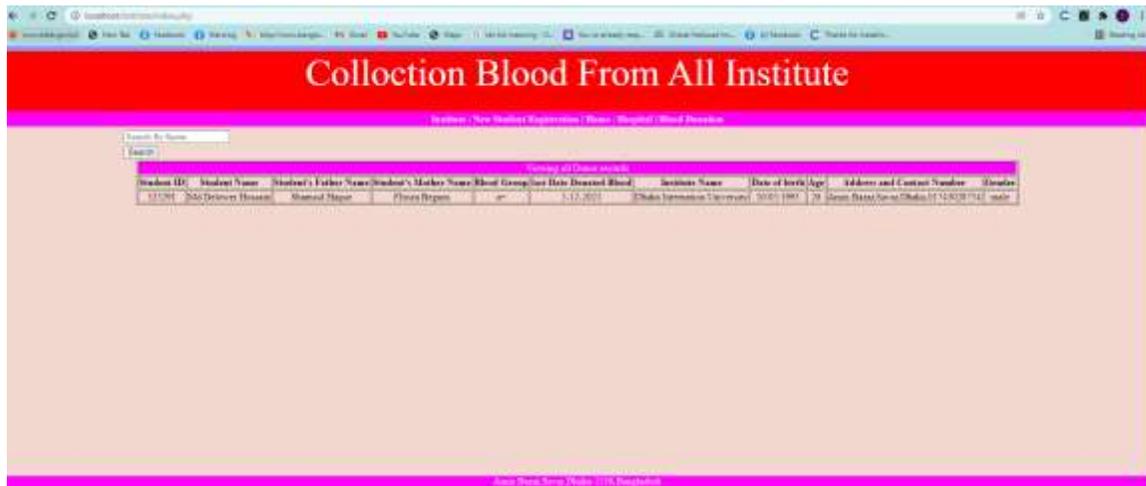


Figure 37: Searching process to find any institute’s student information

Any citizen of the country can know the blood information of the students through the interface. In other words, the general public of the country will be able to know about the blood groups of the students of any institution. Now if any citizen wants to know the information of any student who gets specific, he/she can also know the institution based. There will be a lot of information so that any citizen has a search in process, he can get all the information based on the organization based and also by searching with blood group and student ID, he/she can contact. and, first this information has been stored in our database. Then the interface was created for the users by extracting data from the database through PHP language.

- **Blood Camp's Registration Process**

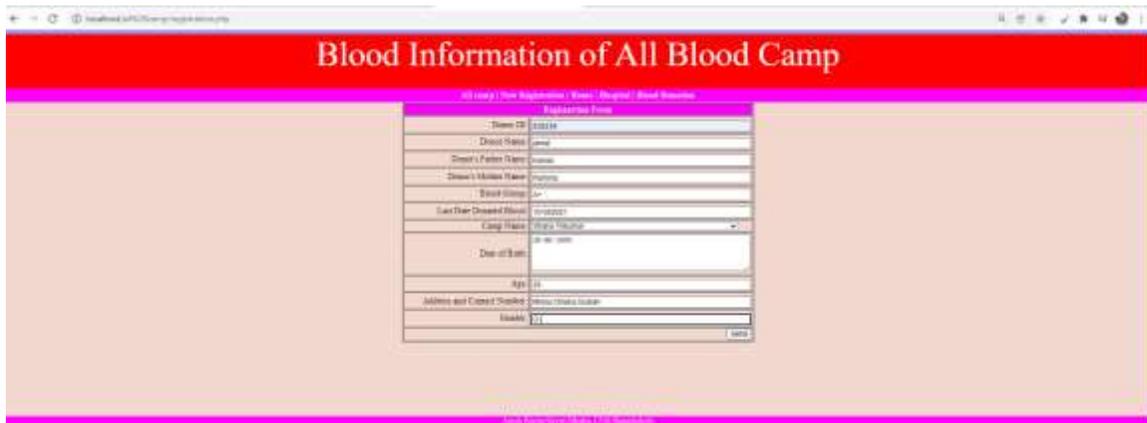


Figure 38: Blood Camp's Registration Process

We have developed our system so that all the blood donation camps in Bangladesh can be connected to our system. And in this system we have provided the information in our system which blood is available in which blood camps in Bangladesh. Now through this interface, admins of each blood camp will fill in the information of what blood is available in their blood camp. All the data that they will input will be moved to our database. And that's how our system was developed. All the information that they will give as bone information are the name of blood donor, id, father's name, father's name, address, contact number, age, gender and blood group of the donors.

- Blood information of all Blood Camp

Donor ID	Name	Age	Gender	Father Name	Address	Mother Name	Blood Group	Date
1	John	25	M	John Doe	123 Main St	Jane Doe	A+	2023-10-26

Figure 39: Blood information of all Blood Camp

Through the interface, a citizen can easily see which blood groups are available in which blood camps in the country. In addition, citizens can use the search process to find any specific blood donor from their blood donation camp. The last time a blood donor donates blood will be in the information interface. One of your patients will easily understand which donor to knock. In addition, a donor can search by typing blood camp to find out what blood is in a blood camp. And if the patient wants, he/she can get the information about the blood camps around him from here. And all these tasks will first go to our database and that information from that database will be displayed in this development interface. All this work has been done through PHP language.

4.2 System Design of Online Hospital Management System

- Home page Interface

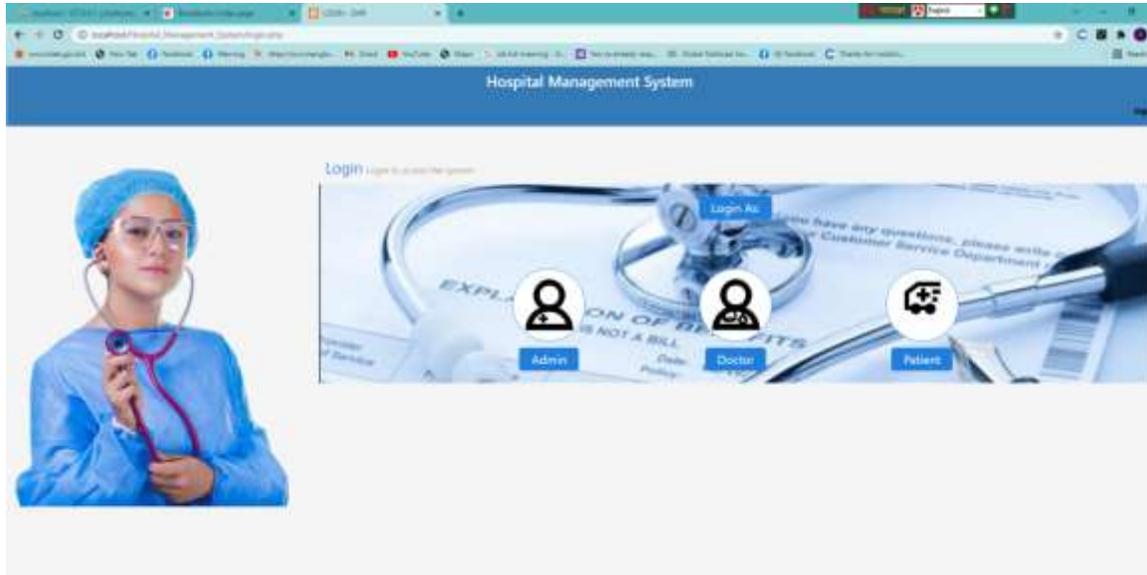


Figure 40: Home page Interface of Hospital Management System

This interface is the homepage of the hospital management system. There are three options in this interface. There are admin, doctor and patient. The admin feature is for admins, the doctors feature is for doctors and patient feature is for patients. And all the information in these interfaces is already stored in the database. All the information of the admins and all the information of the doctors and patients are already in the database. And this interface is designed using HTML CSS JavaScript and bootstrap 4. And the development work has been done using the php language.

Admin

Features

- Admin Login Process interface

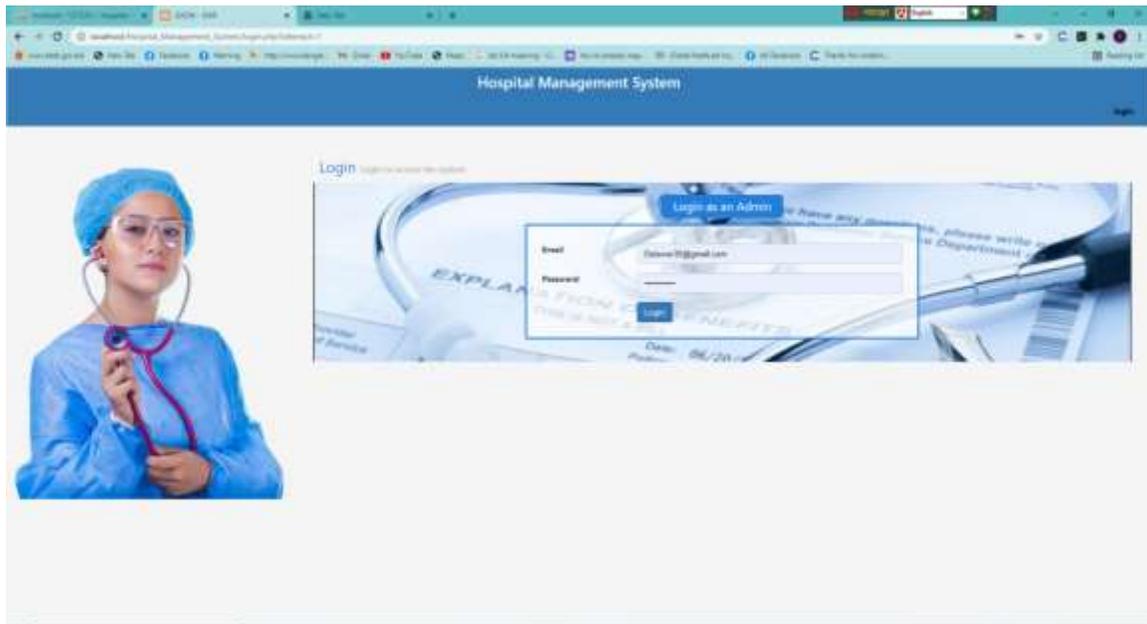


Figure 41: Admin Login process Interface of Hospital Management System

The form is the admin login process. The list of admins has already been given in the database. This means that if the username and password of my database match exactly with the username and password of the admins who will be given in this form, then he/she will be able to login to the main server. This means that the data of the admins will already be in our database and whatever is given in this login in form through PHP language will be matched. Allow admins to access main server if it is match and not allow to the main server if it does not match.

- Admin Dashboard

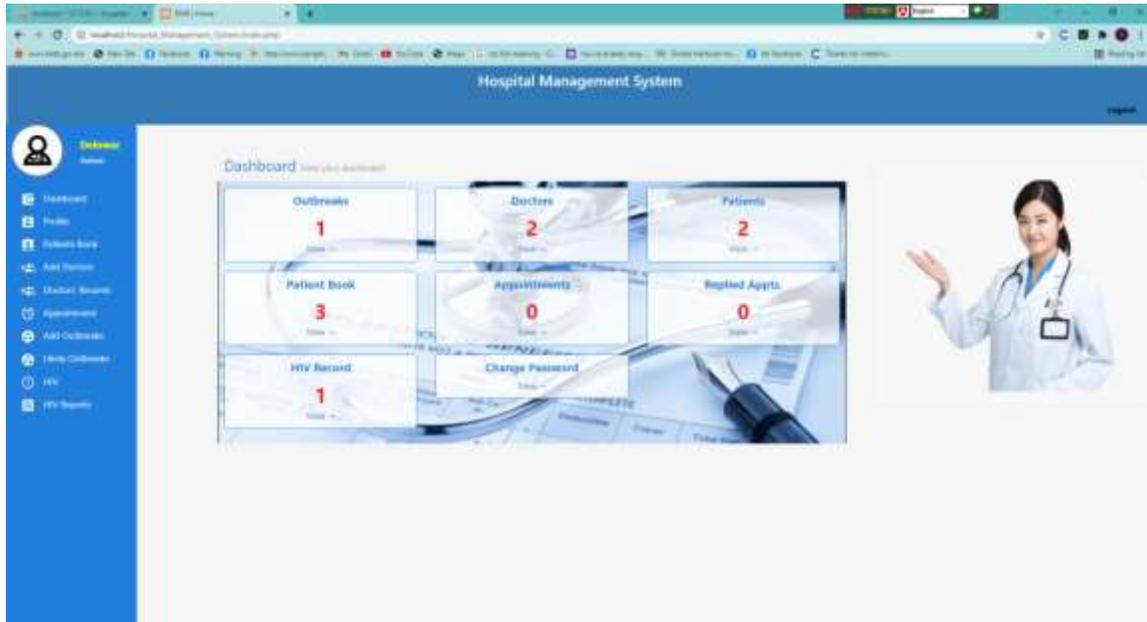


Figure 42: Admin Dashboard process Interface of Hospital Management System

This interface is admin dashboard. There are many features in this admin dashboard. There are profiles, patients book, add doctor, doctor's records, appointment, add outbreaks, HIV, HIV Reports in this interface. If the admin wants, he can change all the information of his profile. If an admin wants, he can see which patients have requested an appointment for which doctors through patient book. If such an admin wants, he can change the documents of the doctors and add a new doctor. An admin will be able to see through the appointment feature which patients have requested their doctors for booking. Now an admin can easily provide information about any important patient and disease through Outbreak feature.

- Admin Profile Interface

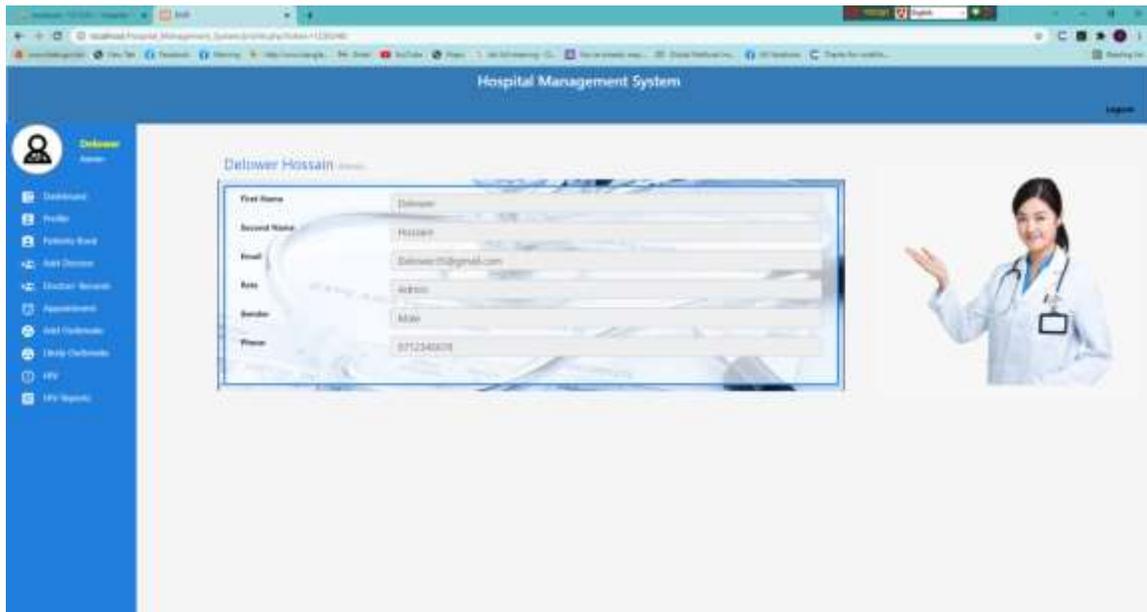


Figure 43: Admin Profile Interface of Hospital Management System

This interface is admin profile interface. There is an individual profile for individual admins. Here admins can see their information. With this feature an admin will be able to see all the information in his profile. And the necessary information of the admins is already stored in our database. And all the information from this database is retrieved via PHP language on the interface. And interface is designed HTML, CSS and bootstrap 4.

- Add Doctor Interface

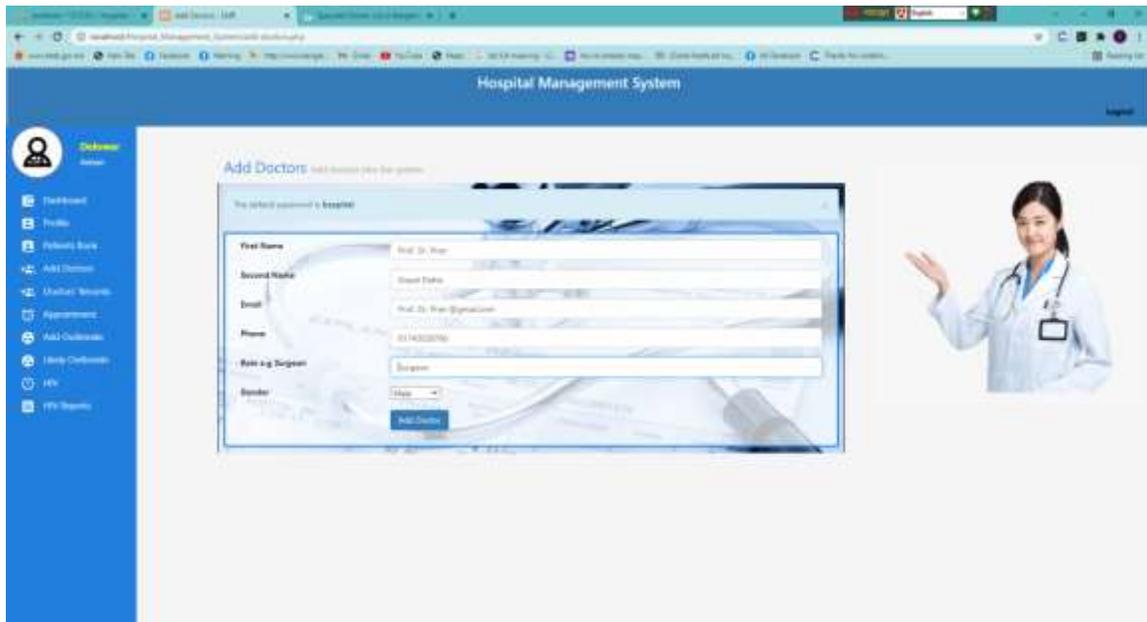


Figure 44: Add Doctor Interface for admin in Hospital Management System

This interface is add doctor interface. An admin can add different doctors if needed. The admin will be able to add the doctors with all the information in this form. All the information that doctors have to give here is first name, second name, phone number, gender. And lastly the submit button has been used. And this interface is designed HTML, CSS and Bootstrap 4. And all the information that were in the form will go to the database immediately after clicking the submit button here.

