HOSPLUS

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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

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Md. Rakib Hasan, Lecturer,** Department of Computer Science and Engineering**,** 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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Finally, we must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

HOSPLUS represent a new way to interact with Doctors and patients. It allows a patient to simply communicate through the social manner to the doctors. In our project we use html, CSS, PHP, Laravel framework. It's a combination of works in the sectors of Web Development. It's a platform where both doctors and patients can share their thoughts like facebook. Patients can search their desire doctors and can take appointment. Patients can also check the details of doctors through their profile. It reduces times and less costly. It will make our life more comfortable and digitalized.

If we want to make an appointment with a doctor then we will be able to make it through Hosplus without making any single calls but with single tapping an appointment button.

Realizing a many kinds of problem that exist in our social life we have designed our platform to meet those kinds of problem with possible solution in an efficient way.

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CHAPTER 1
INTRODUCTION

1.1 Introduction

A patient must have confidence in the competence of their physician and must feel that they can confide in him or her. For most physicians, the establishment of good rapport with a patient is important. Some medical specialties, such as psychiatry and family medicine emphasize the physician–patient relationship more than others, such as pathology or radiology, which have very little contact with patients. The quality of the patient–physician relationship is important to both parties. The doctor and patient's values and perspectives about disease, life, and time available play a role in building up this relationship.

Our project "Hosplus" keeps a vital role to make this relationship stronger. The communication between them become so easy and reliable. Patients are able to communicate with doctors at any time, they can ask for Doctors before making appointment. Patients can easily visit doctor's profile by which they can easily know the status of the Doctors.

1.2 Motivation

Modern times are blessed with technology. In all spheres of our life we are dependent on technology or internet. It has reduce many difficulties. We have seen many people who lives far from any hospital. Or some people do not know the status of doctors as they need. Or there are some third party by whom they have to contact with doctors.

By having concerned about this situations like nowadays the usage of internet is gradually rising. So, according to this the idea has come to our mind to make a Web based application for the beneficial of both Doctor and Patients. After observing this situations we are being motivated to our work.

1.3 Objectives

- Doctor's Profile :
  Doctor's Profile will be verified by admin. Doctors have his or her individual profile. Where doctor's all information's are available. Doctor's specialties are also available here. Whether doctors are online or offline are also shown here.

- Patients:
  Patients also have profile. By which they can stalk the doctors.

- Friend Request and Except :
  Patient can give friend request to the doctors. Doctors can accept the request.

- Post:
  Doctors can post any kind of status related to medical works. By which patient can able to know the present condition of doctors.

- Message Box:
  There are a message box where both doctors and patients are able to communicate with each other's.

- Appointment:
  A smart appointment booking system that provides patients or any user an easy way of booking a doctor's appointment online. This is a web based application that overcomes the issue of managing and booking appointments according to user's choice or demands. The task sometimes becomes very tedious for the compounder or doctor himself in manually allotting appointments for the users as per their availability. Hence this project offers an effective solution where users can view various booking slots available and select the preferred date and time. The already booked space will be marked yellow and will not be available for anyone else for the specified time. This system also allows users to cancel their booking anytime. The system provides an additional feature of calculating monthly earnings of doctor. Doctor has to just feed the system regularly with daily earnings and the system automatically generates a report of total amount earned at the end of the month.

1.4 Expected Outcome

This system helps to reduce the waiting time of the patient. Patients need not wasting their valuable time. Patients can choose any doctor as they need. Patients can select the appointment time according to his preference. There will be no third party between doctors and Patients. Reduces the harassment of finding doctors. Patients will become more aware of Health by communicating with doctors using this system.
Available and booked slots are shown in effective graphical.

1.5 Report Layout

We all know that, practical knowledge is more important than theory. In our graduation degree we learn a lot of things. This project gives us scope to share our knowledge and utilize our thought. By doing this project we can implement our skill more effectively.

Chapter 1: Introduction

First Chapter contains the Introduction, Objectives, Motivation, Expected Outcome and Report layout of our project.

Chapter 2: Background

Then second chapter contains Project Introduction, Related works, Comparative Studies, Scope of the problem and Challenges of our project.

Chapter 3: Requirement Specification

Our third chapter contain all about Requirement Specification, which are business process modeling, requirement collection and analysis, Use Case Modeling and Description, Logical Data Model, Design Requirements.

