## EMERGENCY SERVICE AND EMERGENCY WARD FINDER IN THE HOSPITAL

 $\mathbf{BY}$ 

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

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# DAFFODIL INTERNATIONAL UNIVERSITY DHAKA, BANGLADESH MAY 2021

#### **APPROVAL**

This Project title "Emergency Service And Emergency Ward Finder In The Hospital", presented by \* MD. Ali Haidar Tauhid Sagar, ID: 172-15-10196, Md. Naim Hossain Shovu, ID: 172-15-10197 and Tania Akter, ID: 172-15-10234\* to the Department of Computer Science and Engineering, Daffodil International University, has been acknowledged as palatable for the incomplete fulfillment of the necessities for the degree of B.Sc. in Computer Science and Engineering and affirmed concerning its style and substance. The presentation has been held on \*26 February 2020\*.

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We thusly announce that this task has been finished by us under the oversight of **Mst. Eshita Khatun, Lecturer, Department of CSE** Daffodil International University. We likewise announce that neither this venture nor any piece of this undertaking has been submitted somewhere else for the honor of any degree or confirmation.

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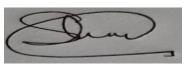
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## **ABSTRACT**

Health is the root of all happiness. The medical problem is a major factor for us. Sometimes we see that in health issues or emergencies treatment nearby hospitals, blood banks, ambulance services, doctor's information is not available to us. In such type of situation, we have to suffer a lot. In Bangladesh, there are many health service websites. But our project provides many services in one platform. We are creating a website for all the emergency services in the hospital. So that we can know about emergency treatment information in a short time. This project will provide hospital emergency ward booking, information on hospitals, doctor's information, ambulance services, and blood banks all over Bangladesh. This project will provide in advance whether a hospital emergency department has seats available or not. This project will provide which doctors and treatment have available or not. This project will provide information about hospitals and ambulances services located in a specific area with the location. And also will provide information on the hospital's blood banks and blood donor. Therefore we will say that the patient will able to ensure proper treatment at the right time by our project.

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## **CHAPTER 1**

## INTRODUCTION

#### 1.1 Introduction

Emergency Service and Emergency Ward Finder In The Hospital has been developed for providing hospital emergency ward booking, information on hospitals, doctors information, ambulance services, and blood banks all over Bangladesh. When we shift to a new place for living then nearby hospital information, doctors' information, ambulance services, blood banks are unknown to us. As a result, if a health issue or medical emergency occurs we have to suffer. Our website then helps reduce this suffering.

#### 1.2 Motivation

When we take a patient to the emergency department for treatment, many times we do not get a seat in the emergency department. Many times the seat is found but sometimes there has no available treatment. Then we go to another hospital again because the treatment has not there. It takes a lot of time. This often makes our patient's condition worse. Many times a patient dies due to not getting proper treatment. Exactly one such incident happened to one of my patients. If we know in advance whether a hospital emergency department has seats available or not. And whether these treatments have available or not. Then we do not have to suffer from such a situation. And from here comes the idea that we can reduce the suffering of this situation through this project.

## 1.3 Project Initiation Planning

We are three members of this project. This project is a result of our thoughts and hard work. At the very beginning, we had several ideas for our final project. From those several ideas, we choose the health sector for our project. We had some previous information about hospitals, doctors, emergency wards, blood banks, ambulance services. After consulting with the authority and our supervisor we decided to do this particular project. Then we started our project according to the proper instruction of our supervisor.

## 1.4 Objective of this project

## This project has several objectives. The most important objectives are given below:

- **1.**To find the nearest hospital emergency ward for the patient.
- **2.**To find the hospital emergency ward seats are available or not.
- **3.**To check that the treatment which is looking for is available or not in the hospital.
- **4.**To find the Information of hospitals located in a specific area.
- **5.**To find the Information of doctors located in a specific department.
- **6.**To find the Information on ambulance services in a specific hospital.
- **7.**To find the Information on hospitals blood banks and blood donor.