- Confirmation message interface

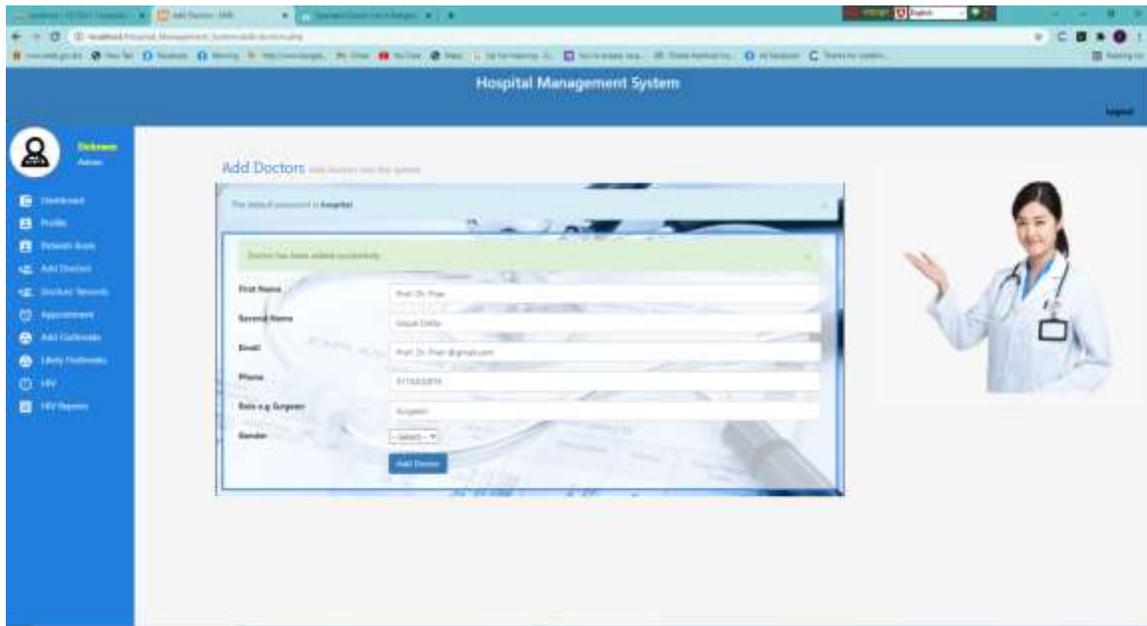


Figure 45: Confirmation message interface for admin in Hospital Management System

This interface displays a confirmation message when the admins fill up all the information of the doctors and add them. If they want a different admin, they can input different doctors in different ways. The feature has been developed in this way. And when the data is successfully transferred to the database, a confirmation message will come to this interface. And if for some reason the data is not submitted to the database then the error message will show.

- View Doctor Details

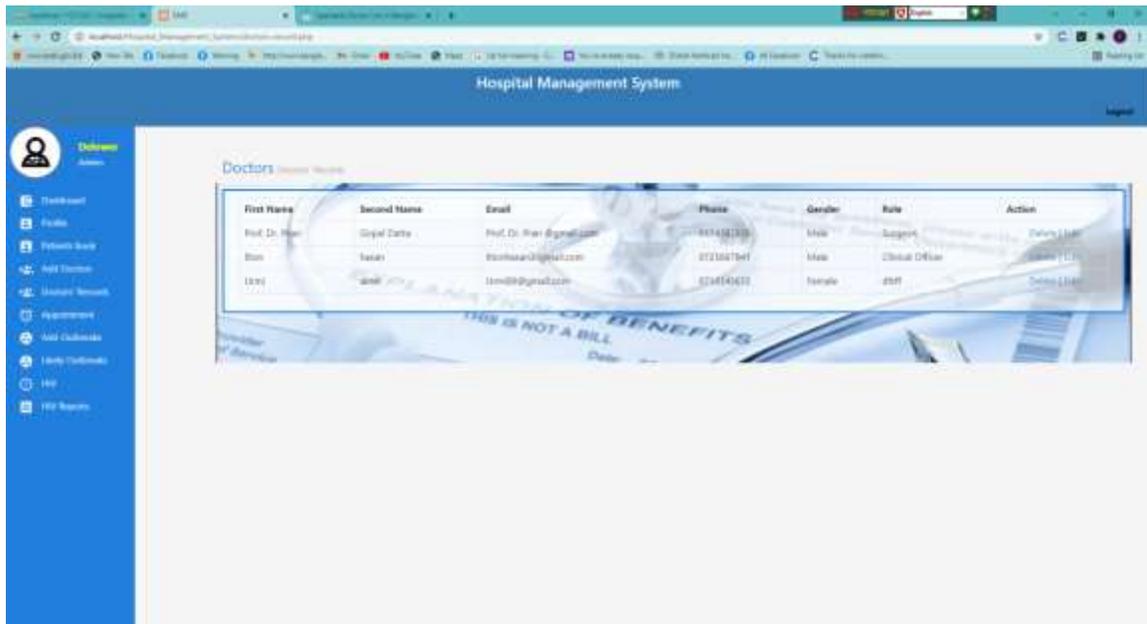


Figure 46: View Doctor Details interface for admin of Hospital Management System

Through the interface, an admin can see the list of all the doctors. This system allows admins to update or delete any doctor's information if they wish. The system has been developed that way. When an admin adds a doctor, it is first stored in the database. But those data are efficiently extracted from the database and stored in this interface via php language.

•Add Outbreak Interface

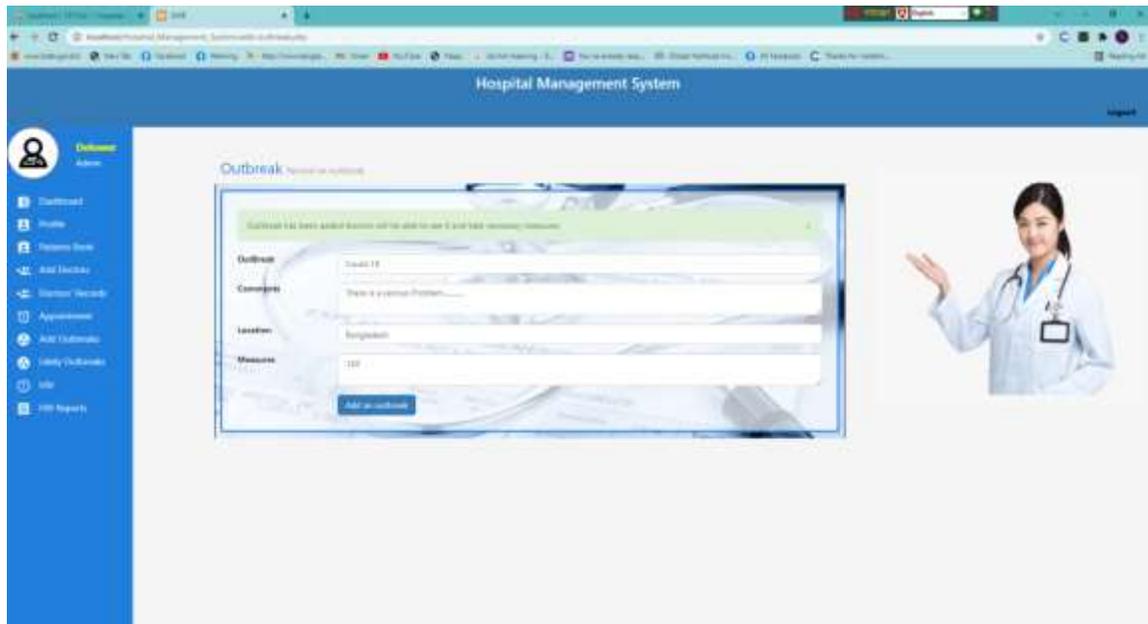


Figure 47: Add Outbreak Interface for admin in Hospital Management System

If an admin wants through this system, he/she will be able to give information about the common diseases of the whole world. Examples of Covid-19 information are highlighted here. This input form is usually designed by HTML, CSS and BOOTSTRAP 4. The feature that has been put here is the outbreak, comments, locations, measure. And lastly a submit button has been used which is named add an outbreak. And when the submit button is clicked, all its information goes to the database. And if the data is submitted to the database then this interface will give a confirmation message Successful. And if you do not want the data in the database then the error message will show through this interface

- View Outbreak Details Interface

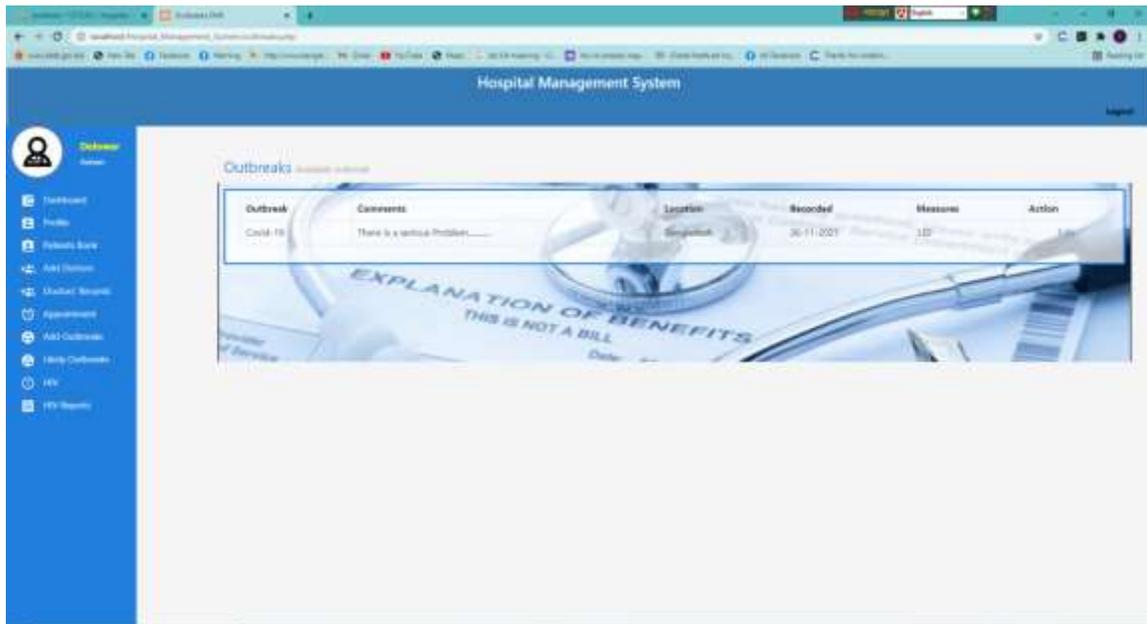


Figure 48: View Outbreak details Interface for admin in Hospital Management System

This interface allows you to know what the outbreaks are all over the world every day. Moreover, you can find out if there are any outbreaks in the hospital. Admin needs to be able to update this outbreak. The system has been developed that way. And this interface is basically after extracting data from the database. This means that the outbreak data that an admin has given to the database is extracted through the interface. If admin want, the admin will be able to edit the data of Outbreak from this view option.

- Add HIV records

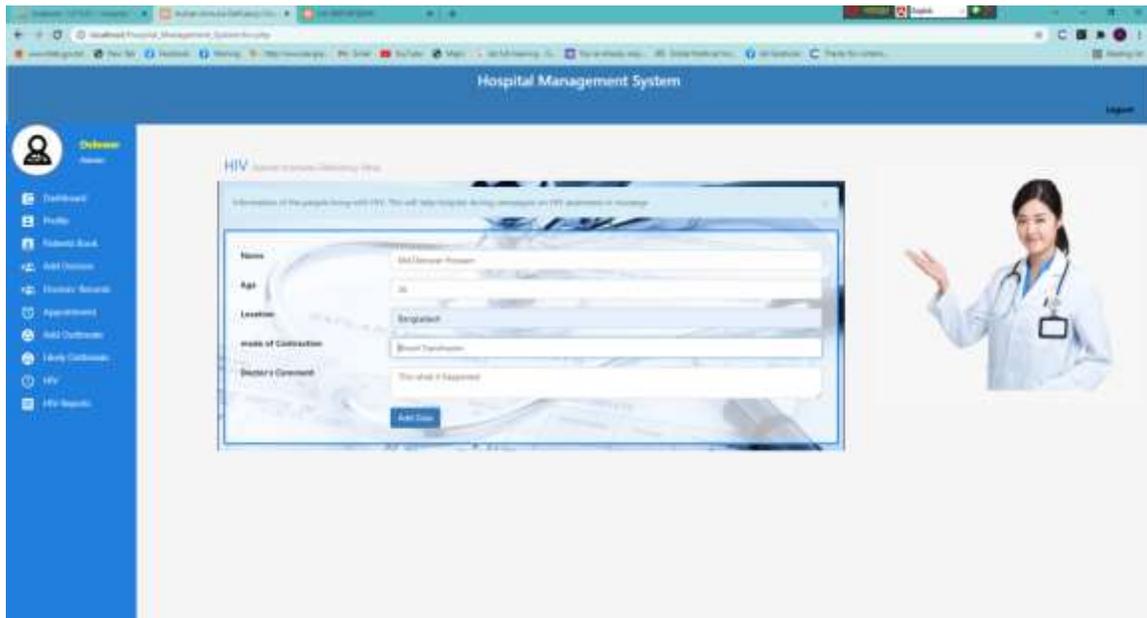


Figure 49: Add HIV records Interface for admin in Hospital Management System

With the system, an admin can easily keep an HIV record of any disease with all its information. The time and date saved by the admin is the time the patient saves the record, which is exactly the time it stores in the database. All the data that admin will submit in this form are name, age, location, mode of contraction, Doctor's comment etc. And an add button has been used to submit all the data in this form. And all this information will go to the database after clicking the submit button.

- View HIV records

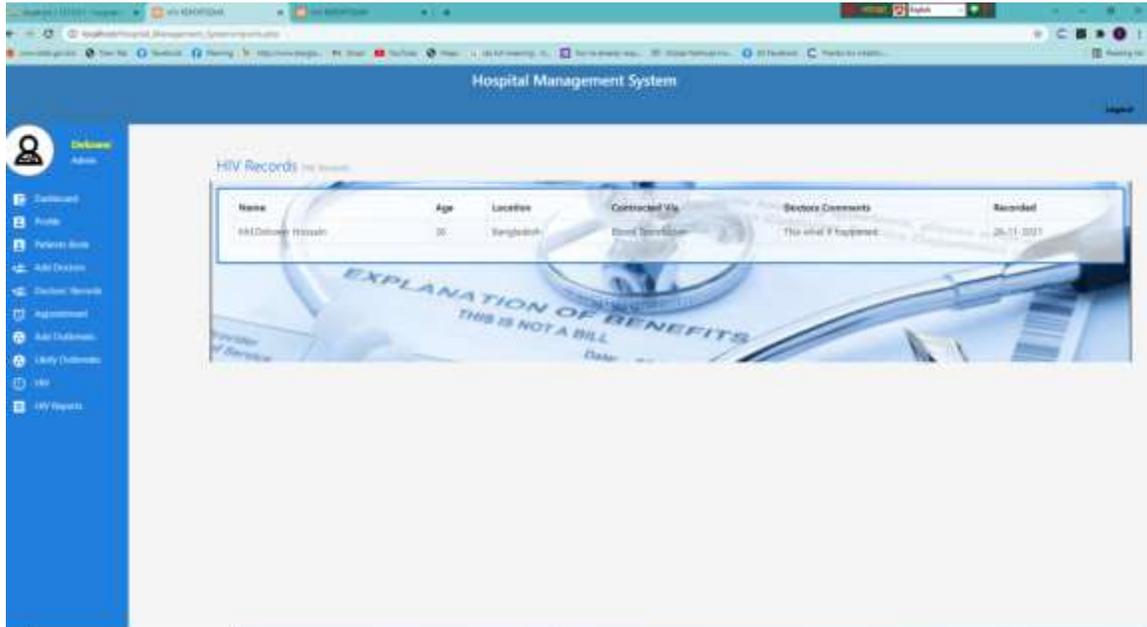


Figure 50: View HIV records details Interface for admin in Hospital Management System

Through the system a patient can see all the information in the HIV record. This system provides information on a patient's name, age, common to doctors and what contracted he/she has. All the data that the admin sent to the database through this form of HIV has been extracted from the tie database and placed in the interface. This page is designed by HTML, CSS, and BOOTSTRAP 4. And the development work has been done through PHP language.

Doctor or Clinical Officer

Features

- Doctor login Interface

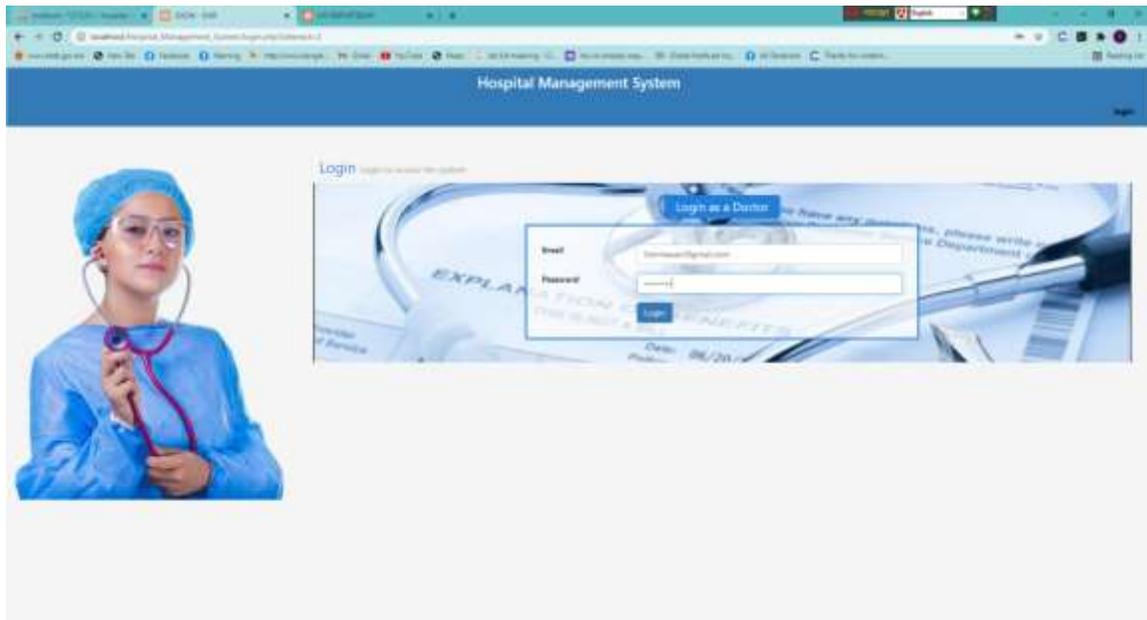


Figure 51: Doctor Login Interface of Hospital Management System

The form is the doctor login process. The list of doctors has already been given in the database. This means that if the username and password of my database match exactly with the username and password of the admins who will be given in this form, then he/she will be able to login to the main server.

- Doctor Dashboard Interface

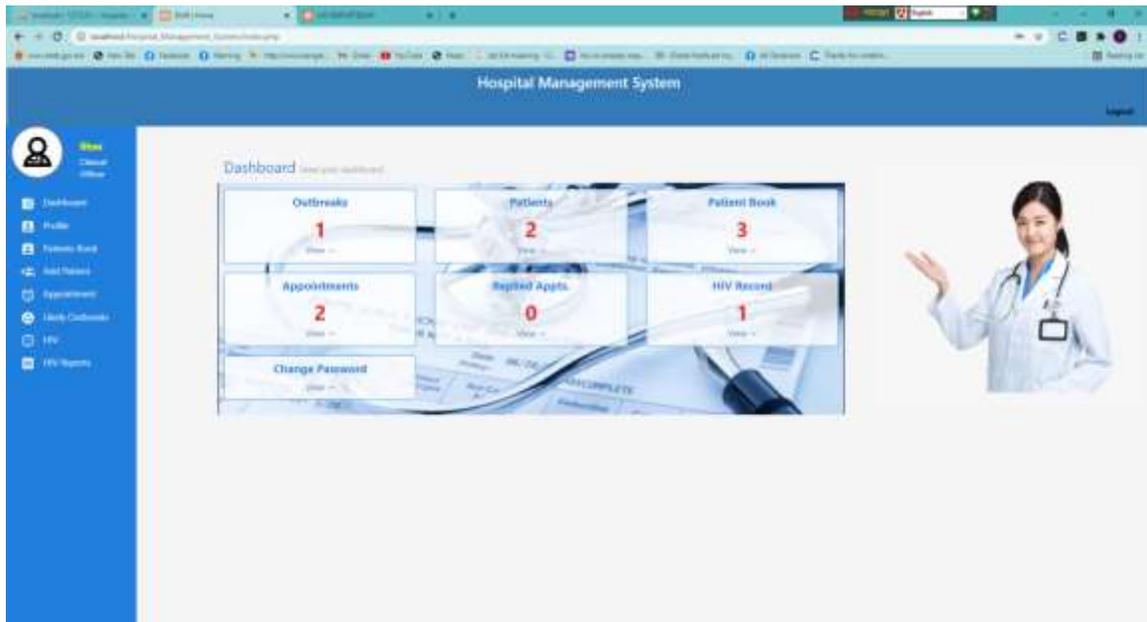


Figure 52: Doctor Dashboard Interface of Hospital Management System

This interface is doctor dashboard. And through all these interfaces we can easily see all the interfaces in this dashboard. There are many features in this doctor dashboard. There are profiles, patients book, add patient, patient's records, appointment, HIV, HIV Reports in this interface. Through this interface, a doctor accesses and diagnoses patients' appointments and replies to them when they need a message. Moreover, a doctor can see the outbreak and the entry of such records. As well as looking at HIV records and can do it. He can change his password if he wants.