Chapter 4: Design Specification

Fourth Chapter describes our full web site description, which is related to Design Specification like Front-end Design, Back-end Design, Interaction Design and UX, Implementation Requirements.

Chapter 5: Implementation and Testing

Our fifth chapter is all about Implementation and Testing. This contains Implementation of Database, Implementation of Front-end Design, Implementation of Interactions, Testing Implementation and Test Results and Reports.

Chapter 6: Conclusion and Future Scope

We discussed about the conclusion and the scope for further developments which pretty much derive about the project.

CHAPTER 2

BACKGROUND

2.1 Introduction

Hospitals are the essential part of our lives, providing best medical facilities to people suffering from various ailments, which may be due to change in climatic conditions, increased work-load, Emotional trauma stress etc. It is necessary for the hospitals to keep track of its day-to-day. Activities& records of its patients, doctors, nurses, ward boys and other staff personals that keep the hospital running smoothly & successfully. But keeping track of all the activities and their records on paper is very cumbersome and error prone. It also is very inefficient and a time-consuming process Observing the continuous increasing population and number of people visiting the hospital that's create a jam pack situation in the hospital .Moreover doctors wont able to check all the patients. By using Our Project Hosplus they can make appointment also a conversation with doctors before coming to hospital.

2.2 Related Works

Doximity

Doximity is a social network for doctors, and claims that 70% of U.S. physicians are members. With both Android version, you can find and communicate with other doctors on the network, send HIPAA-secure faxes through your phone, follow news and trends in your specialty, and browse jobs and compare salaries. It's highly-rated and frequently updated.

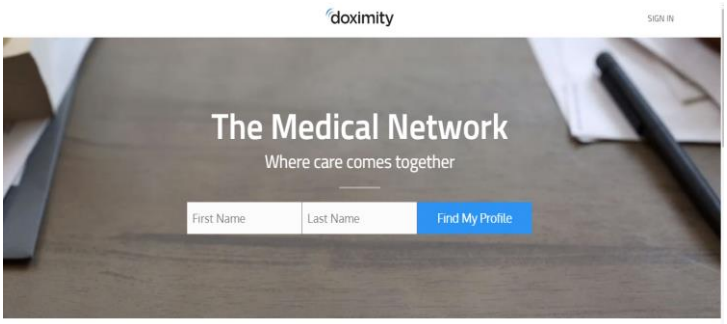


Figure 2.2.1: Home Page

Figure 1

You can view and share medical images with other physicians using this app. Hundreds of thousands of users send, comment on, and search through medical images in Figure 1's visual database.This app is perfect for physicians looking for feedback on a rare condition, or seeking to see and learn about rare or textbook cases. Additionally, the app guarantees patient privacy with automatic face-blocking and removal of identifying information.

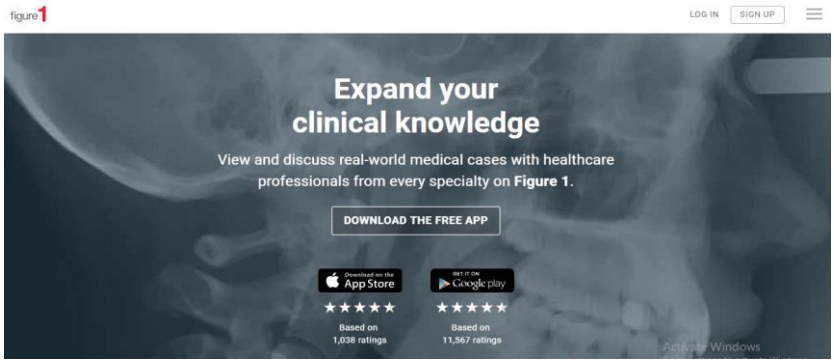


Figure 2.2.2: Figure 1

Medscape

Medscape is a website providing access to medical information for clinicians; the organization also provides continuing education for physicians and health professionals. It references medical journal articles, CME (Continuing Medical Education), a version of the National Library of Medicine's MEDLINE database, medical news, and drug information (Medscape Drug Reference, or MDR). At one time Medscape published seven electronic peer reviewed journals.