## 1.5 Expected Outcomes

The expected outcome of that project is to provide the facility of searching the emergency ward advance details for the emergency patient. And provide the facility of hospital emergency ward booking, information on hospitals, doctor's information, ambulance services, and blood banks all over Bangladesh. As a result, if a health issue or medical emergency occurs then this project will help reduce this suffering. Through this project, people will get information about nearby hospitals, doctors, blood banks, ambulance services very easily. Therefore the patient will able to ensure proper treatment at the right time.

## **CHAPTER 2**

#### **BACKGROUND**

#### 2.1 Introduction

Prior to beginning to make this venture we did a profound report and exploration about its experience. After complete the exploration, we discover numerous medical-related applications and sites. They settled a little piece of the medical issue yet they didn't give a general answer for medical issues. But Emergency Service and Emergency Ward Finder In The Hospital have been developed for providing hospital emergency ward booking, information on hospitals, doctors information, ambulance services, and blood banks all over Bangladesh. As a result, if a health issue or medical emergency occurs to suffer. Our website then will help reduce this suffering.

#### 2.2 Related Works

We track down some medical-related android and web applications on the google play store and site. Their applications have some similarities to our project. Some applications are: BdHealthSolution, BdDoctorAssistant, E-Medicare, MedicarePlus".

**BdHealthSolution**: In this application, they can contact a specialist by SMS and take their answers.

**BdDoctorAssistant:** Their principle highlight is a patient arrangement to the medical clinic.

**E-Medicare:** It an online application. They make a stage to interface with specialists and patients through sound/Video call gatherings.

**MedicarePlus:** They make an application that has some clinical strategy like overseeing arrangements, Saving Prescriptions, test archives, Daily caution notices.

But the "Emergency Service and Emergency Ward Finder In The Hospital" provides many services in one platform.

## 2.3 Comparative Studies

We have built up our project by utilizing online advantages to satisfy the project as indicated by the most elevated level. For this system, we have already done some research based on medical-related. There are so many medical-related websites in our country but not that effective as our project. Our project provides many services in one platform. Through this project, people will get information about nearby hospitals, emergency ward booking, doctors, blood banks, ambulance services very easily. Therefore the patient will able to ensure proper treatment at the right time. We believe that our project will help the patient.

## 2.4 Scope of the Problem

First of all, this project is an online web application which is a bit of a problem with how our customers will accept it. Because it will use to require a smartphone or browsing device and internet connection. There will be problems if the moderator does not always update information on emergency ward seats, ambulance, blood, and doctor.

## 2.5 Challenges

Data collection of the hospital, blood bank, ambulance service like address, phone number, e-mail, etc. is a big issue. Another enormous factor is the validation of information. Convincing hospital management and people to use this application. Perform all functions perfectly. Ensuring good quality medical service. Making user's information more secured. The toughest task for us is to introduce our application to users.

## **CHAPTER 3**

## REQUIREMENTS SPECIFICATION

## 3.1 Business Process Modeling

Business process modeling is a technique for representing the workflow of a system. Diagram base as "flow diagram", is the main characteristic of the methodology. Here we characterize our plan of action utilizing the Data Flow Diagram. Information Flow Diagram portrays how information is prepared through a framework.

## 3.1.1 Data Flow Diagram

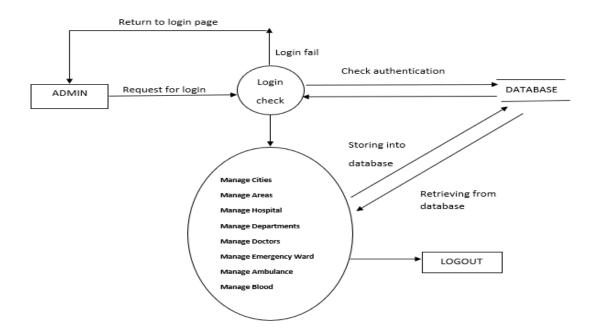


Figure 3.1.1: Data Flow Diagram of Admin

Figure 3.1.1 is basically the whole scenario of our project. All the control is in the hand of the admin. For controlling the whole system admin need to log in. There is a big database. All the data and information stored in that database.