- View Appointment Records

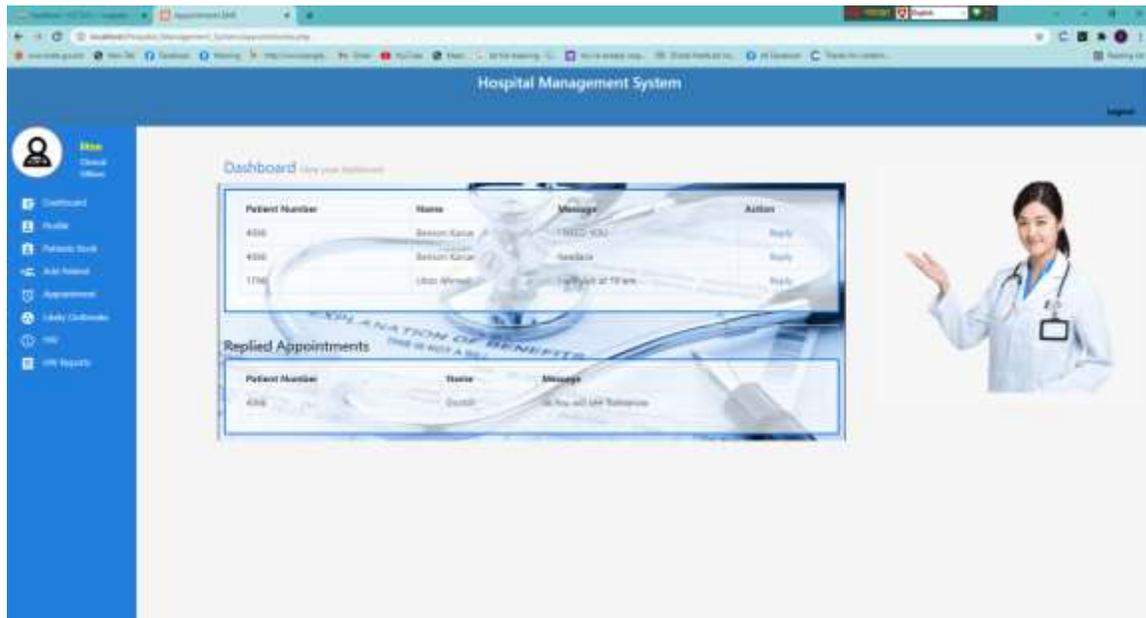


Figure 53: View Appointment Records for Doctor in Hospital Management System

Through this interface, a doctor can see the patient's appointment. And if necessary, give feedback to all the patients from here. This is exactly how the system is arranged. The patient will be able to see the information, the name of the Patient Number, Name and the details of the patient's message. In addition, a doctor will be able to reply from this interface. In the above interface we can see that there is an option called Reply Appointments. The sidebar option on the left side allows a doctor to navigate to other interfaces. The interface that a doctor can go through is the profiles, patient book, add patient book, and outbreak. And the interface has been developed and designed by PHP, HTML, CSS, JavaScript and Bootstrap 4.

- Doctor Profile Interface

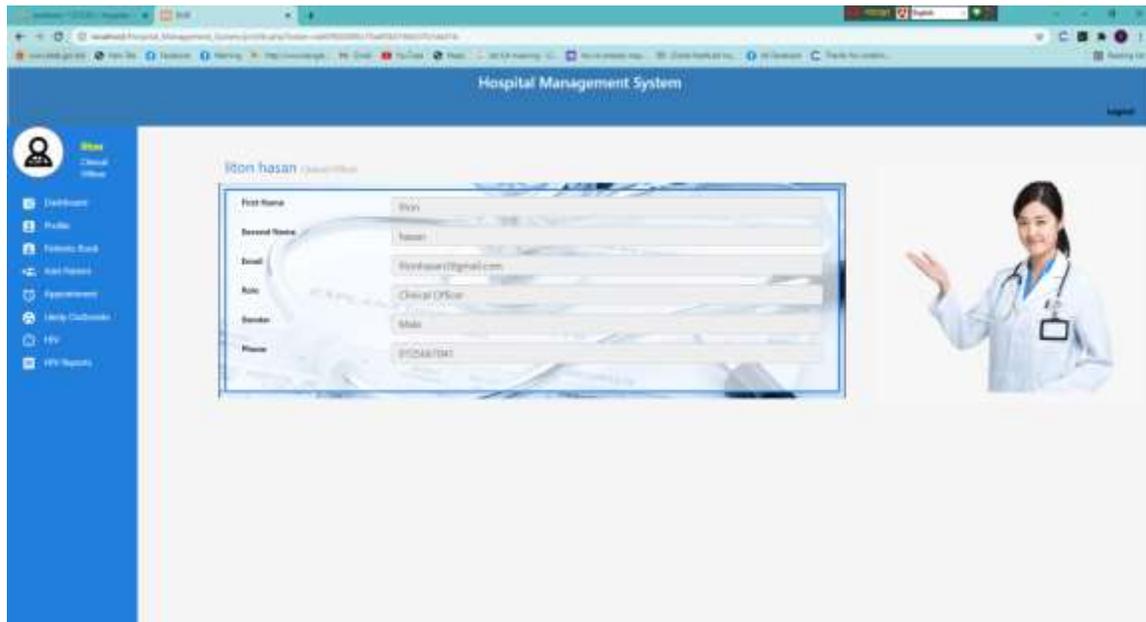


Figure 54: Doctor Profile Interface of Hospital Management System

This interface is clinical officer profile interface. There is an individual profile for individual clinical officer. Here officers can see their information. Among all the features that we can see first name, second name, email, role, gender, phone etc. And other interfaces are included with this interface so that it can be easily accessed by clicking on any other interface. And when the doctor gives the required information in this form, all the information will go to the database first. Then all the data from that database has been extracted through PHP language. And this form is usually kept on required. And if any user wants, then the reports must be filled, if it is empty, then it cannot be submit.

- Add patient by Doctor

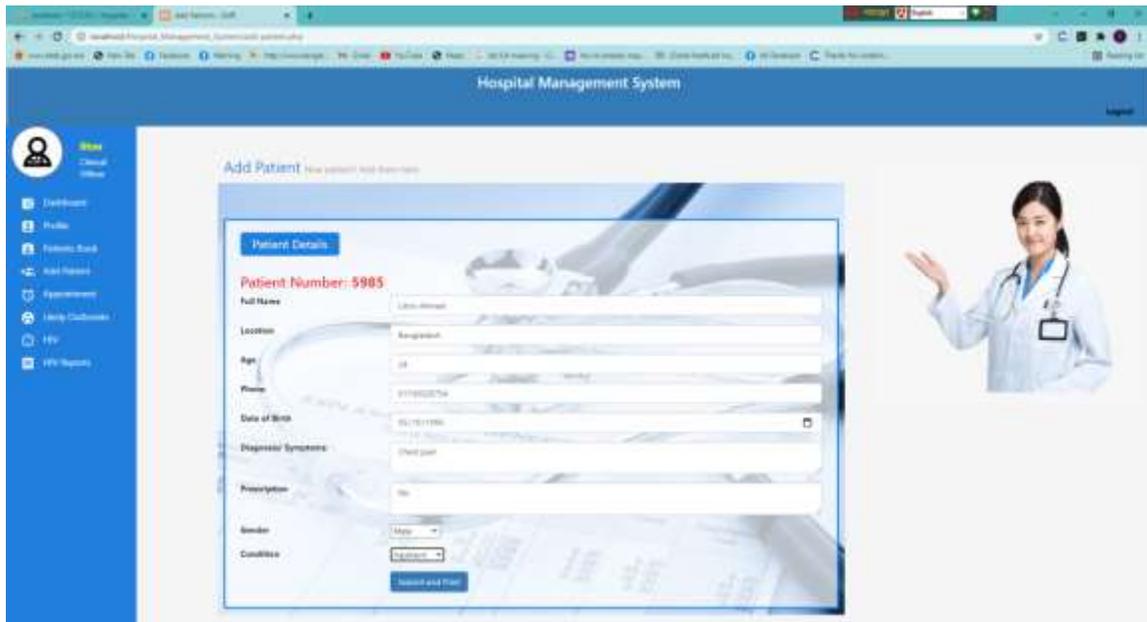


Figure 55: Add patient by Doctor Interface of Hospital Management System

This interface is adding patient interface by clinical officer. An officer can add different patient if needed. The officer will be able to add the doctors with all the information in this form. And through this form a doctor can easily add any patient to our system. And all the information that a doctor has to add in this form is patient full name, location, age, phone, date of birth, diagnosis, prescription, gender, condition etc. This form must be required. This means that a doctor must fill in all the information of the patient in this form. All forms must be filled with data. No individual form can be kept blank. And here is the print option for printing documents. The data will go to the database first. Even then the application will be brought by doing development work. And this kind of development work has been done through PHP language.

- Add Patient by doctor with phone validation form.

The screenshot shows a web browser window displaying a 'Hospital Management System' interface. The main content area is titled 'Add Patient' and features a form with the following fields: 'Full Name' (with a 'Last Name' dropdown), 'Gender' (with a 'Male' dropdown), 'Location', 'Age' (with a '14' dropdown), 'Phone' (with a '8190000714' dropdown), 'Date of Birth' (with a '05/10/1990' dropdown), 'Diagnosis/Symptoms' (with a 'Chest pain' dropdown), 'Prescription' (with a 'No' dropdown), 'Gender' (with a 'Male' dropdown), and 'Condition' (with a 'Diabetes' dropdown). A 'Patient Number: 3768' is displayed in red text at the top of the form. A blue 'Submit and Print' button is located at the bottom of the form. To the right of the form is a photograph of a female doctor in a white lab coat. The left sidebar contains navigation links: 'Dashboard', 'Profile', 'Patients List', 'Add Patient', 'Appointments', 'Daily Dashboard', 'HR', and 'HR Reports'.

Figure 56: Add Patient by doctor with phone validation form Interface of Hospital Management System

This form is designed to take input depending on different conditions when taking input. For example, if someone wants to input a mobile number, then at least ten must be digit. Then the data will go to the database first then compare with the database by PHP language and JavaScript. And this total interface is designed primarily through HTML, CSS, and JavaScript. And from this page it has been easily included with other pages so that any user can go to another page.

- Add Patient by doctor with e-mail validation form.

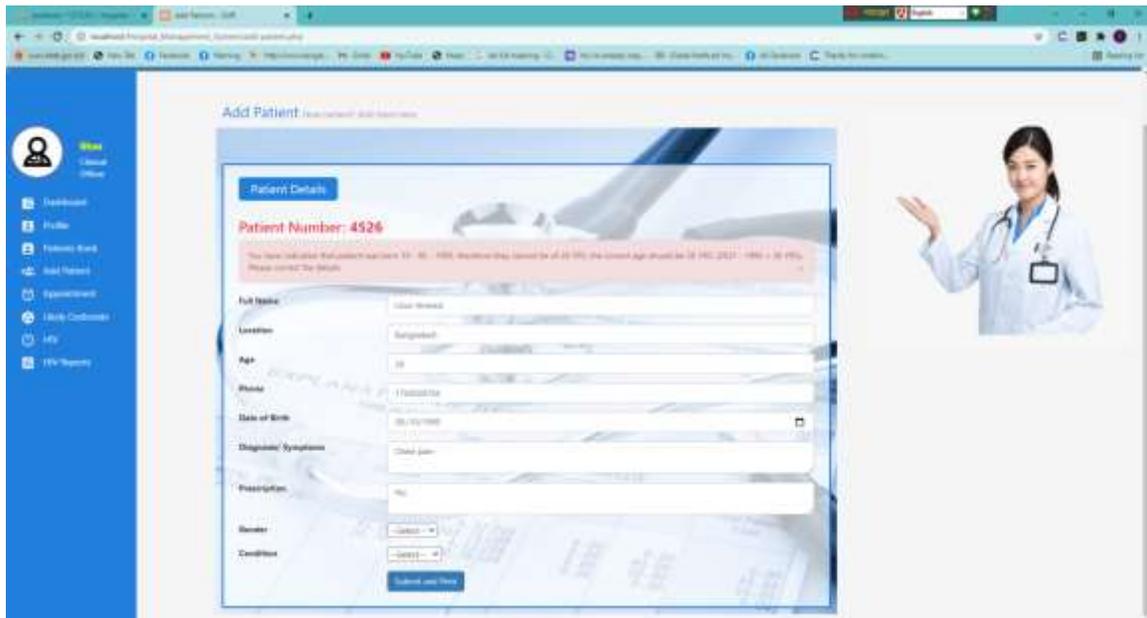
The image shows a web browser window displaying a Hospital Management System interface. The main content area is titled 'Add Patient' and contains a form for entering patient details. The form fields include: Full Name, Location, Age, Phone, Date of Birth, Diagnosis/Symptoms, Prescription, Gender, and Condition. A red error message is displayed at the top of the form, stating: 'The Name Indicated that patient's age is 10 - 100, however the lowest age should be 18 and 2021 - 1991 is 30 yrs. Please correct the details.' To the right of the form is a placeholder image of a female doctor in a white lab coat. The left sidebar contains navigation links for Dashboard, Profile, Patients List, Add Patient, Appointment, Daily Checkups, Log, and HR System.

Figure 57: Add Patient by doctor with e-mail validation form Interface of Hospital Management System

This form is designed to take input depending on different conditions when taking input. For example, if someone wants to input a mail, then at least “@” symbol must be typed. If someone enters incorrect information in this field or misspells or kept blank, a message like the notification above will appear. The data will first go to the database then the data will be extracted efficiently from the database and brought to this application as well as conditional check. And this work is basically done in JavaScript. And this total interface and page is designed via HTML, CSS, JavaScript and bootstrap 4.

- Add Patient by doctor with date of birth validation form.

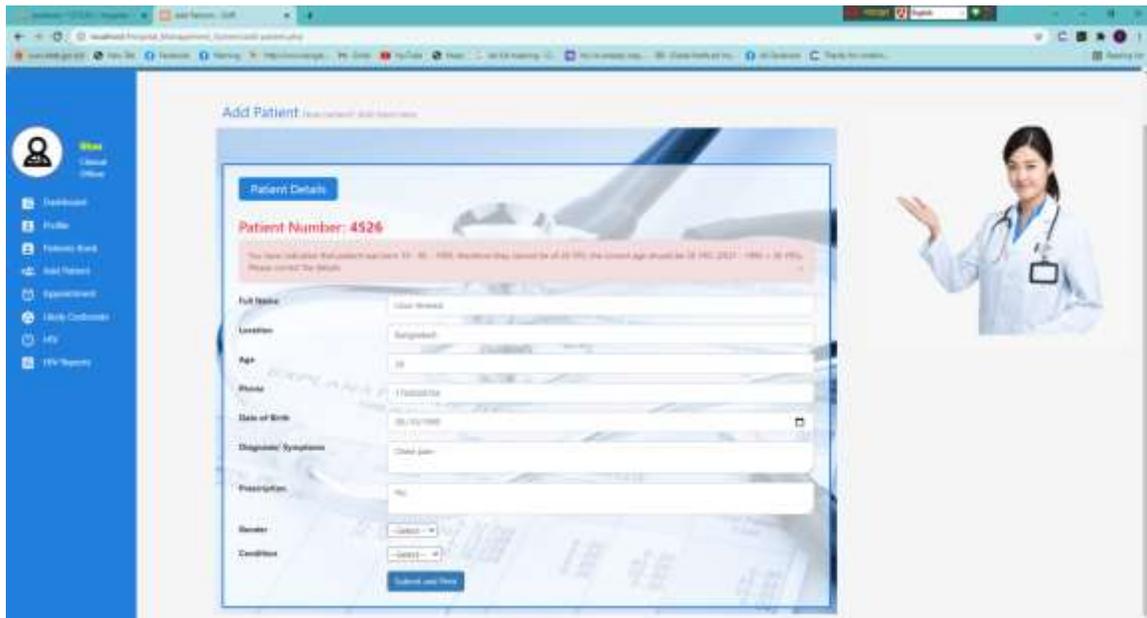


Figure 58: Add Patient by doctor with date of birth validation form of Hospital Management System

This form is designed to take input depending on different conditions when taking input. For example, if someone wants to inputs age, then at least he/she must be follow the date of birth. Otherwise the system fails to submission process and besides show notification of error. Now the reason for the error is highlighted here. And our system is designed in such a way that if someone types age and type the date of birth, then compare the two to see if the calculation is really correct, if there is, then there will be submit and if there is no submission. And if it is wrong, the message that will show in the form of notification above has been done through Java Script. And if it is correct then it will go to the database. This work of development has been done through PHP language.

- Document print by Doctor

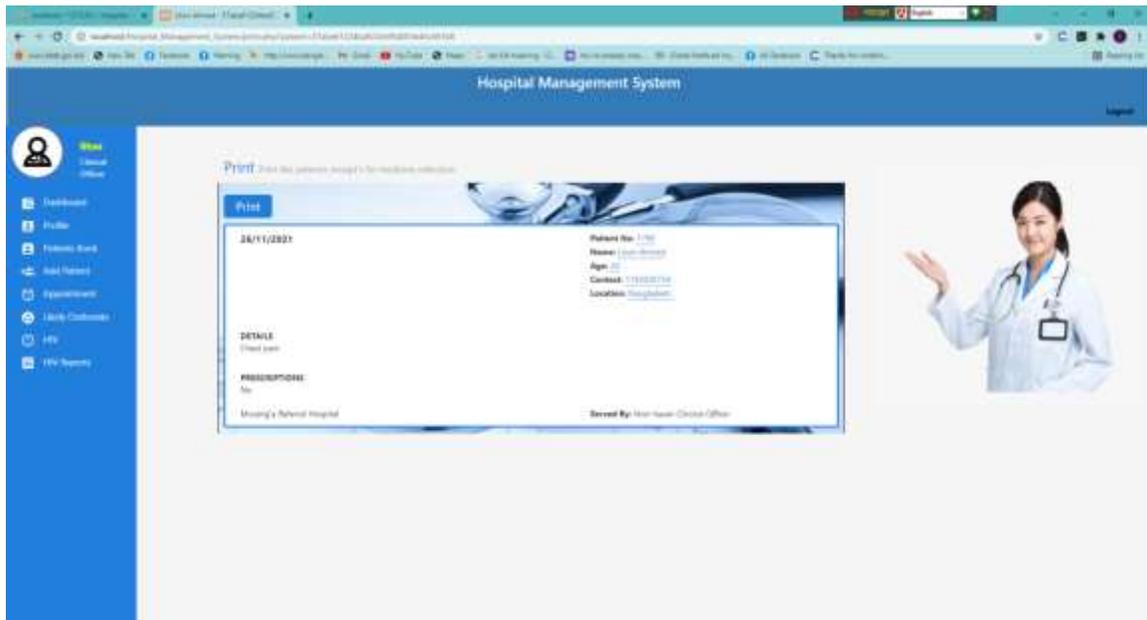


Figure 59: Document print by Doctor Interface of Hospital Management System

Such an officer can print the complete details of any patient if he/she wants. That is, all the information that a patient will have patient no, date, Name, Age, Contact, Location, Details, prescriptions, etc. Another thing to note is that if someone's information needs to be printed, not all of its parts will be printed, only the necessary parts will be printed. All other interfaces are also linked to the interface. And this attraction feature of development has been done via PHP language. And the interface with pages has been designed through HTML, CSS, JavaScript and bootstrap 4.