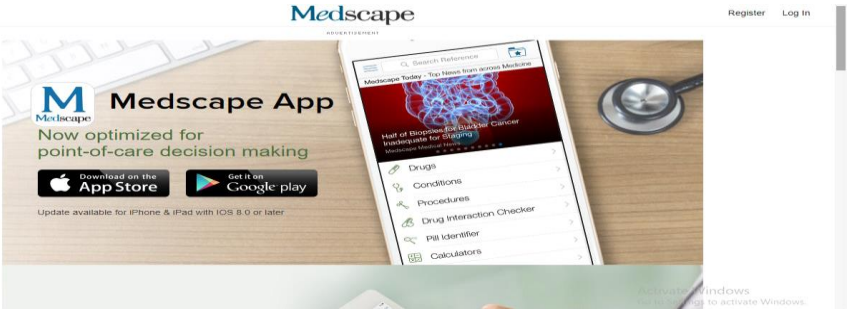


Figure 2.2.3: Medscape

2.3 Comparative Studies

By analyzing our projects with others software or app which is related to our works we can find there as like Doximity which is a social network for doctors. Patients can only communicate with Doctors, in another app Figure 1 which is perfect for physicians looking for feedback on a rare condition, or seeking to see and learn about rare or textbook cases. Additionally, the app guarantees patient privacy with automatic face-blocking and removal of identifying information.

Again in Medscape is a website providing access to medical information for clinicians; the organization also provides continuing education for physicians and health professionals where we can find the doctors information. By which we can have a conversation.

So, By Comparing with these apps with our project we can find all these kinds of works through our one app. comparing with this our project can be called three in One. All these three apps work can be done by our one single app. Where we can communicate with doctors, we can check out the doctors' profile, we can find suggestions, doctor can give post. Patient can give comments, like. Patients can have the appointments through our apps.

2.4 Scope of the Problem

For this project, we don't have a messenger where patient can chat with doctors. On the other hand when blood requests have come, there won't be arise any badge. Badge will not be showing there. We know a doctor can have added to multiple hospitals but in our project the doctors will only be counted a single hospital. Actually, a doctor is for a hospital though he is added with another hospital but counted as a doctor of a hospital which is related to our site. Anyone can open doctor's id. In our project, there is no option to generalize auto prescription.

2.5 Challenges

This section covers the challenges we met throughout the project including both software engineering aspects and technical aspects.

2.6 Changing of Requirements

As an industrial project to build a product, we must follow the requirement from the user. However, because the project's goal is to be used by the business team, but it is responsible by the technical team, the requirement changed a lot in the middle after a meeting with the business team. If the business team want to add some features or any kind of updates, the technical team will be there to fulfill their requirements. Some features can be changed according to the user's recommendation.

2.7 Lacking of Training Data

Because of inadequate data we cannot verify the doctors id. In our project, Anyone can open Doctor's id.

If we have adequate data, doctors will have to put there registration number before opening an id in our project.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

Business process modeling (BPM) in systems engineering is the activity of representing processes of an enterprise, so that the current process may be analyzed or improved. BPM is typically performed by business analysts, who provide expertise in the modeling discipline; by subject matter experts, who have specialized knowledge of the processes being modeled; or more commonly by a team comprising both. Alternatively, the process model can be derived directly from events' logs using process mining tools [4]. Redesigning a process and implementing it is not a speedy enterprise. It can take months and occasionally years, depending on the extent of the process and sub-processes, how many people and systems are involved and how much of it needs to be redesigned. We used a UML Use Case Model as a business process model.

3.2 Requirement Collection and Analysis

There are some basic requirements collected during implementation of the software and also in the data collection.

Client Responsibilities

The client will specify the header Content-Type: application/Jason in their requests as convention. Priority 1
A valid API query is a single URL parameter containing one sentence that is a question in Standard English. Priority 1

Generic Answer Construction

- Patients will have a appointment with doctor.
- Doctors can receive the appointment.
- Patients can give review post about the Doctor.
- Patient’s friend can check it out.

Error Handling

Along with xampp server database using PHP our maximum data can be hidden. This occurs an error, for handling this kind of error we use Laravel framework that gives more privacy of data.

3.3 Use Case Modeling and Description

A use-case diagram is the simplified and graphical representation of how system works. It has been said before that "Use case diagrams are for our system".