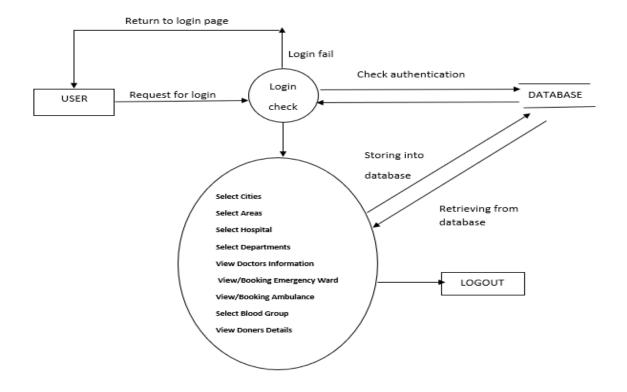


Figure 3.1.2: Data Flow Diagram of User

Figure 3.1.2 shows the scenario of users. Users can do some specific tasks like searching for hospitals, doctors, emergency wards, blood donors, ambulances. The Users get the data from the database.

## 3.2 Use Case Modeling and Description

A Use Case Diagram sometimes called unified modeling language (UML) is a graphical portrayal of system activity, administrator, and user's roles. It is a basic portrayal of a system's user interaction with the system. A use case shows the list of activities or events and the role of users or administrators with these activities.

## Admin:

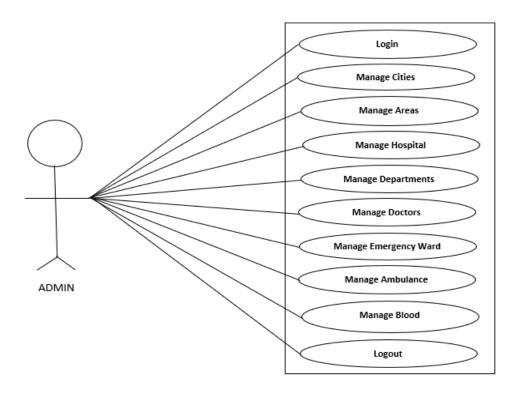


Figure 3.2.1: Use Case Diagram for Admin

Figure 3.2.1 describes how the admin controls our system with the login process. Here administration group can be edit, update, delete, or everything [6]. They also can check all display information.

## **User:**

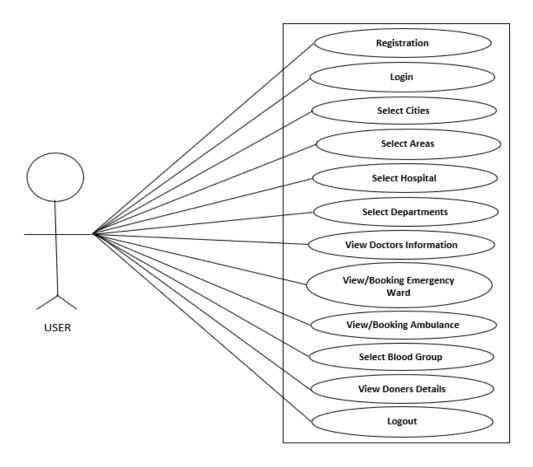


Figure 3.2.2: Use Case Diagram for User

Figure 3.2.2 is the describe user can register and they can log in to this system, they can check their profile they can keep their personal information. They also can view doctors' information, hospital information, emergency ward, ambulance service, the blood bank. They can book emergency ward seats, ambulance. Finally, log out of this system.