- Individual Document print by Doctor

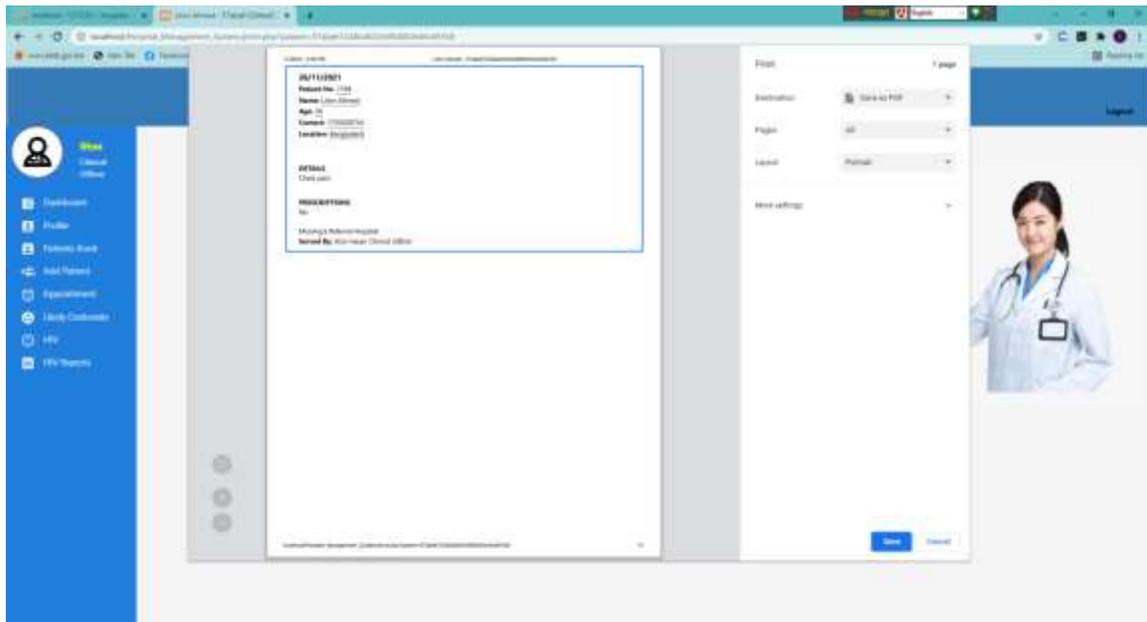


Figure 60: Individual Document print by Doctor Interface of Hospital Management System

One thing to note here is that all the information of a patient will be printed exactly. The information will be printed in the area as much as it covers the area. This is how the system was developed. And we can save this print in option as a document if we want. Moreover, if any user wants to print the same document on different printers at the same time, we have developed it. All these development works have been done through PHP. Moreover, all other interfaces are connected to the Interface. All other interfaces from this page are easily accessible. And this interface has been developed and designed using HTML, CSS, JavaScript, Bootstrap 4 and PHP.

- Check Appointment Status by Doctor

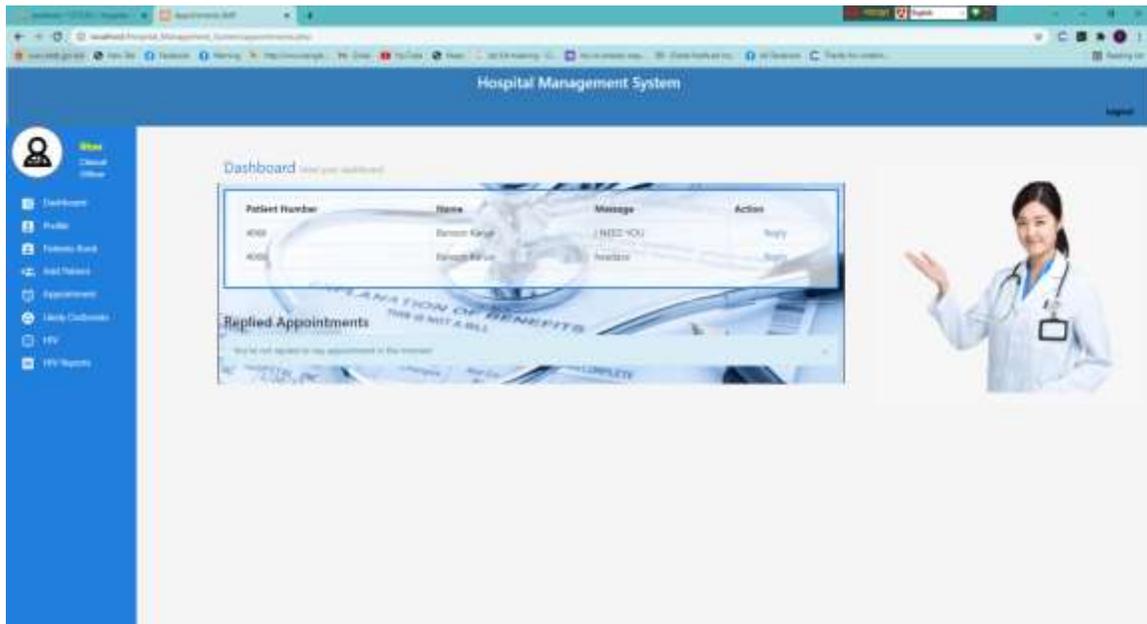


Figure 61: Check Appointment Status by Doctor Interface of Hospital Management System

Through this interface, a doctor can see how many patients he has in his appointment. And that is the opportunity to reply through this interface. How the system was developed. This work of reply has been done through PHP language. And when a doctor replies, the information will first go to the database. Then all this information is extracted from that database. And lastly, the data will move to this interface. And other interfaces will be linked to this page. If you want a doctor can go to another page very easily. And this page has been designed with complete development using HTML, CSS, JavaScript and bootstrap 4.

- Reply Appointment form Interface by doctor

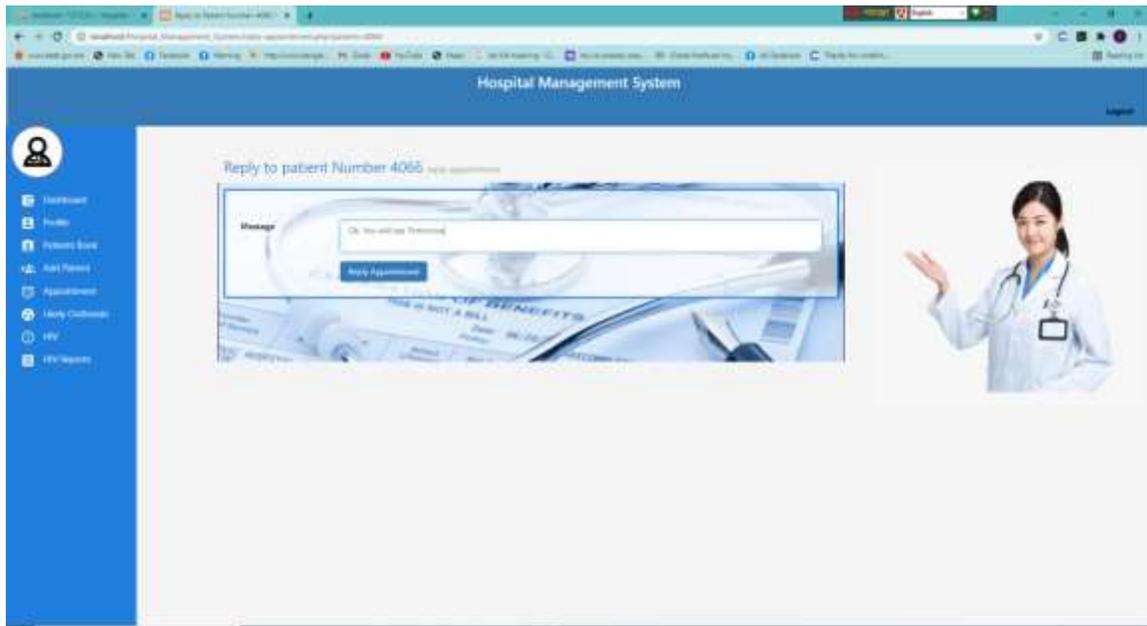


Figure 62: Reply Appointment form Interface by Doctor Interface of Hospital Management System

This Interface is the doctor's reply form. In other words, a doctor confirms the patient in the appointment through this form. And all the data that will be input through this form will go to the first database. Then the data that will be from that database will be taken to the patient interface first using PHP language. As an example, we can see the interface above. The data that will be paid through the form will go to the patient. And this form has been designed using HTML, CSS, JavaScript and bootstrap 4. And other pages have been included with this page. so that a doctor can easily go to another page if he wants.

Patient Features

- Patient Login process Interface

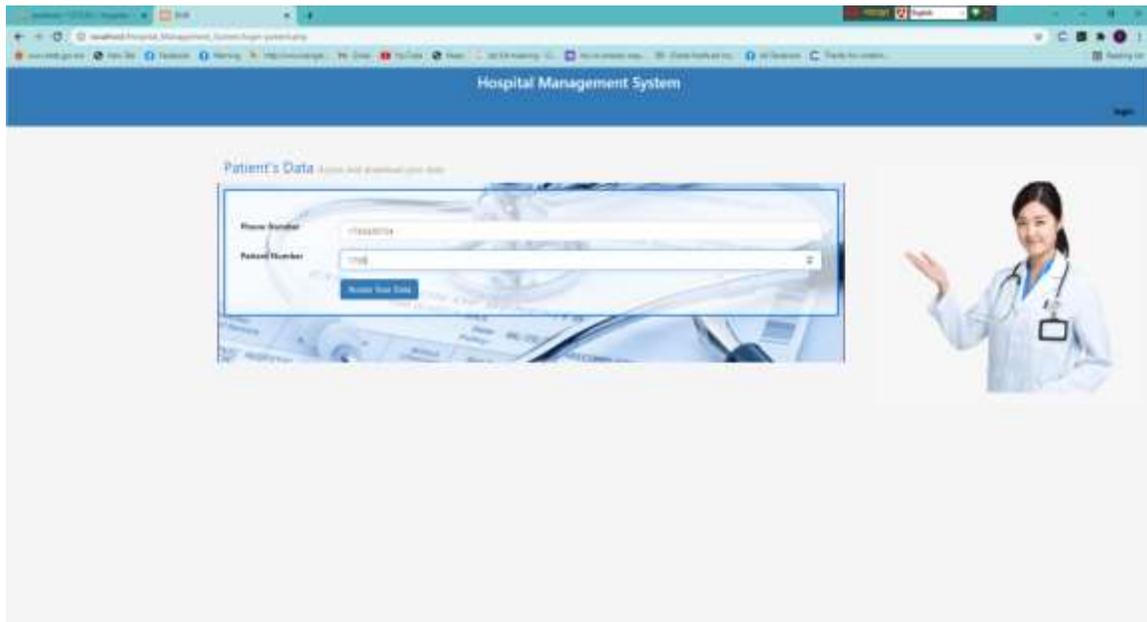


Figure 63: Patient Login process Interface of Hospital Management System

The form is the patient login process. The list of patient has already been given in the database. This means that if the username and password of database match exactly with the username and password of the patient who will be given in this form, then he/she will be able to login to the main server. All data will be moved to the database through the submit button. The PHP Library function is used to compare the data in the database with the data input in this input form.

- View Patient Record Interface

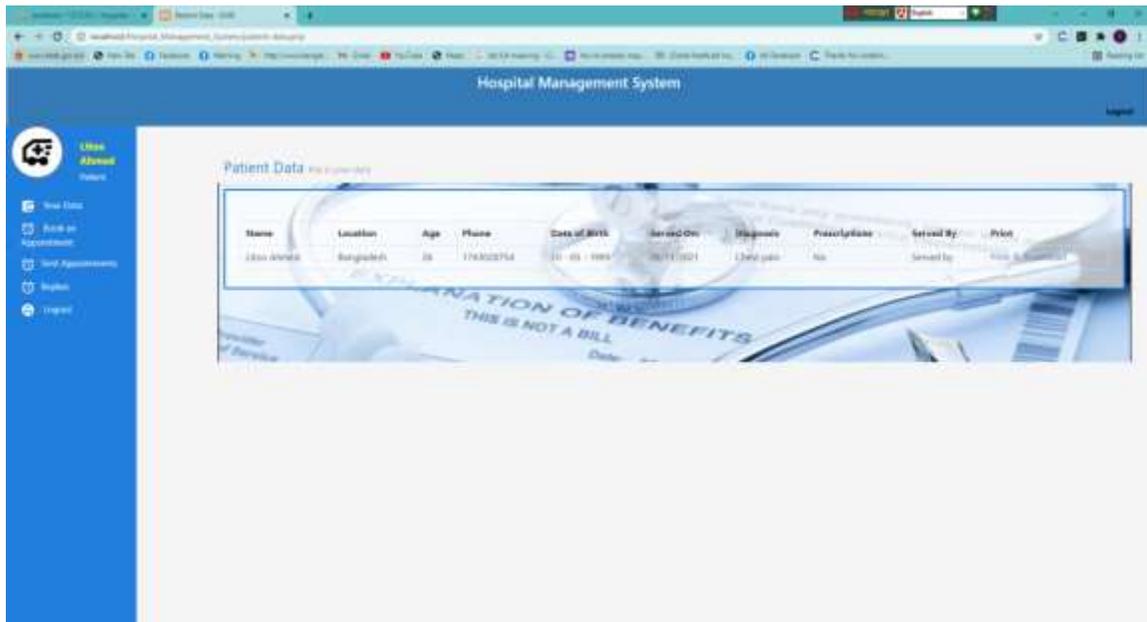


Figure 64: View Patient Record Interface of Hospital Management System

Through the interface a patient can view his record. And a patient can download and print all its documents if required. Data from the input form first goes to the database. The data is then efficiently retrieved from the database using PHP language in the application. All the data that will move in the database includes the name, location, age, phone, date of birth, address, diagnosis, prescriptions etc.

- **Book Appointments interface for Patient**

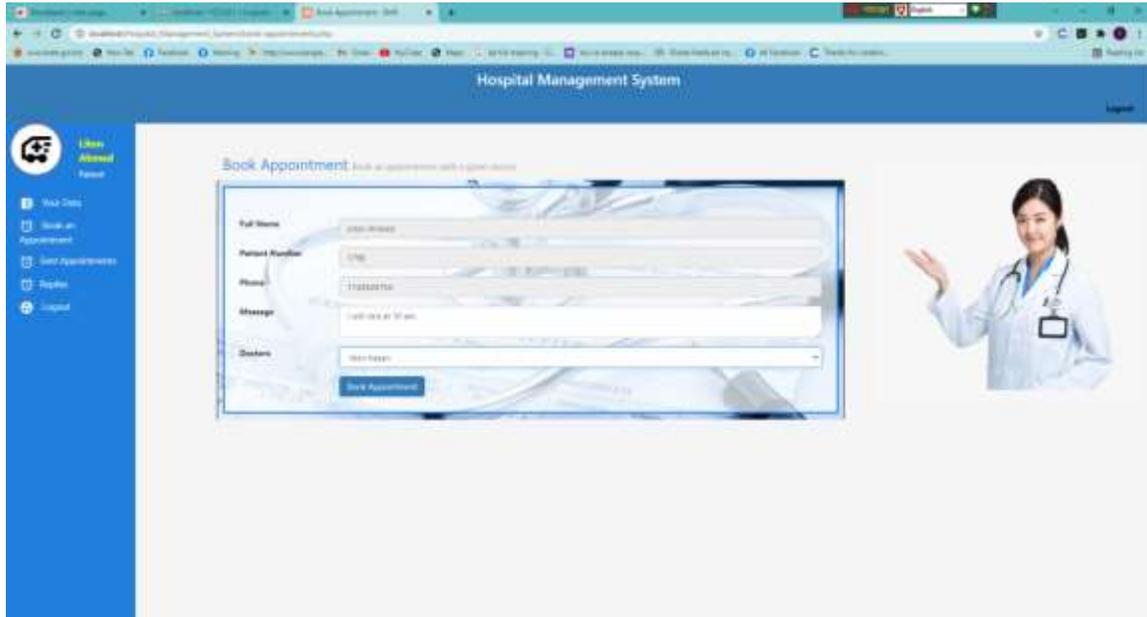


Figure 65: Book Appointments interface for Patient

Through the interface, a patient can make an appointment with any doctor. There will be a list of all the doctors in the system. From here any patient can easily select a doctor and make an appointment. And for that then it will take name and patient number. And if necessary, the patient can message the doctor about any subject. And the list of doctors will already be in my database. And the lists of those doctors from the database are given here as a feature of doctors as an interface. And here the lists of doctors have been used using the dropdown list.

- **View Sent Appointments**

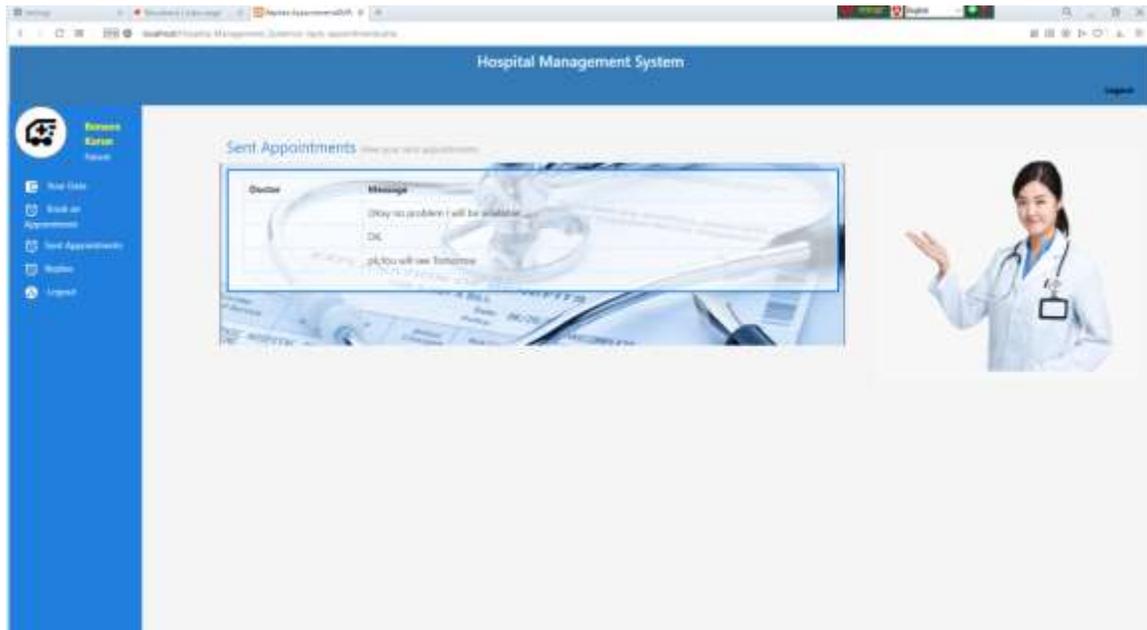


Figure 66: View Sent Appointments interface for Patient

Through the system a patient can see what appointments have been sent. In a word, all the feedback that the doctors will give will show this interface in the form of feedback messages. When the doctor gives feedback, it will go to my database first. Then data has been extracted from that database through this application. Then other interfaces are included with the interface so that any user can stay in another interface if he wants. These interfaces include data, book an appointment, sent appointments, replies, etc. And PHP language has been used for this. And this interface is designed Bootstrap 4, HTML, and CSS.