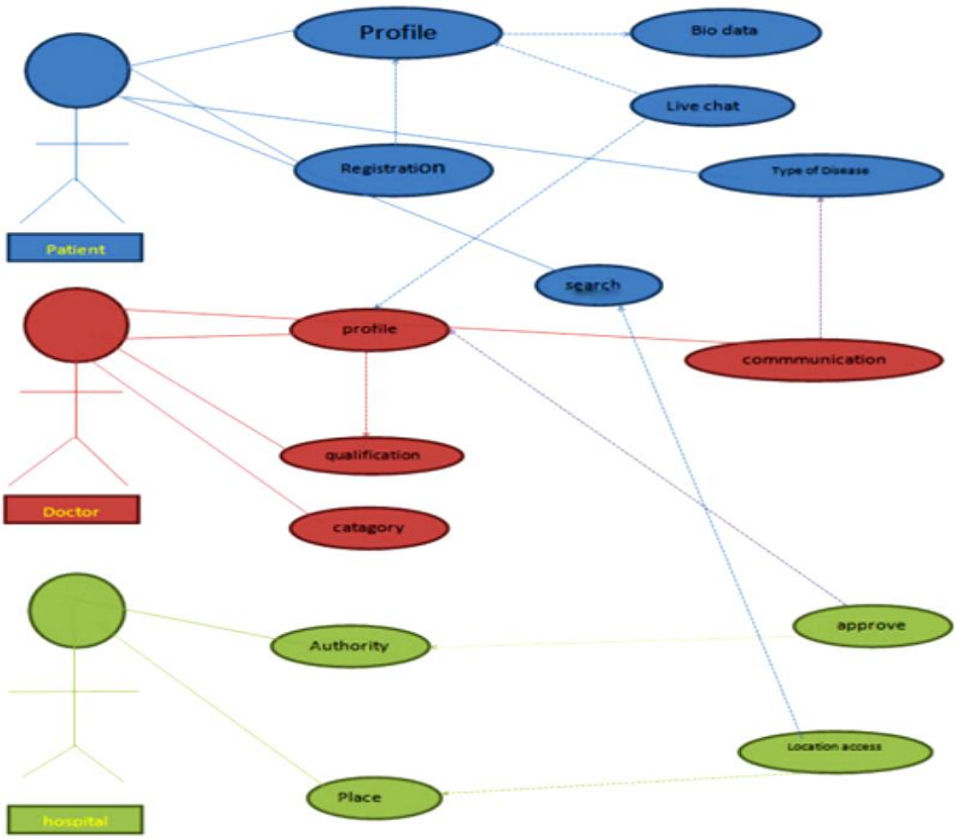


Figure 3.3.1: Use Case Diagram

3.4 Design Requirements

Here Patient, Doctor, Hospital are the Entity and they have a lot of Attributes. Each entity works in different manner but they are connected to each other. Here both patient and doctors have profile which is linked to the hospital. If hospitals approve the profile only then they are valid. In the same manner attributes are connected to each other and works differently as including.

CHAPTER 4

DESIGN SPECECATION

4.1 Front-end Design

Web Material Design for Web Version

Material design is a comprehensive guide for visual, motion, and interaction design across platforms and devices.

Home Page

Home page is decorated with lots of tools. From home page we can switch any other pages. In home page we can see the latest activities of the doctors. Also suggestions are visible in home page. Search option is also be seen where we can search our desire doctors. In short, home page is like a main page from where we can go any kinds of page as our desire.

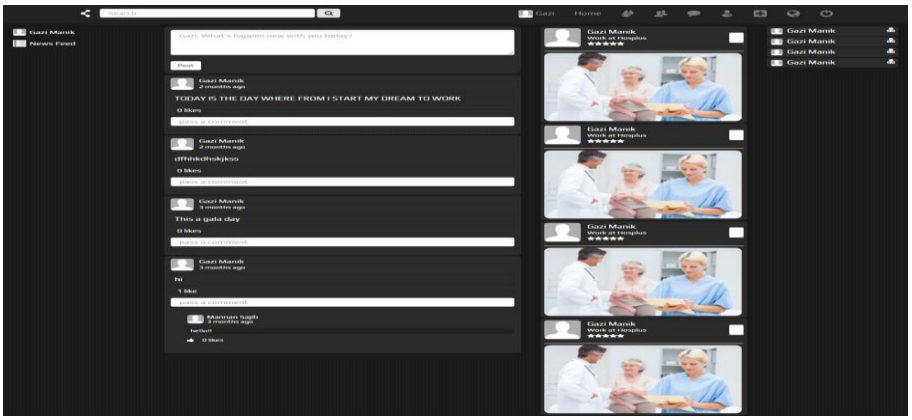


Figure 4.1.1: Home page

Search Page

In search page where we can search doctors, patients also. As we need to check a friends profile or to check his or her previous post we can search and give a look or appointments as we need.