## 3.3 Logical Data Model

The following figure 3.3.1 shows the Logical Data Model

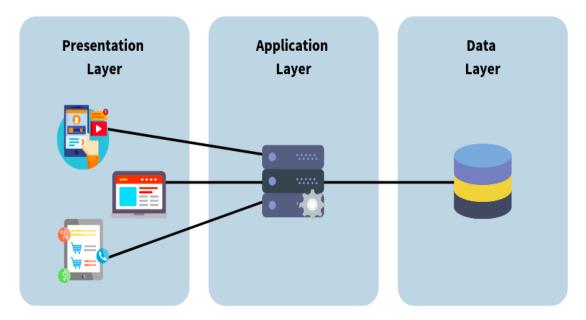


Figure 3.3.1: Logical Data Model

The Logical Data Model is used to portray the development of data segments and to set associations between them. The real data model adds extra information to the determined data model parts. Data showing is the path toward making a visual depiction of data to be taken care of inside supposed informational indexes.

## 3.4 Design Requirement

The following figure 3.4.1 shows the Design Requirement.

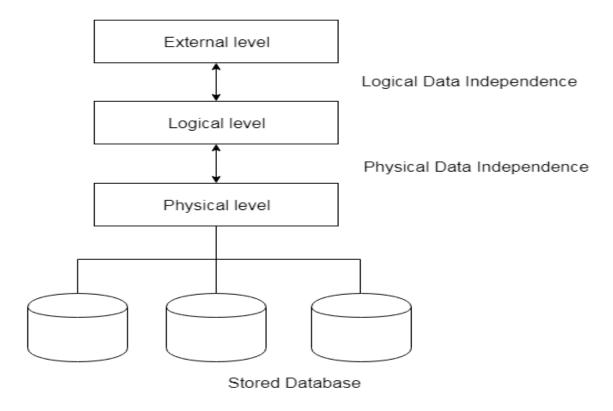


Figure 3.4.1: Design Requirements Diagram

Discovering requirements for designing the entire project is quite possibly the main task for finishing the project. Another task of improvement is completely dependent on planning the system. It is an interaction that graphically represents how the system will be working.

## **CHAPTER 4**

## **DESIGN SPECIFICATION**

## 4.1 Front-end Design



Figure 4.1.1: Web Home Page Design

The figure is the Home Page of our own project [8]. This landing page is shown when the application is launched. Here users can pick the alternative that the person needs. On the upper, there is a menu bar When a user taps the menu bar will open the services.

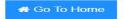




Figure 4.1.2: Admin Login Form

The Figure is the Admin Login form of our project. All the control is in the hand of the admin. For controlling the whole system admin need to log in.

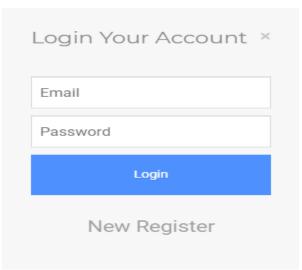


Figure 4.1.3: User Login Form

The Figure is the User Login form of ours project [1]. The user can sign in to this project, they can check their profile they can keep their own data. They additionally can check specialists, medical clinic data, ward booking, or numerous different things.

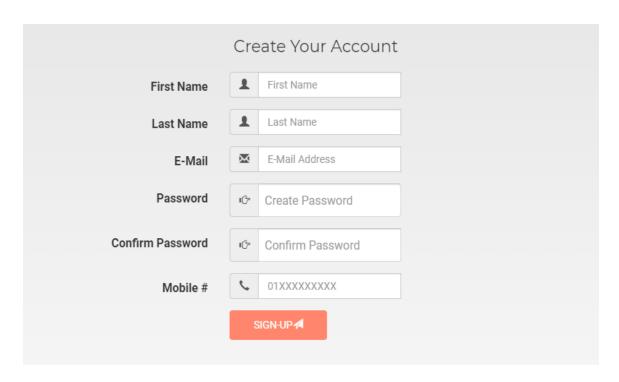


Figure 4.1.4: User Registration Form

The Figure is the User Registration form of ours project. The user can register and they can sign in to this project, Then they can check their profile they can keep their own data. They additionally can check specialists, medical clinic data, ward booking, or numerous different things.



Figure 4.1.5: Hospital Page

The Figure is the Hospital Page of ours project. The user firstly selects an area and searches a specific hospital for the hospital information. Then they select a hospital and check this hospital information. Then they can also check the view map in the hospital location when click see more.