4.3 System Design of Online Blood Donation System

- Home page



Figure 67: Home page interface of Online Blood Donation System

This interface is the homepage of the Blood Donation Management System. This homepage contains information about different blood groups. And in the top corner of the menu are two buttons, the login button and the registration button. The system has basically two features. Those are Citizens and Hospitals. If any citizen or hospital was new, he would be registered first. Then they have to login. And the interfaces or pages that are included in this interface are all Institutes, all blood camp, all donors, find safe blood etc.

Hospital Features for Online Blood Donation System

- Hospital Registration Process

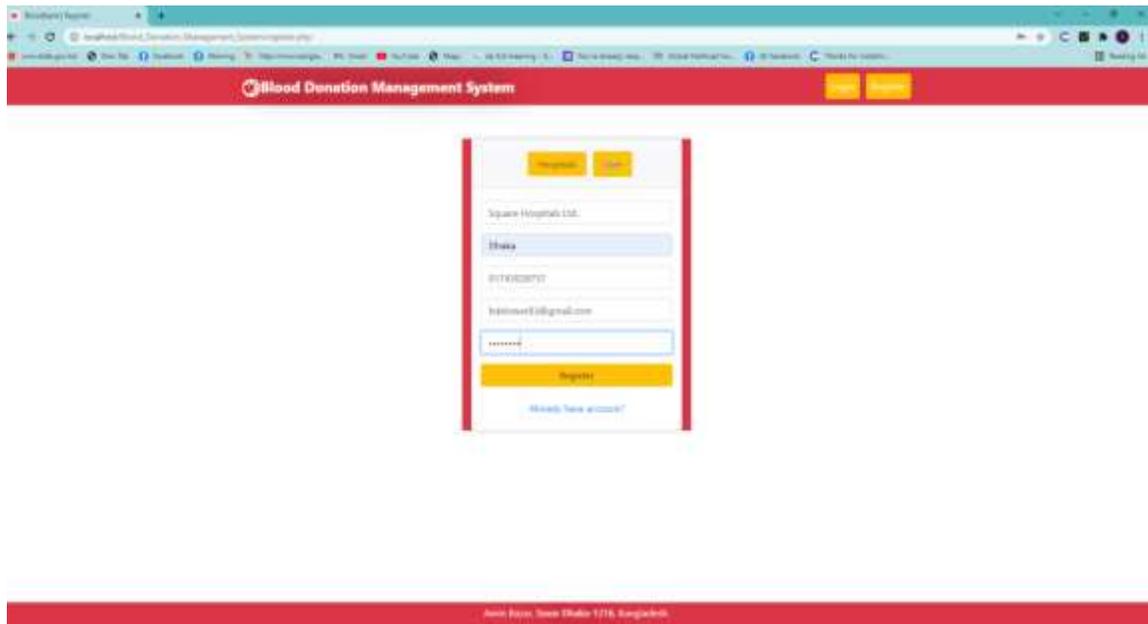


Figure 68: Hospital Registration Process interface of Online Blood Donation System

This system is the registration process of the hospital. This system is the registration process of the hospital. Then log in with the registered username and password. Admins of all hospitals in the country will be able to register here. Hey, the data will go to our database first. It will then be moved from the database to our main server. And this work will be done through PHP language. And this is designed through HTML, CSS and Bootstrap 4. And after registration, he/she has to login again with the same email and password. The username and password of the user who registers first will login again when the password goes to our database and he will have to have username and password and PHP language has been used to compare this.

- Hospital login Process Interface

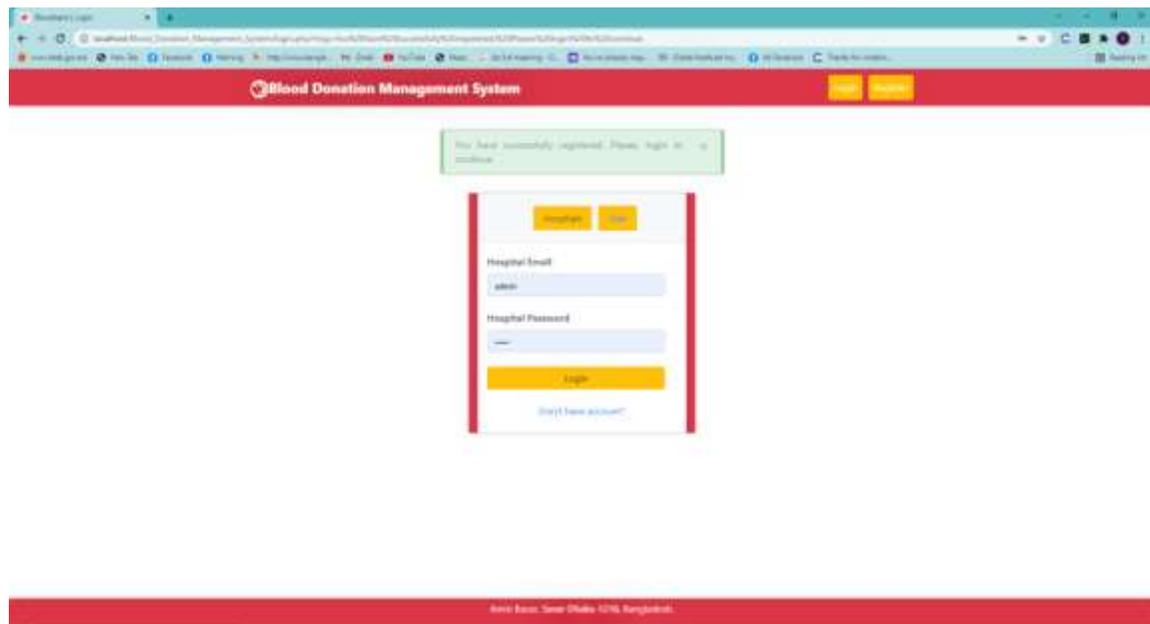


Figure 69: Hospital login Process Interface of Online Blood Donation System

This interface is the hospital login process system. He/she must access the main server with the registered username and password. This means that the user who first registered with the username and password with the same username and password will have to login again through the login form. This process is done through the PHP function. The username and password are first retrieved from the database in the application, then that is compared with the language and which gave the user input username and password.

- Hospital Dashboard Interface



Figure 70: Hospital Dashboard Interface of Online Blood Donation System

This dashboard is for hospital for blood donation. There are different types of features such that stock of blood, blood requests, need blood, status of your blood request. This means that through our interface, a hospital admin will be able to perform all kinds of procedures. If a patient requests for blood to a hospital, the hospital admin will be able to see the information. If the admin wants, he can accept or deny these requests of the patient. Our system has such a feature that if a hospital admin wants to send a request for blood directly from any citizen, he can do so.

- Hospital Account Profile Interface

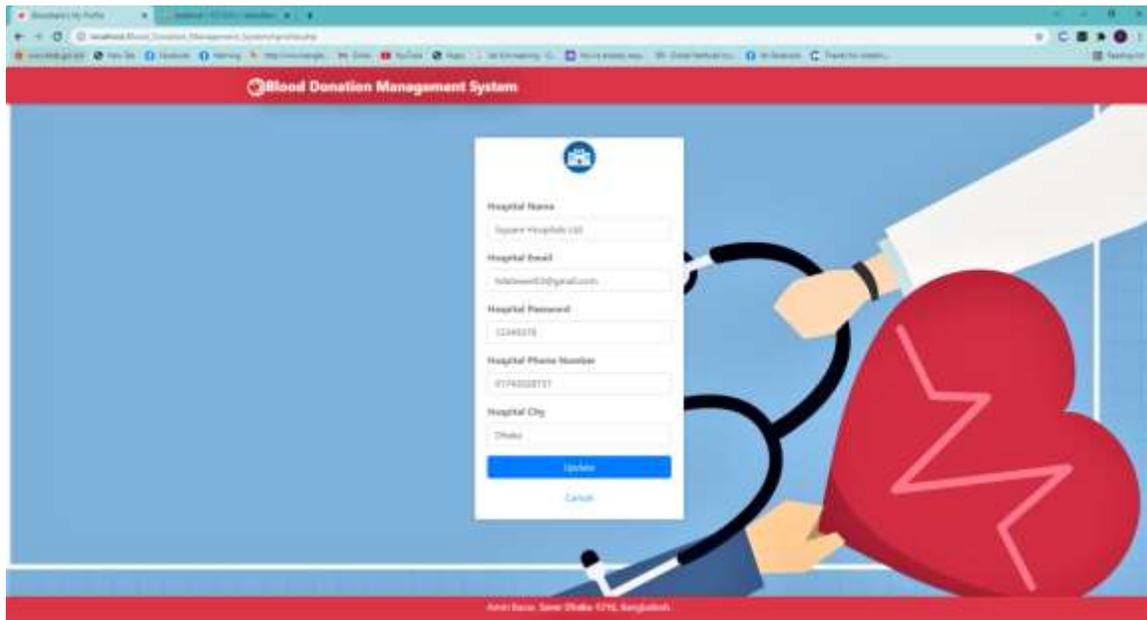


Figure 71: Hospital Account Profile Interface of Online Blood Donation System

Through the interface, a hospital can see all the information in its profile. That is, all the information that we see through this interface are Hospital Name, Hospital email, Hospital password, Hospital phone number, Hospital city. If the admin want, he/she can change all the information. This is called the update process. And in this form the data will be updated as well as the database will be updated. And this work of update has been done through PHP language. The dialog box is designed with HTML, CSS and bootstrap 4.

- Add Blood Group by Hospital

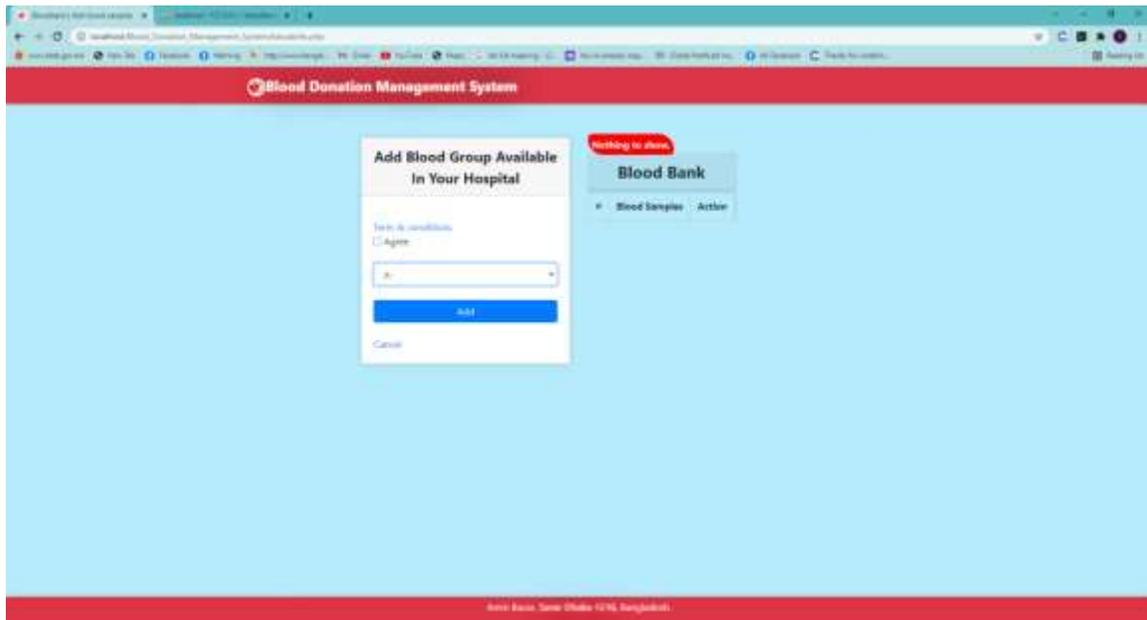


Figure 72: Add Blood Group by Hospital Interface of Online Blood Donation System

This form is actually kept in the process of adding the information of all the blood groups that are currently available in the hospital. After submitting the data here, the data will go directly to the database. Moreover, if admin does not have to click on the login button of this interface, he/she have to click on Tam & Condition. Then the data will go to the database. This development work has been done using the php language. And the front-end design has been used HTML, CSS, Bootstrap 4.

- Blood Group Store Interface

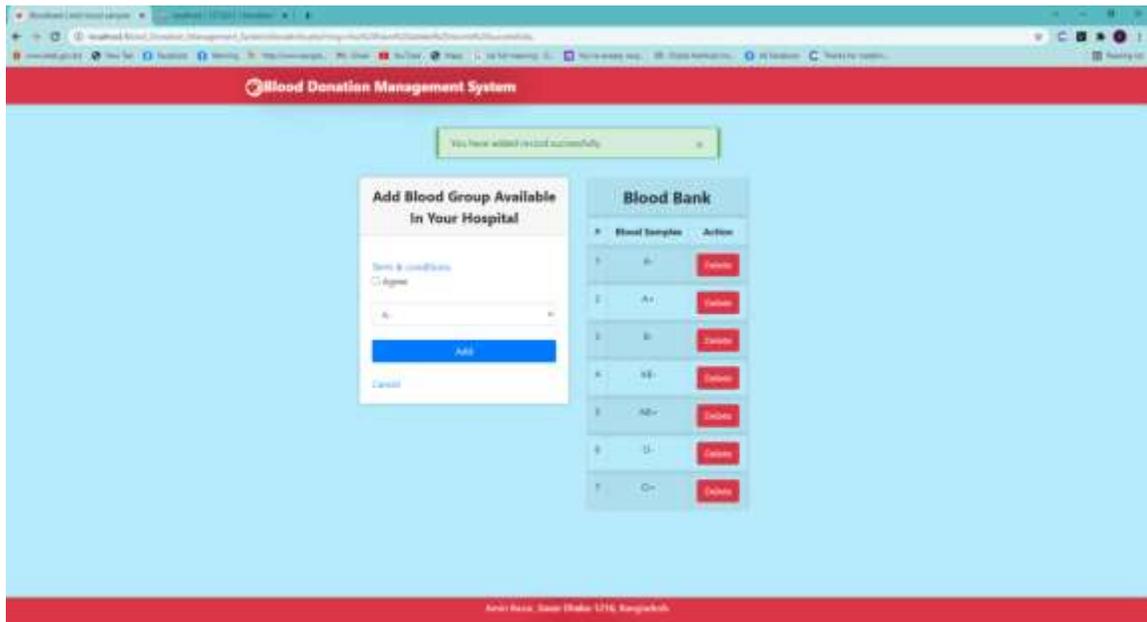


Figure 73: Blood Group Store Interface of Online Blood Donation System

Through this interface we can see what blood groups are in a hospital and we can see them in the form of a list. If the admin of such hospital wants, he can delete the information of blood group from there. This means that the first data that the hospital admin will send to their database will come through the Blood Bank feature. Through the blood bank feature on the left, we can see what blood groups are available in this hospital. And as well as seeing a button in the red icon, the admin will be able to delete this information. And all this development work has been done through PHP language. And front end designed using HTML, CSS, JavaScript and bootstrap 4.

- Check Requested blood group

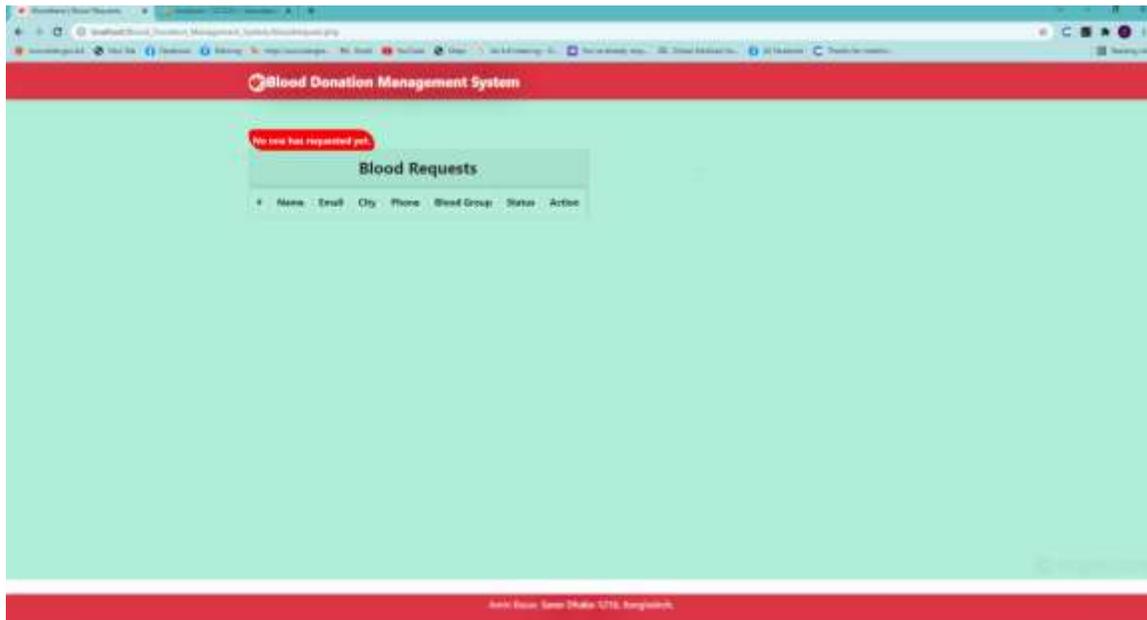


Figure 74: Check Requested blood group Interface of Online Blood Donation System

Through the interface, the admin will be able to know which citizens have applied for their blood in this hospital. The features that are kept here as information are: name, email, city, phone, blood group, Status, Action. In other words, if a patient sends a request for blood to the hospitals, then the patient will get all this information. The information first goes to the database then moves from the database to this interface due to being developed by PHP language. We can see from the above notification that no user or admin has sent a message here.

- Stock of Blood and Search Process

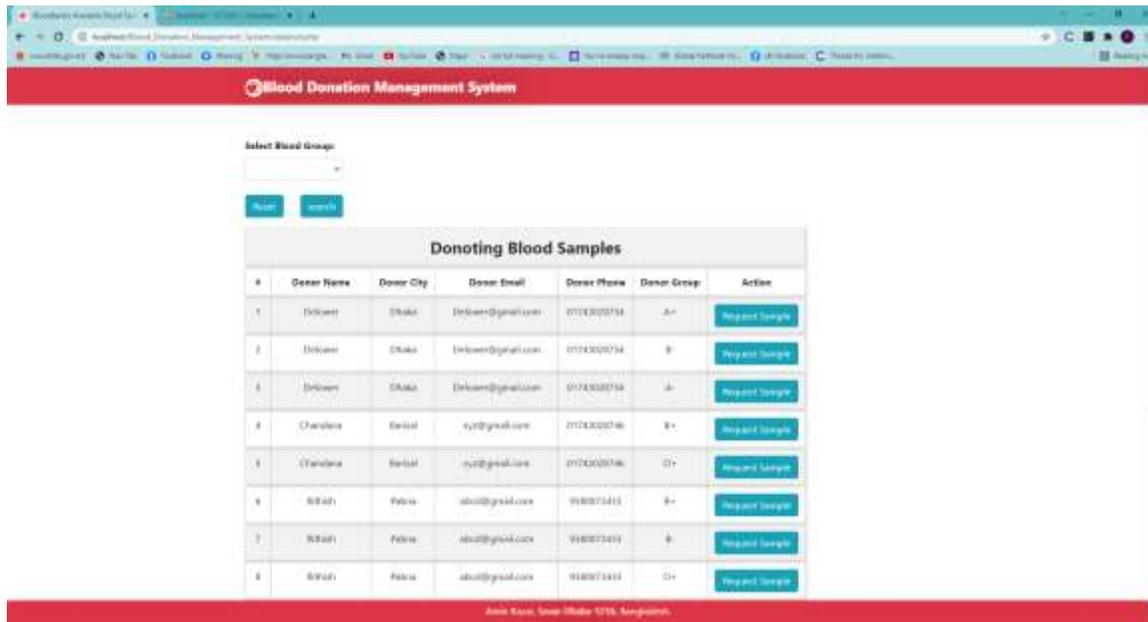


Figure 75: Stock of Blood and Search Process Interface of Online Blood Donation System

And this interface has been designed in such a way that a hospital admin can see all the lists of blood groups available to the citizens of the country at present. This means that the interface is designed from the list of blood donors on our main server. If the admin of a hospital immediately wants to get blood from the work of a citizen, then through this interface he can find the citizens who are willing to donate blood. The blood groups of all the citizens are also highlighted here. Donor information that has been included is donor name, donor city, donor email, phone, blood group, etc. Admins can send requests directly to request simple futures for blood if they wish. If an admin wants, he can search directly by typing blood group. And these works have been done using PHP, HTML, CSS and BOOTSTRAP 4.