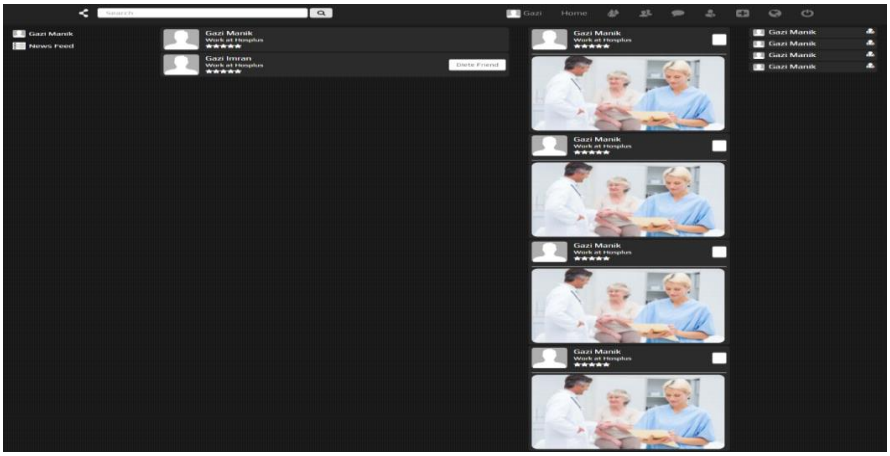


Figure 4.1.2: Search page

Blood Page

In blood page we can check out the blood as we need. In this page there is visible the blood donating profile. Which blood we need can easily communicate with the donators.

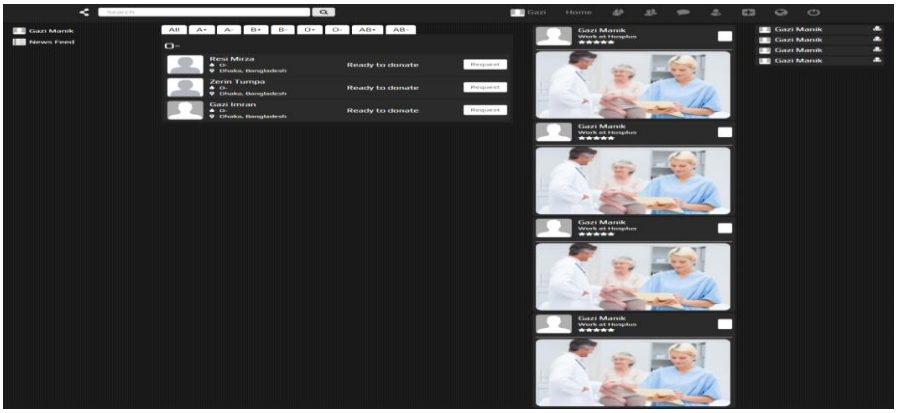


Figure 4.1.3: Blood page

Doctor’s Profile

Doctors profile is decorated with his or her information. There are classified in which sectors he or she has involved.