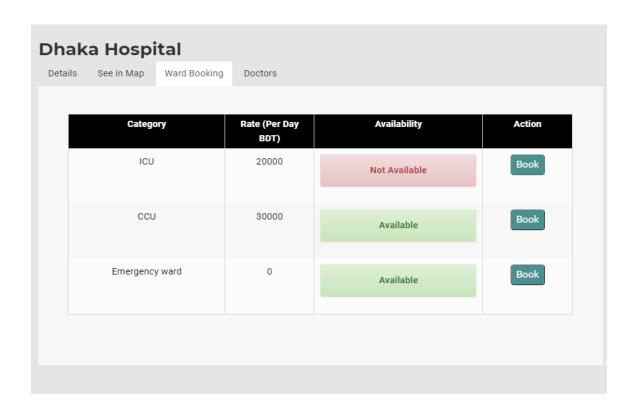


Figure 4.1.6: Ward Booking

The Figure is the Ward Booking page of ours project. The user firstly searches a specific hospital for hospital ward booking [15]. Then they can check this hospital ward is available or not available. Then they can book a hospital ward.



Figure 4.1.7: Doctors Page

The Figure is the Doctor Page of ours project [3]. The user firstly searches a specific department for the doctor's information. Then they select a department and check this doctor's information. Then they can also check the doctor's chamber and schedule. And they can also take an appointment.

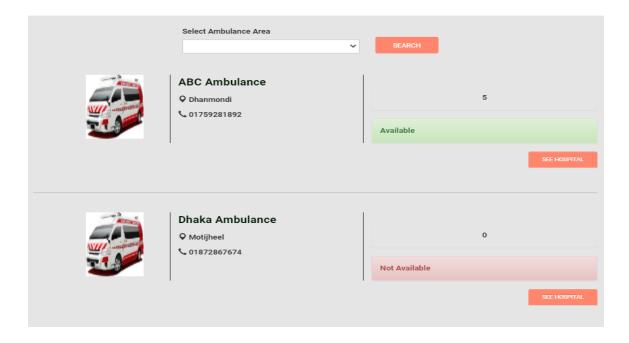


Figure 4.1.8: Ambulance Page

The Figure is the Ambulance Page of ours project. The user firstly searches an area and then select an ambulance [2]. Then they can check this ambulance information. Then they can also check the ambulance hospital information.



Figure 4.1.9: Blood Donor Page

The Figure is the Blood Donor Page of ours project. The user firstly selects blood group and area, then search for a blood donor. Then they can check the blood donor information.

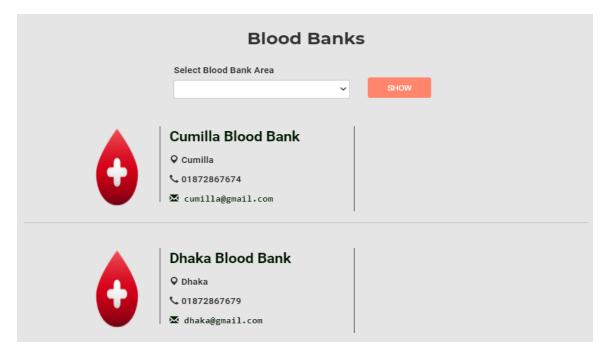


Figure 4.1.10: Blood Banks Page

The Figure is the Blood Bank Page of ours project. The user firstly select an area, then search for a blood bank [13]. Then they can check the blood bank information.