- Interface after Search Process

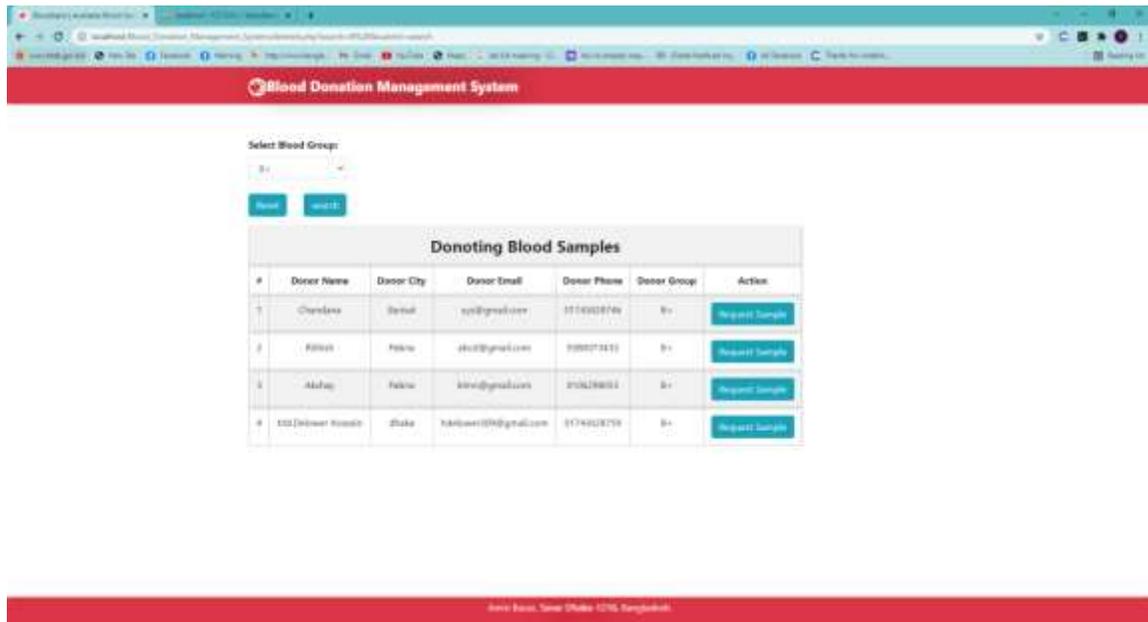


Figure 76: Interface after Search Process of Online Blood Donation System

The interface above is just shown as an example, like a user searching for a blood group called B Plus and showing the results there. Moreover, if the admin wants, he can also search with any other blood group. Here all the blood group information of the citizen will be given. And the admin can send a request for blood from the citizen according to the citizen's city if he wants. One such admin will get all the information of a citizen from here such as name, email, phone, blood group, city, etc. And when a person searches for any information, all that information is basically in the database. And the development work that is done for searching is basically bringing the data from the database by searching or filtering. And this kind of development of data searching has been done through PHP language.

- Confirmation Message after Search Blood Group

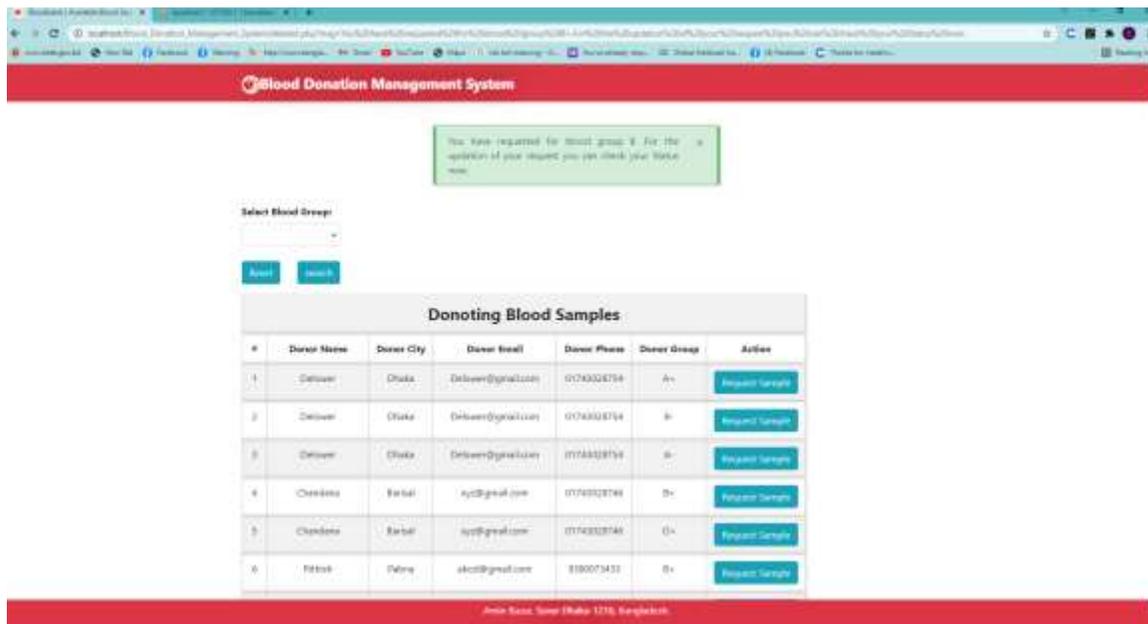


Figure 77: Confirmation Message after Search Blood Group of Online Blood Donation System

A confirmation message is displayed through the interface so that when a user searches for a blood group, it will show its status. The confirmation message that will come here is that if an admin requests a citizen for blood, he/she will know in the form of notification if the citizen sends a response. And to check this feedback message from the citizen, the admin has to check that there is a feature called status. Status development work has been done through PHP language. All pages, including the notification dialog box, are designed using HTML, CSS and Bootstrap 4.

- Status of Blood Request

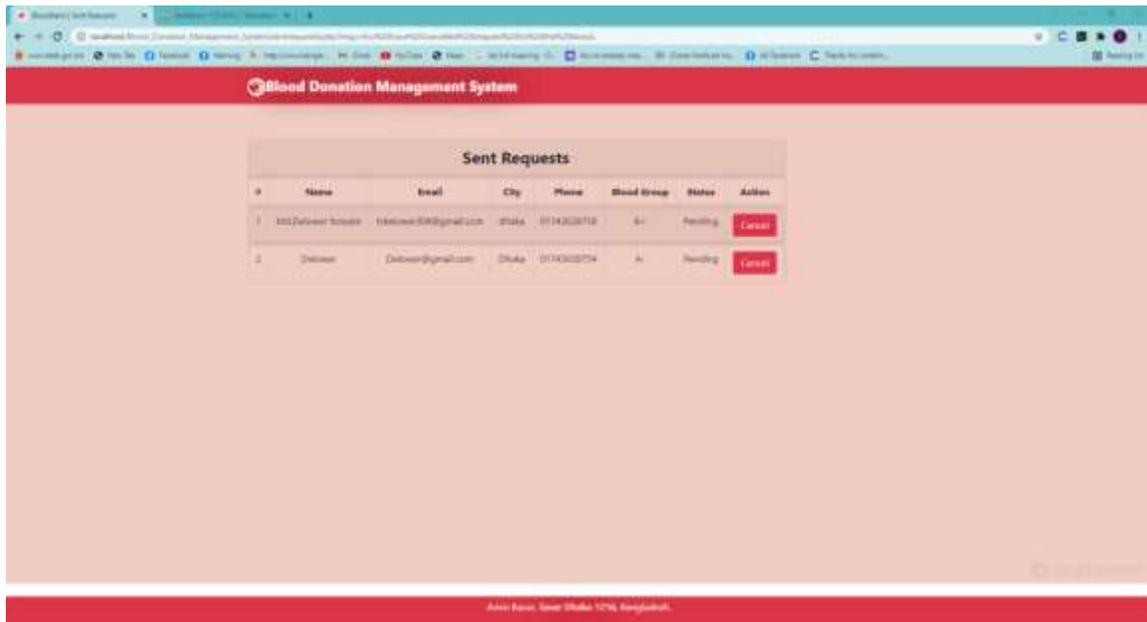


Figure 78: Status of Blood Request of Online Blood Donation System

The interface shows what blood group requests the hospital currently has. This means that through this interface we can see which citizens from this hospital have been requested for blood and what feedback they have given in response. Now all the information that the admin can see in the hospital is the name, email, city, phone, blood group etc. As a thought response, admin can see the message whether the citizens have accepted or denied. If there is no response from the citizen then the pending will show the message. Hey, all kinds of development work has been done through PHP language. And HTML, CSS, Bootstrap 4 JavaScript has been used to design all these pages.

- **Accept and Reject Blood Request from Hospital Admin**

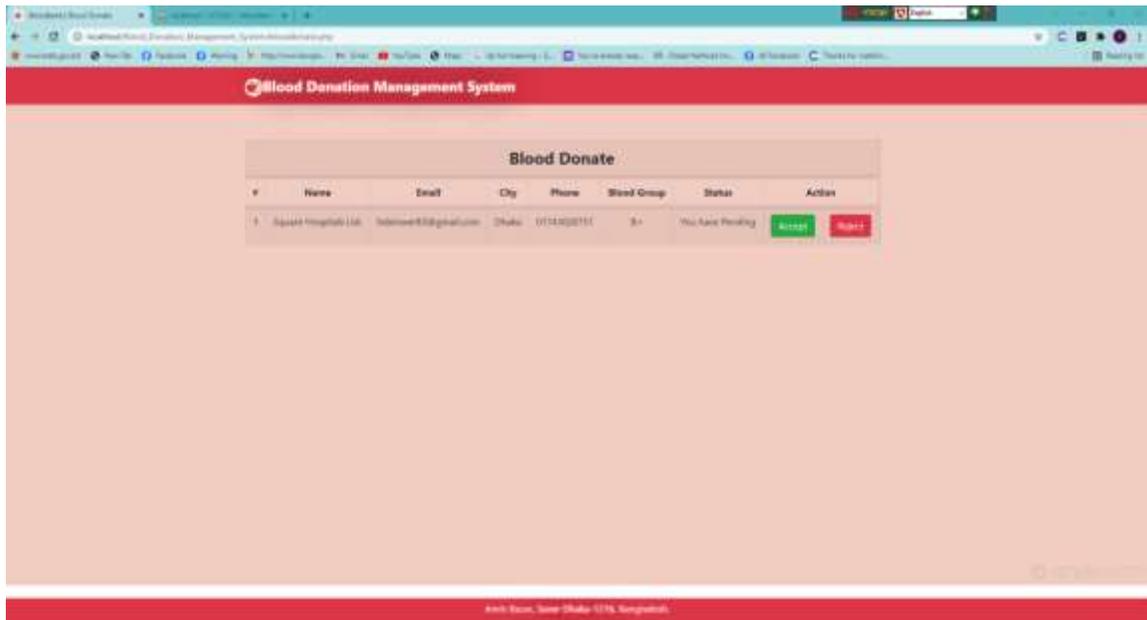


Figure 79: Accept and Reject Blood Request from Hospital Admin of Online Blood Donation System

This interface is where a blood donor will check the interface which hospitals have requested for blood. All the information that a donor can see in the hospital is the name of the hospital, email, city, phone, blood group. The message that will come for the requested blood of these hospitals is a message that a donor can deny or accepted this message through this interface if he wants. And here the green button is placed to accept the requested message. And the red button is kept to reject the requested message. And all this information must be stored in the database. All these departments of accept and reject have been worked through PHP language. And this page is designed with HTML, CSS, Bootstrap 4 and JavaScript.

- Confirmation Message after Accept or Reject Blood Request

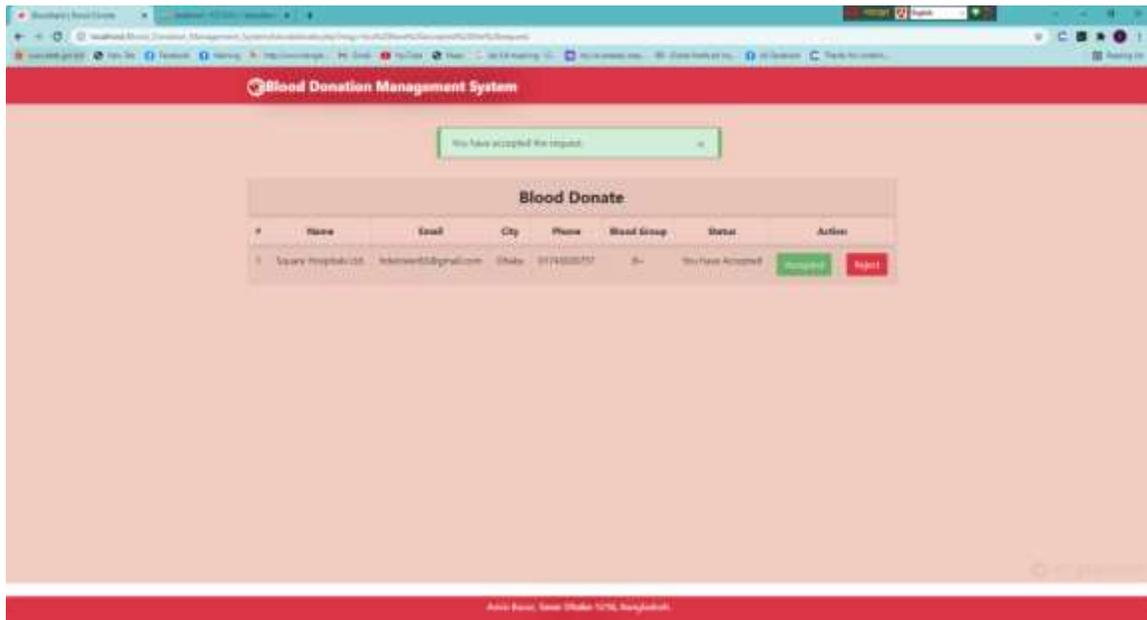


Figure 80: Confirmation Message after Accept or Reject Blood Request of Online Blood Donation System

The interface shows that if the donor accepts it will still see the confirmation message and now if it denies it will still show the confirmation message. The notification above shows the confirmation message of the acceptations. And this work of notification has been done through JavaScript. All this work has been done through PHP language whether it will be accepted or not. And the head section and content section and footer section of this page has been designed via HTML, CSS, bootstrap 4 and JavaScript.

- Showed Result which hospital accepted or rejected or pending of Blood Requested

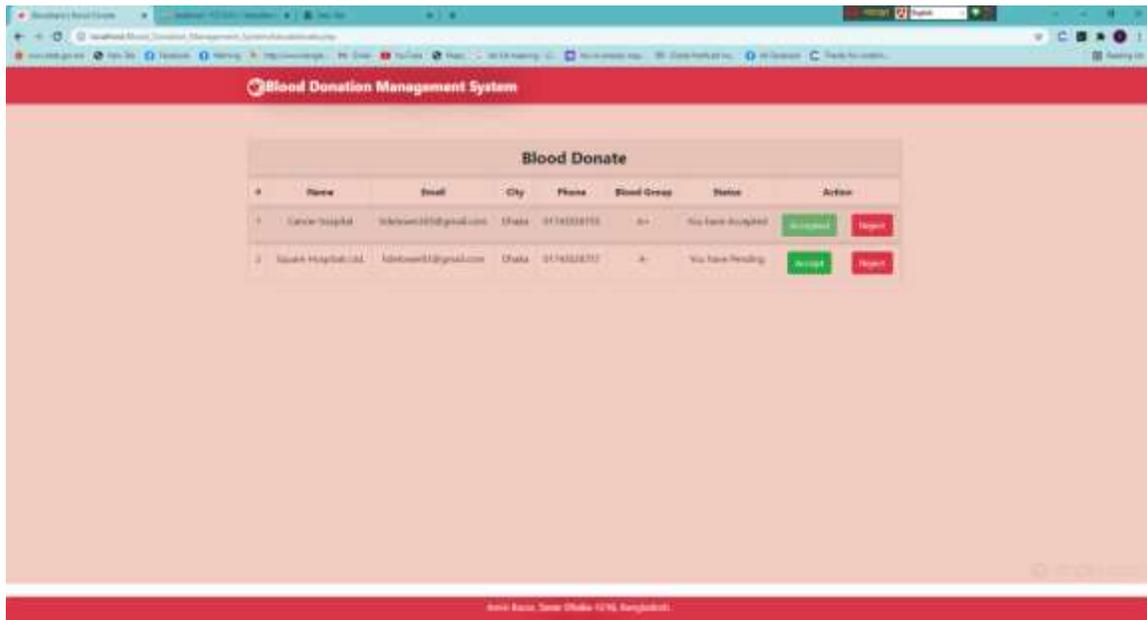


Figure 81: Showed Result which hospital accepted or rejected or pending of Blood Requested

Through the interface, the admin can easily see which users have been accepted and which have been rejected. In the above interface we can see that all the hospitals to which a donor has sent blood requests have been accepted. This means that all the hospital feedback messages that a donor has sent a request for blood can be viewed through this interface. We can only see two hospitals, but in future many hospitals will be added here. In the future when working on live servers, many hospitals and many citizens will work together, we will get a lot of information together. All the work done on the interface of acceptance or rejection has been done using php language. This interface is designed using HTML, CSS, bootstrap 4 and JavaScript.

Citizens or User

Feature

- User Interface



Figure 82: User Interface of Online Blood Donation Management System

This dashboard is for citizen for blood donation. There are different types of features such that blood info, blood available, status of request, blood donation request. And this interface is that the home interface can be easily moved from one interface to another. And different types of slideshows have been used in this home interface. Through this section a citizen can easily see what blood requests are on his page and which hospitals have accepted his request blood. Moreover, through this interface, he/she will be able to see which hospitals are on our main server. Find out what blood groups are available in some of these hospitals. And this page has been designed and developed with HTML, CSS, JavaScript and PHP.