## 4.2 Back-end Design

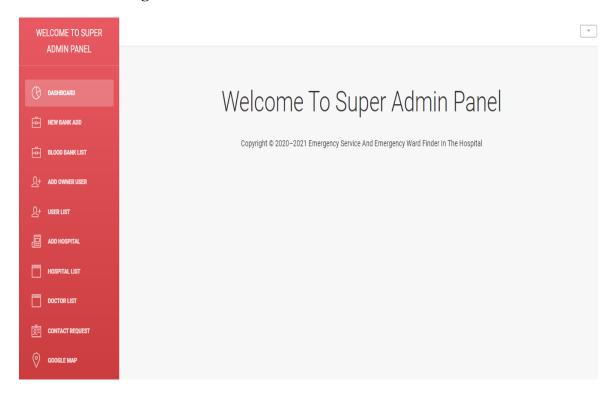


Figure 4.2.1: Super Admin Panel

This is the Super Admin Panel of ours project. The Super Admin firstly login into the super admin panel. Then Super Admin can view the whole system of this project. Then the super admin can handle all the systems of the project. The super admin can add new blood banks, add new hospital admin [11], add new super admin, add new hospital, add google location system, delete all hospital list, delete all doctor list, delete all user list.

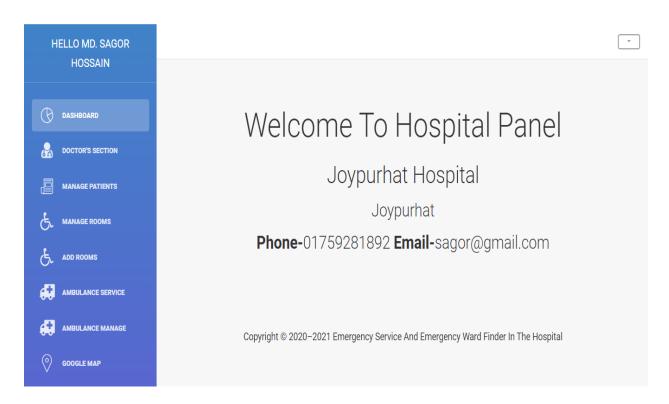


Figure 4.2.2: Hospital Admin

The Figure is the Hospital Admin Panel of ours project. The Hospital Panel Admin firstly login into the hospital panel. Then Hospital Admin can view the hospital panel. Then hospital admin can handle all the systems. The hospital admin can manage doctors, add doctors, manage patients, view booking lists [9], update the booking system, manage rooms, add rooms, add ambulances, add google location system.

#### 4.3 Database Design

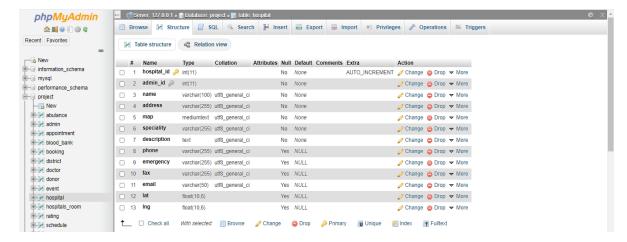


Figure 4.3.1: Hospitals Information.

This is the database structure of the Hospital. Admin can visit the site and can see the hospital database structure. And also, the admin can edit and update the database.



Figure 4.3.2: Doctors Information

This is the database structure of the Doctor. Admin can visit the site and can see the doctor database structure. And also, the admin can edit and update the database.

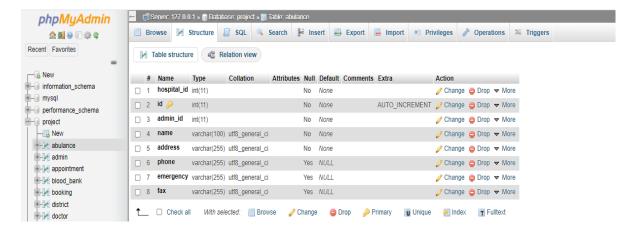


Figure 4.3.3: Ambulance Information

This is the database structure of the Ambulance. Admin can visit the site and can see the ambulance database structure. And also, the admin can edit and update the database.