- Add Blood Group from user Known Community

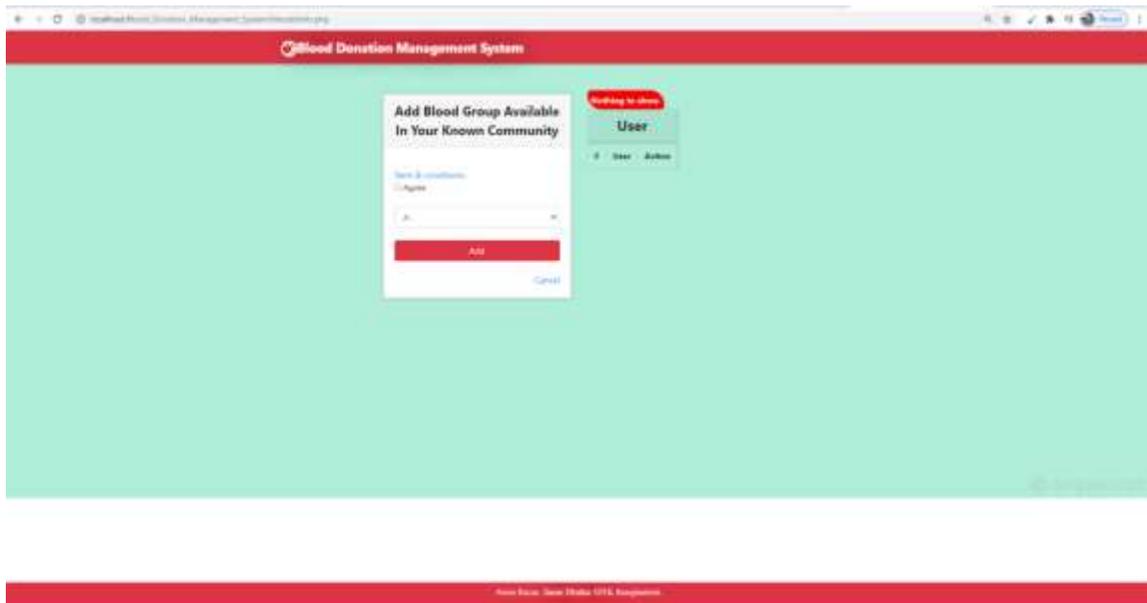


Figure 83: Add Blood Group by User in Online Blood Donation Management System

With the information of what blood group is available in a citizen, admin can add it. If the user wants, he/she can add his own blood group. If some user knows the blood group of another then he/she can add that blood group in this system. All users who wish to donate blood must add a blood group by clicking on the Terms and Conditions check box. And if any user adds any blood information then it will store in our database first. Then all these data development from that database is extract to this interface using PHP language. And the head section, content section, footer section of this page is designed using HTML, CSS, bootstrap 4 and JavaScript.

- Interface after add blood group from user

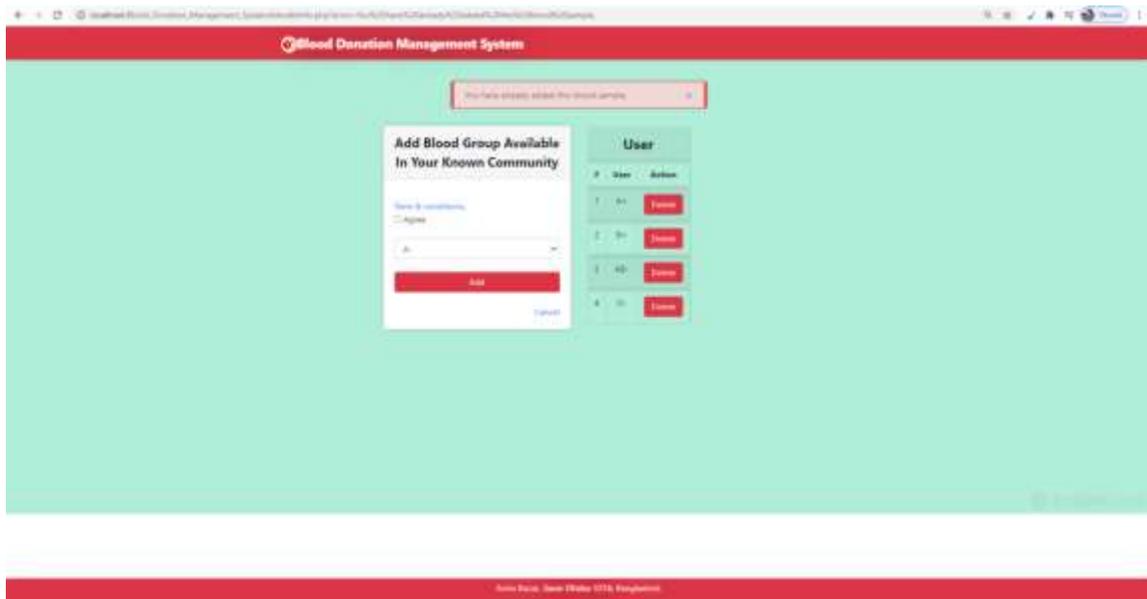


Figure 84: Interface after add blood group from user in Online Blood Donation Management System

Through this interface we can see what blood groups are in a citizen and we can see them in the form of a list. If the user of such he/she wants, he can delete the information of blood group from there. The topic we will discuss here is the interesting interface on the right. In other words, the user interface on the left side is basically extracting data from the database and showing it here. And the user can delete the data from here if he wants. And if the user deletes the data from here, then it will be removed from the database. And clicking the Cancel button in this interface will take the user to the main server. And here JavaScript is used to give notification message. And the development work done for this interface has been done through HTML, CSS, JavaScript, BOOTSRAP 4 and PHP.

- Available Blood Group and Search Process

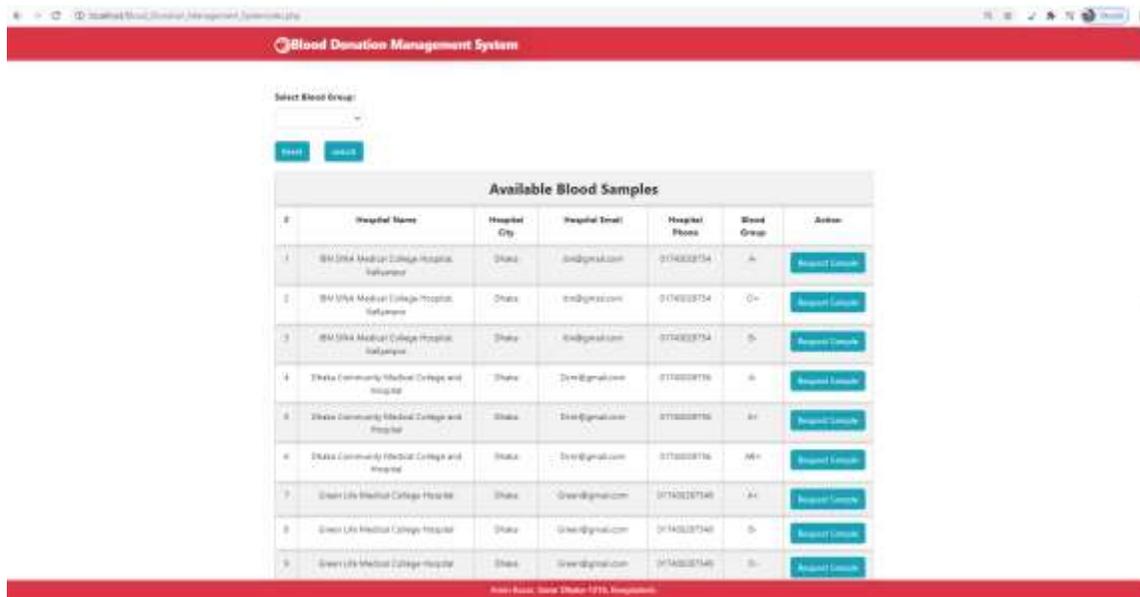


Figure 85: Available Blood Group and Search Process in Online Blood Donation Management System

The blood groups that are available in the system and if any user wants to find out the specific blood group from there, he/she can find out through this interface. Through the interface, a citizen will be able to know which blood groups are available in all the hospitals of the country. Moreover, for the special needs of a patient, they can find out what blood groups are in the nearest hospital. The ways the hospitals are arranged in my system are Hospital Name, Hospital City, Hospital Email Hospital, Blood Group etc. If any patient wants, he can request for blood in the hospitals located in his city. And here the patient can search by typing blood group in any specific if he wants. And all of the pages are designed using HTML, CSS, JavaScript and the development work is done using PHP language.

- Check Blood Donation Requested



Figure 86: Available Blood Group and Search Process in Online Blood Donation Management System

Through the interface, a user can easily view the status of the requested blood donation. Through the interface, the user will be able to see which hospitals have requested Blood. This page is usually blank if the user has no request. And will show confirmation message as per notification above. One can send donors to different types of hospital blood requests. When the data is sent it first goes to the database and when it is extracted from the database it is brought to the interface. Some hospitals have sent him requests. If he wants, he can see the requests in all the hospitals at once through the interface. And all designs including these developments have been used HTML, CSS, JavaScript and PHP.

Chapter 5

Implementation and Testing

5.1 Introduction database

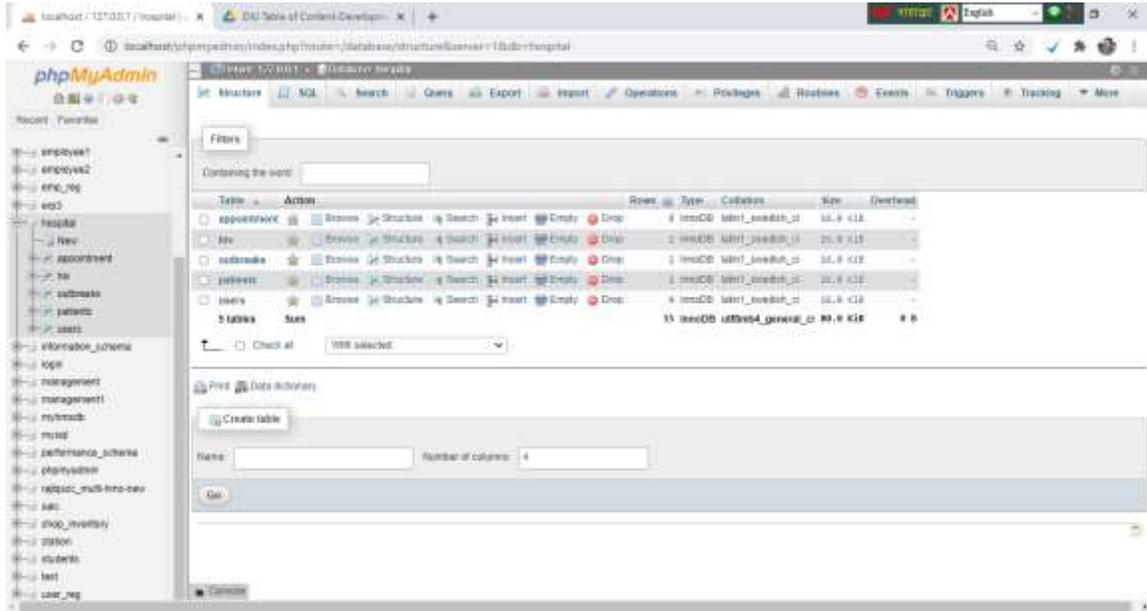
Database is a type of process that allows a user to do development work with any website. An application requires a database to store users' data. And MySQL Database offers the opportunity to work directly on the local server. PhP language is used to store database data directly from the Web application. Moreover, the work of extracting data from the database is also done through php language. If necessary, the data of any database can be updated and modified through php language.

Database Snapshot

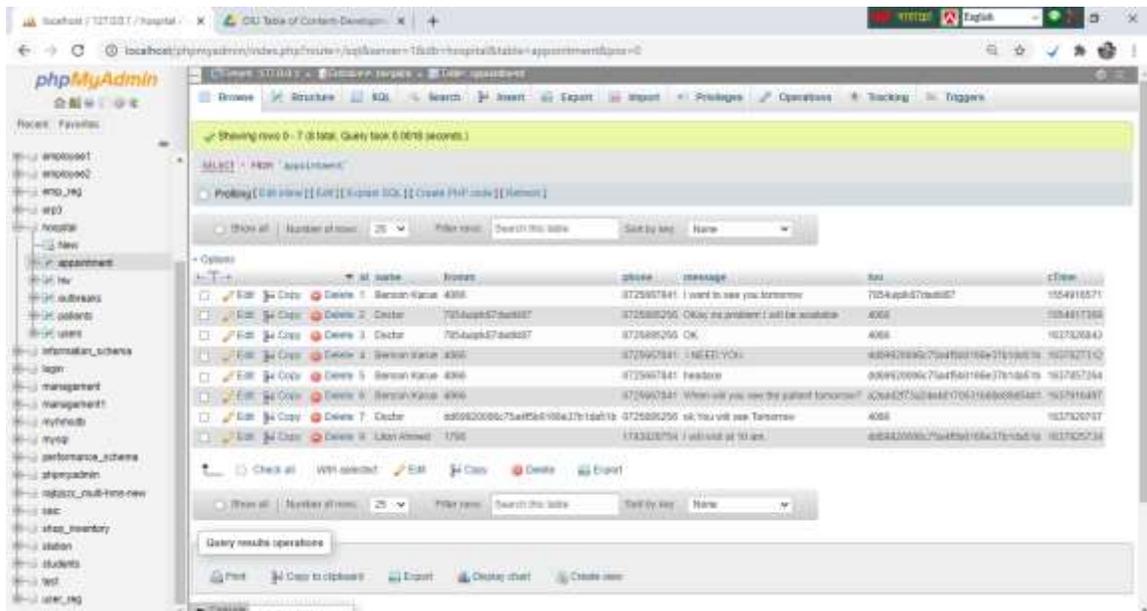
For Online

Hospital Management System

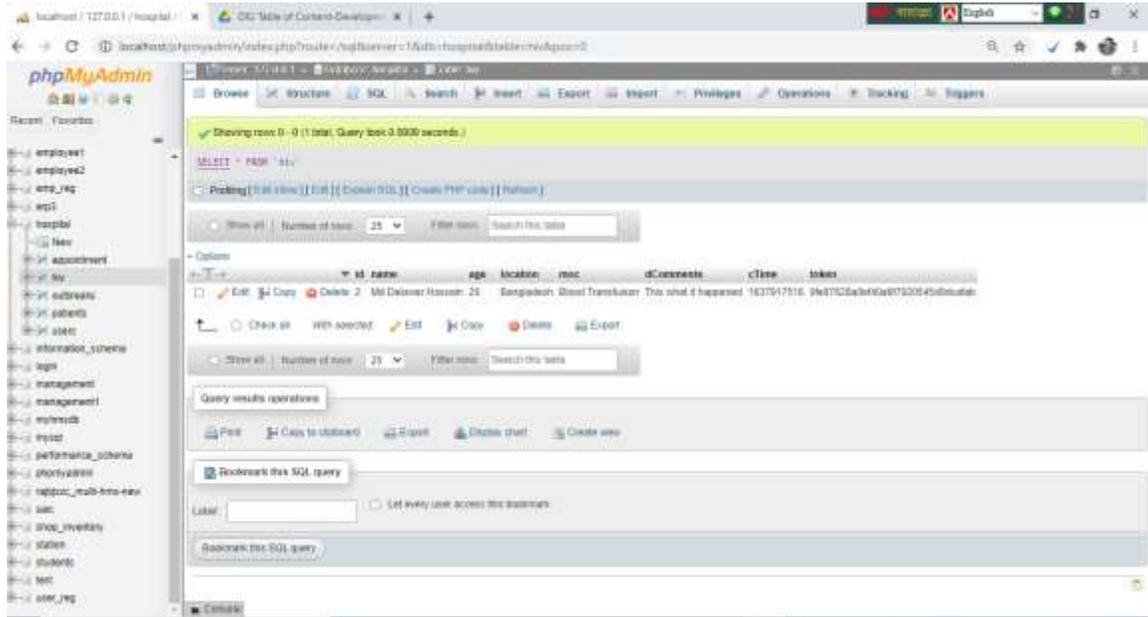
- Implementation Database Snapshot of Hospital Management System



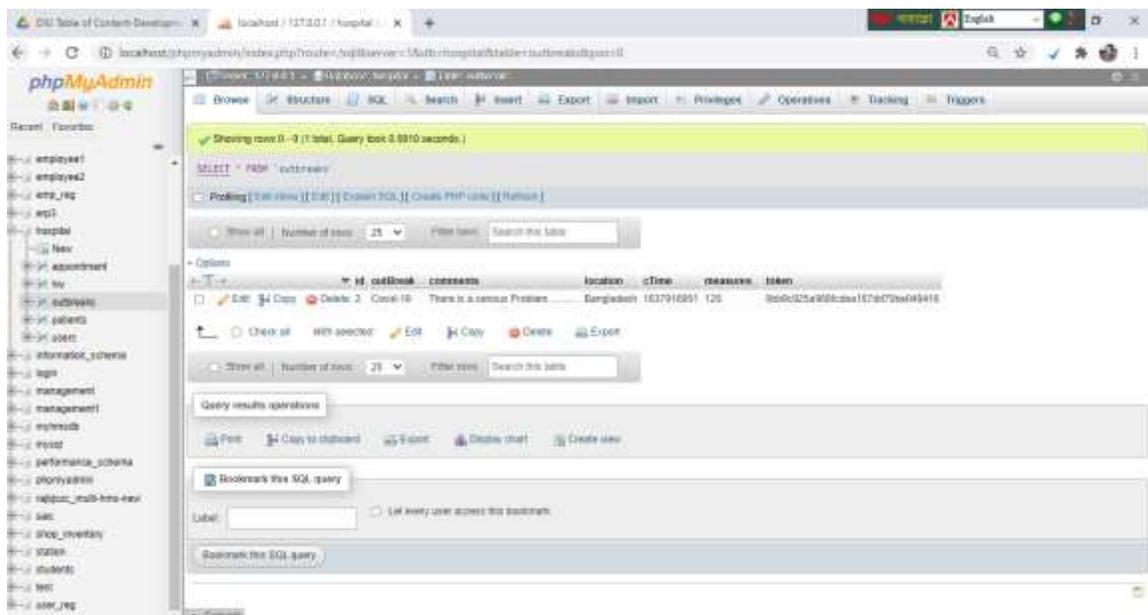
- Database Snapshot for Appointment and Testing Result



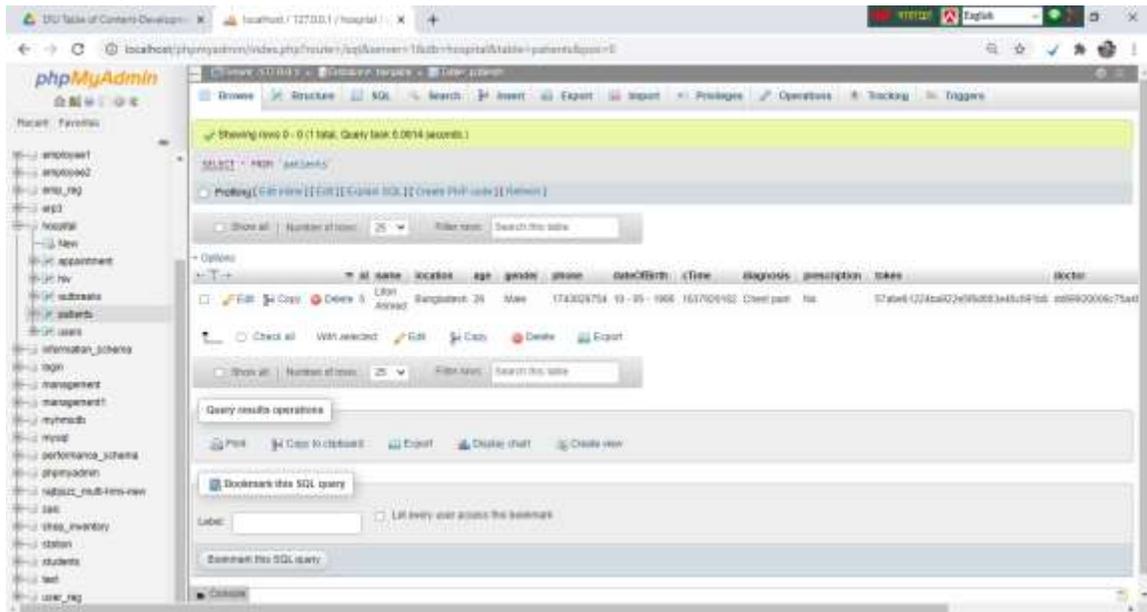
- Database Snapshot for HIV and Testing Result