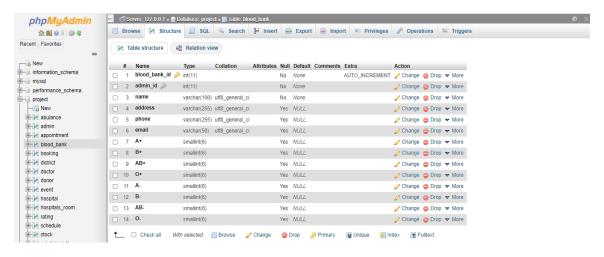


Figure 4.3.4: Blood Bank Information

This is the database structure of the Blood Bank. Admin can visit the site and can see the blood bank database structure. And also, the admin can edit and update the database.

## 4.4 Interaction Design and UX

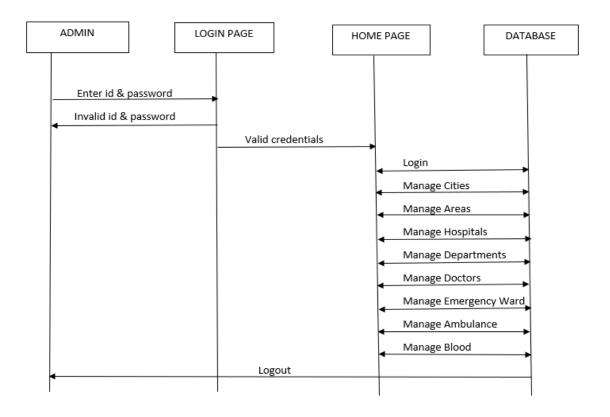


Figure 4.4.1: Admin Login Design

This is the Admin Login Design Sequence chart. Sequence chart address objects partaking horizontally and vertically in collaborations. The architecture of a product framework characterizes that framework regarding segments and Interaction among those parts. In reality, Interaction can found all over the place. Interaction is the way to make a system dynamic and alluring to the user.

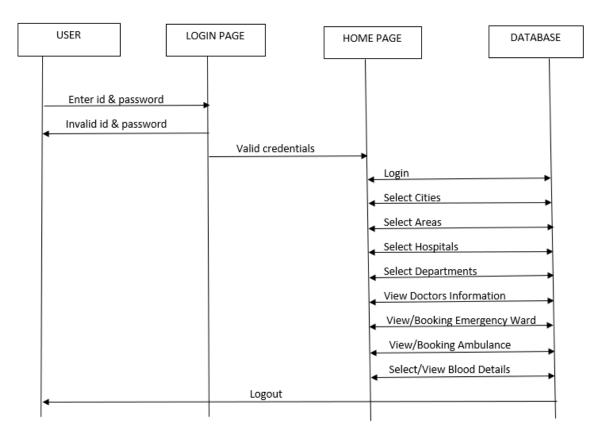


Figure 4.4.2: User Login Design

This is the User Login Design Sequence chart. Sequence chart address objects partaking horizontally and vertically in collaborations. The architecture of a product framework characterizes that framework regarding segments and Interaction among those parts. In reality, Interaction can found all over the place. Interaction is the way to make a system dynamic and alluring to the user.

## **CHAPTER 5**

## IMPLEMENTATION AND TESTING

## **5.1 Implementation of Database**



Table 5.1.1: Hospital Data Set.

This is the database table of the Hospital. Admin can visit this site and can see the hospital data set table. And also, the admin can edit and update the database table.



Table 5.1.2: Doctor Data Set.

This is the database table of the Doctor. Admin can visit this site and can see the doctor data set table. And also, the admin can edit and update the database table.

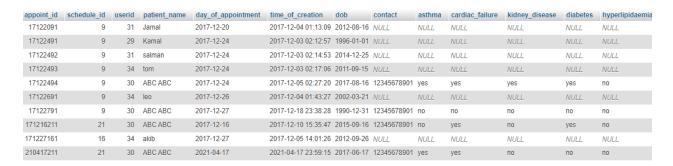


Table 5.1.3: Doctor Appointment Data Set

This is the database table of the Doctor's Appointment. Admin can visit this site and can see the doctor's appointment data set table. And also, the admin can edit and update the database table.



Table 5.1.4: Ward Booking Data Set.

This is the database table of the Ward Booking. Admin can visit this site and can see the ward booking data set table. And also, the admin can edit and update the database table.

hospital_id	id	admin_id	name	address	phone	emergency	fax
1	1	2	Amir Abmu	Mirpur Dhaka	878768967868	5	1
2	2	1	Dhaka Abuy	Trishal	878768967868	0	0

Figure 5.1.5: Ambulance Data Set.

This is the database table of the Ambulance. Admin can visit this site and can see the ambulance data set table. And also, the admin can edit and update the database table.



Figure 5.1.6: Blood Bank Data Set.

This is the database table of the Blood Bank. Admin can visit this site and can see the blood bank data set table. And also, the admin can edit and update the database table.

donor_id	userid	date_of_birth	blood_group	district	last_donated	area	lat	Ing
1	29	1994-06-25	B+	Dhaka	2017-10-29	Old Dhaka	0.000000	NULL
2	30	1992-02-01	AB-	Dhaka	2017-05-13	Pallabi	0.000000	0.000000
3	31	1997-12-29	0+	Dhaka	2017-12-19	Mirpur	0.000000	NULL
4	32	1999-01-01	0+	Dhaka	2017-05-02	Mirpur	0.000000	NULL
5	33	1990-01-01	A+	Dhaka	2017-05-02	Tejgaon	0.000000	NULL
6	34	1990-01-01	B+	Tangail	2017-05-02	Ramna	0.000000	NULL
10	35	1990-12-11	B-	Dhaka	2017-08-23	Tejgaon	0.000000	0.000000

Figure 5.1.7: Blood Donor Data Set.

This is the database table of the Blood Donor. Admin can visit this site and can see the blood donor data set table. And also, the admin can edit and update the database table.

## **5.2 Implementation of Front-end Design**

The User predominantly interfaces with the front-end plan. So, it is important to make the front-end design attractive [5]. We are attempting to make our front-end plan easy to understand so the application can be utilized successfully by a user. By information exchange or login, users can see all usefulness in the landing page and effectively go to any choices what they really need. They can alter their profile and log out from this application.

## **5.3 Implement of Interaction**

The architecture of a product framework characterizes that framework regarding segments and interactions among those segments. In reality, interactions can found all over the place. Interaction is the way to make a framework dynamic and alluring to the user. It's important to make a framework intuitive and we additionally attempt to. As we have referenced before that we added some exceptional highlights which make us not the same as others.

## **5.4 Testing Implementation**

Testing Implementation represents when an implemented system's functions are got tested. We have tested our system several times like sign up, sign in, sign out, search hospital, ward booking, confirm booking, search doctor [4], search ambulance, view an ambulance, search blood, view donor.

We have tested the following:

- New registration
- Logging system
- Search Hospital
- Ward Booking
- Confirm Booking

- Search Doctor
- Appointment Doctor
- Search Ambulance
- View Ambulance
- Search Blood Bank
- View Donor
- Logout

## **CHAPTER 6**

## CONCLUSION AND FUTURE SCOPE

#### 6.1 Discussion and Conclusion

The reason and objective of our undertaking have been accomplished effectively. HTML, PHP [12], CSS, JavaScript [14], MySQL [10], Atom, and so forth language and programming are being utilized. We think our appealing graphical interface will draw in individuals. Our less tedious and easy-to-use framework will make individuals intrigued to utilize our framework. After the long excursion of preparation, thinking, conversation, plan, coding, and execution we came here with our undertaking. We confronted numerous troubles to reach here. The fundamental difficulties were gathering thoughts and keeping our framework refreshed. While working, we took in a ton of things. Particularly it instructed us to cooperate with companions as a group and coordinate with one another.

## **6.2 Scope for Future Development**

We have a lot of plans for future improvement. Here some future arrangement:

- Making it simple and easier to understand for all users.
- Data mining user movement to distinguish user's conduct and qualities.
- Attempt to run this system as a corporate site.
- Spreading the system everywhere in the country.
- Later on, we will build up this venture on a mobile application.

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## **Plagiarism Report**