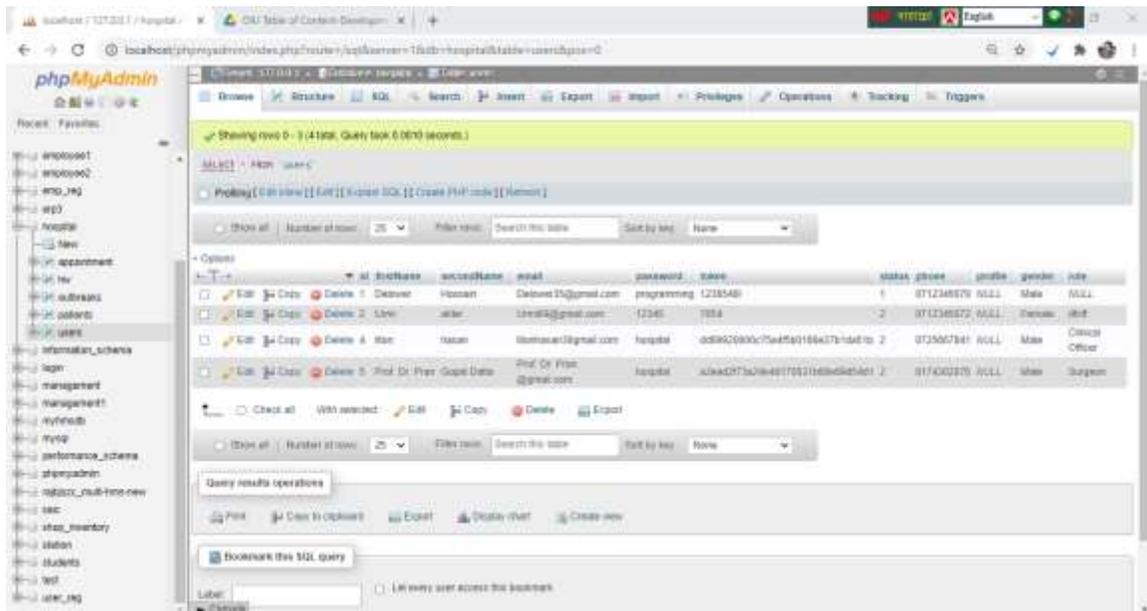
- Database Snapshot for Outbreak and Testing Result



- Database Snapshot for Patients and Testing Result



- Database Snapshot for Users and Testing Result

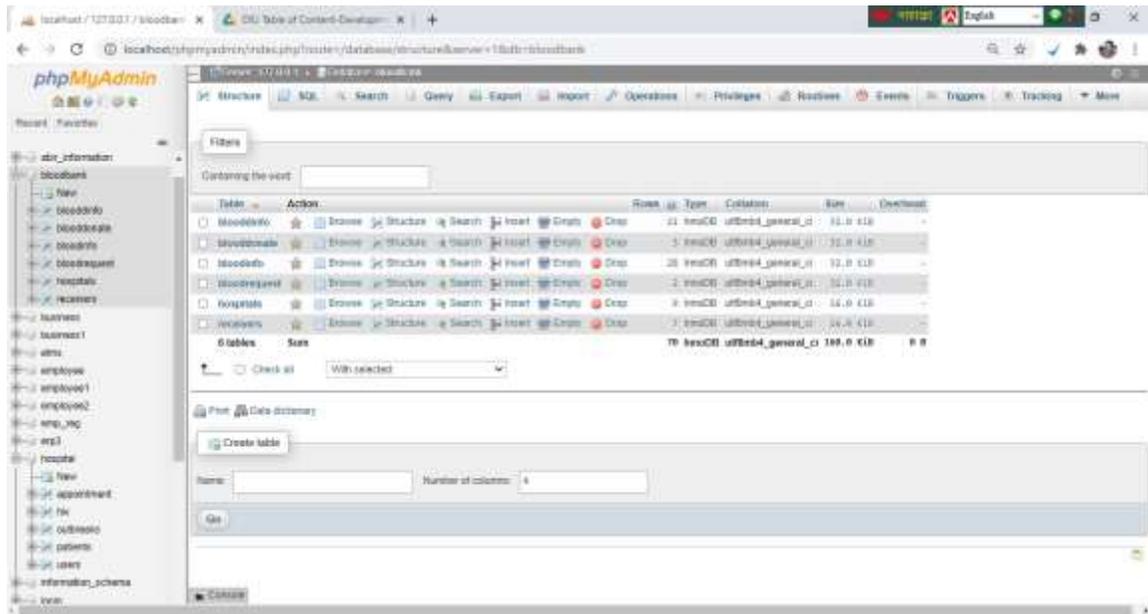


Database Snapshot

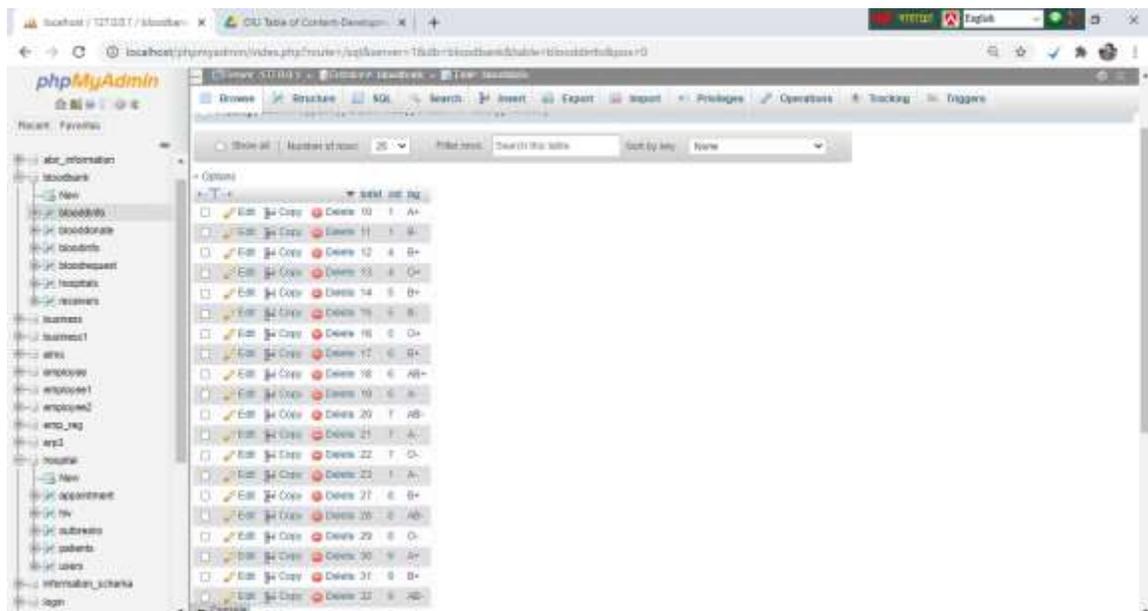
For Online

Blood Donation Management System

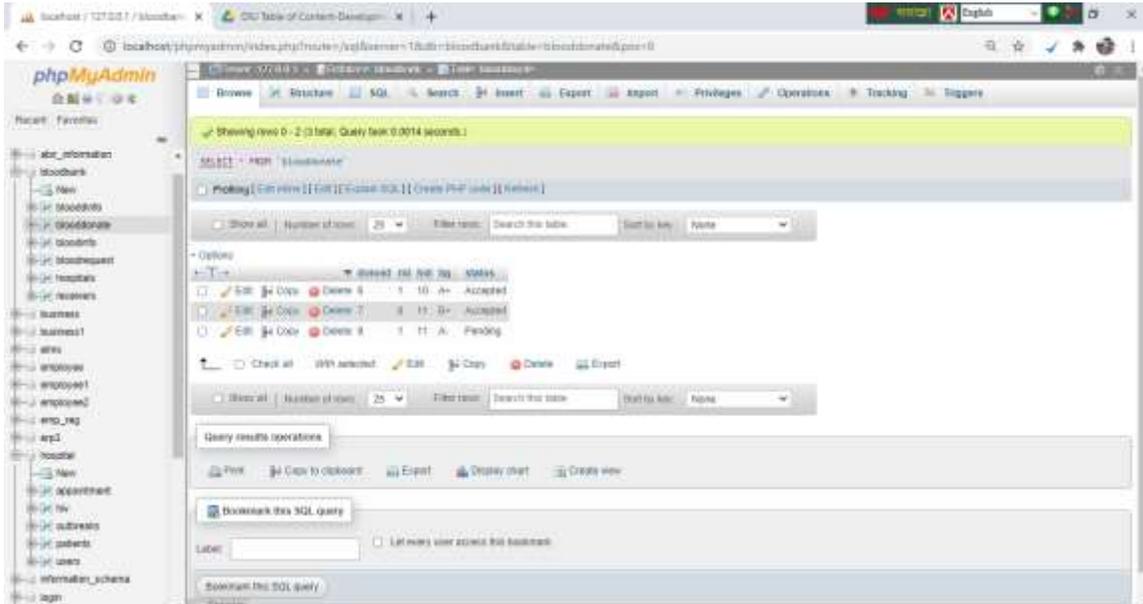
- Implementation Database Snapshot of Blood Donation Management System



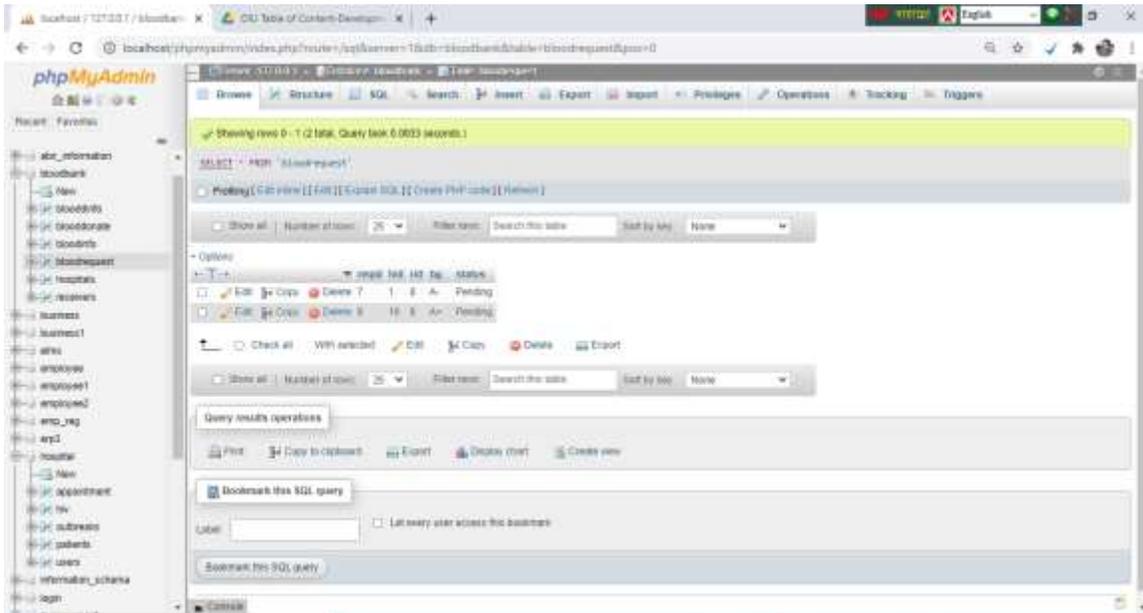
- Database Snapshot for blood info and Testing Result



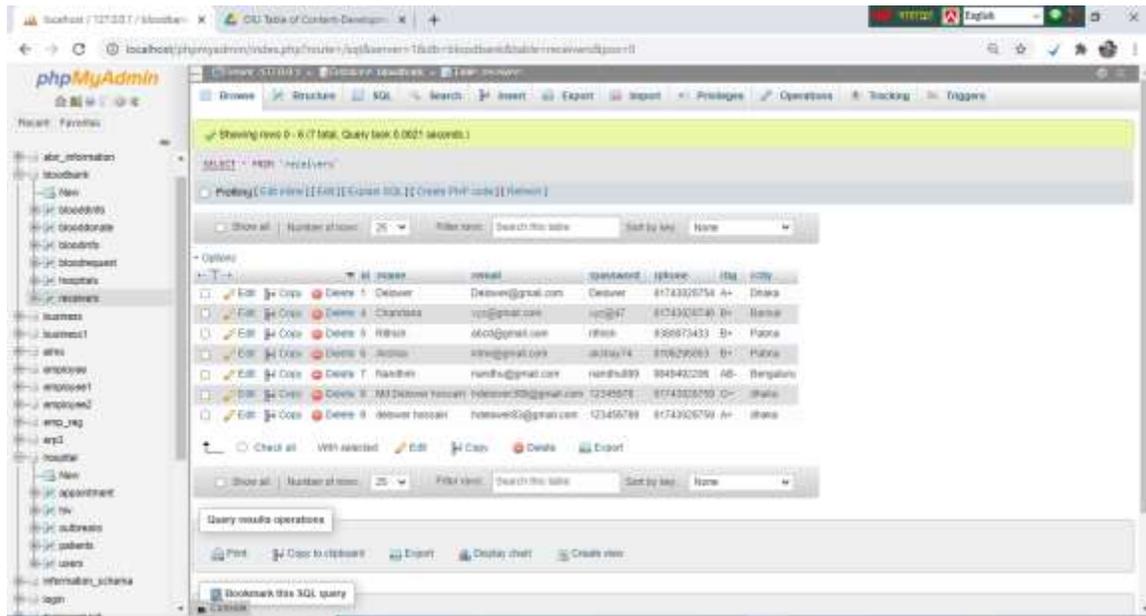
- Database Snapshot for blood donate and Testing Result



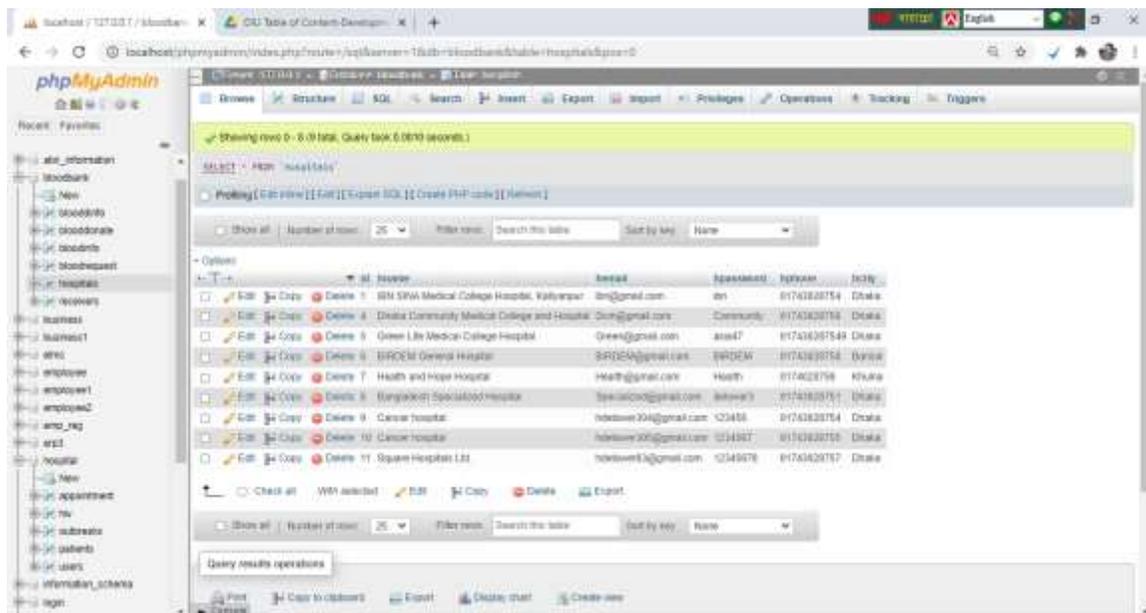
- Database for Snapshot blood request and Testing Result



- Database Snapshot for receivers and Testing Result



- Database Snapshot for hospitals and Testing Result



Chapter 6

Impact on Society, Environment and Sustainability

6.1 Impact on Society, Environment and Sustainability in Online Hospital and Blood Donation Management System

I hope this software survives in the society for a long time. Because this software is usually made for the people in the society. Through this system, anyone in the society can take any kind of help at any time. If a person in the community has an emergency then the service can accept the opportunity from the safe if there is an accident or need for any instant blood for surgery or delivery. Because I have a list of such donors in this system who do not have any virus in their blood. They can easily get help from them if they want and our development started a meeting so that they can contact them very quickly and express their desire to donate their blood. And through our system any patient from far and wide of the country can easily book a doctor online so that their transportation cost And other costs will be reduced. Hospitals can benefit a lot financially through our system as they will get a lot of patients through this system so they can benefit financially from them in many ways with prescription, difference disease test. And through our system, all the patients who will be shown to the doctors in any hospital will be given a specific amount of fee for that doctor. This is because doctors often have assistant receivers to help them and they charge a fee from the patients where those who are supposed to pay the doctors leave the reception and from here they commit various frauds. As a result, the doctors did not get it, leaving some reception. But through my system, patients receive exactly the same amount of visiting fees as the doctor. Moreover, through my system, an admin can easily monitor whether the receptions in any department are giving a hoax or cheating. Because in a system, full access to what the doctors are doing and what the patient has done is given to the admin in our system. Also, through this system, any donor can easily see the medical status of their blood, whether it is healthy or unhealthy. And besides donors, patients will also benefit a lot from this website. Because here patients can easily see

the list of donors based on area. As a result, patients receive their regional donors in a very short time. Patients will be able to see the particular blood group in our system. And through my system patients will be able to easily see blood group currently not available for blood transfusion. In addition, my system will be able to find out which blood groups are currently available in which blood camps in the country. This information will be constantly updated in our system. And in my system, any citizen of the country can get an opportunity to earn income by working for development. If any citizen of the country wants to volunteer in this system I can do that too. What blood groups are available to the citizens of the country, they will input their blood groups into our system as volunteers. Now the volunteers will be working based on different areas. As a result, we will provide various types of support and a certain amount of fees. And I am hopeful that all the citizens of the country through my system will be very happy and enjoy.

Chapter 7

Conclusion and Future Scope

7.1 Conclusion

Online Hospital & Blood Donation Management System software has been developed primarily for the citizens of our country so that any hassle can easily get any service. I have ensured through this system that any citizen can find any blood donor which does not contain any virus. And it has been designed so that any citizen can easily access the online hospital management system and make bookings to any doctor. This system has been further developed by comparing it with all the existing applications. And many more extra features have been added from all those software so that any citizen can get any service very easily. And I have connected all the institutes so that all the students can be involved in this system. This software has been arranged and developed in such a way that the citizen can easily find his district based hospitals. Arrangements have been made for a citizen to get safe blood from all these hospitals. And I have been insured through the system that any citizen can easily find any blood donor and get safe blood. And now we have a development team to handle any citizen. Currently the system is developed HTML, CSS, Bootstrap 4, JavaScript, PHP. And artificial intelligence and data science will be used for better system performance in the future.

7.2 Future Scope

Cloud storage will be arranged in this system in future. I will turn this application into mobile apps with include extra feature. My system will be updated over time. Our new development will be directly related to cloud storage. Many developed countries have their medical reports in cloud storage, but our country is far behind in terms of these technologies. So I want our country to use cloud storage like any other development country. We need this medical service in this new era. If we only have computer

knowledge, it will not be enough. In case we have to work with data science and machine learning in our application. We need to use smartphones in this system so that when a patient calls, the phone goes directly to them. And the phone call has to be made directly using Data Science and machine learning. If any patients want to call a hospital in case of emergency in case of any disease, call automatically. This process will be developed in our web application using data science and machine Learning. Any patient can easily modify their data through this mobile application that will be used in our system. In the future we will use data science algorithms to control the traffic of this system so that if our system has a large number of users and sends a lot of blood requests at the same time it will be used to control everything. Moreover, in case our system becomes automated in development, we need to use data science.

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