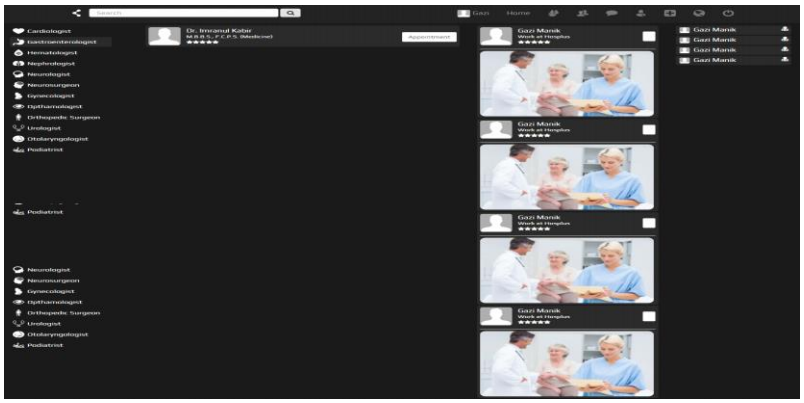


Figure 4.1.4: Doctor’s profile

User Profile

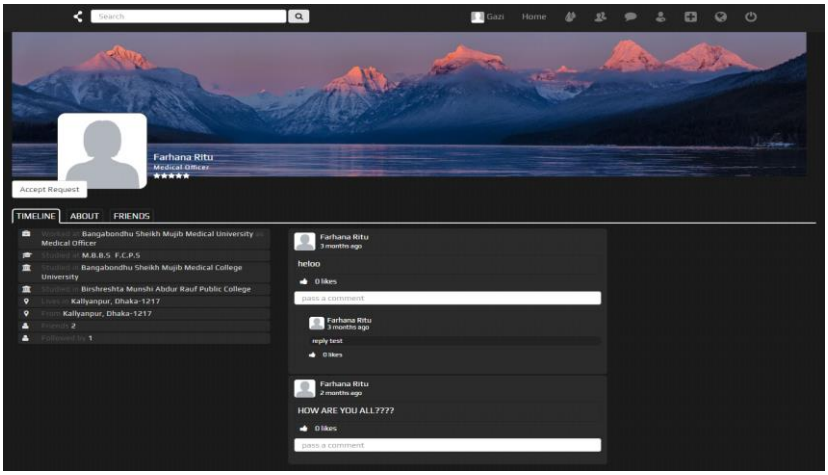


Figure 4.1.5: User Profile

Profile Update

In this page we can update our profile. If we change anything here we can add and update our information.

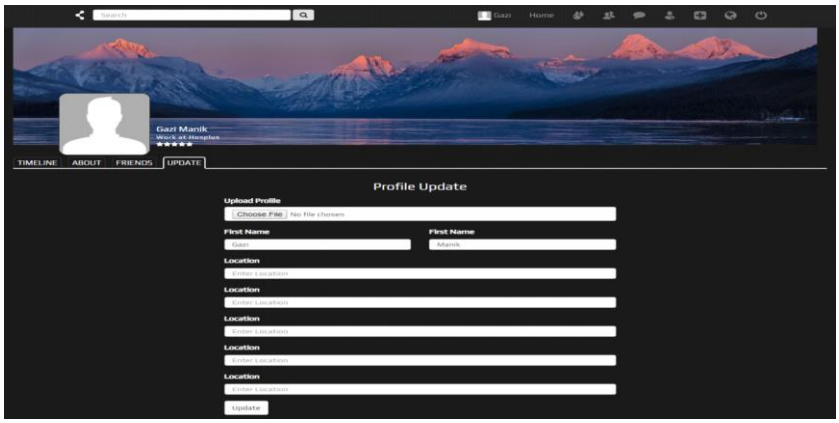


Figure 4.1.6: Profile update

Request Page

In this page whom we give friend request are shown here.

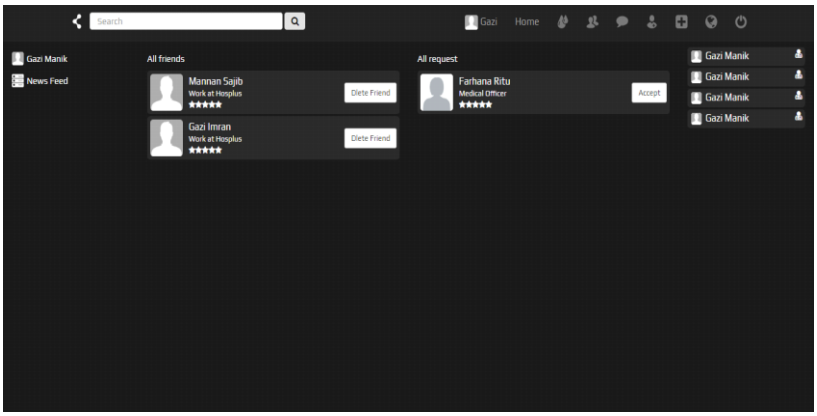


Figure 4.1.7: Request Page

Hospital Page

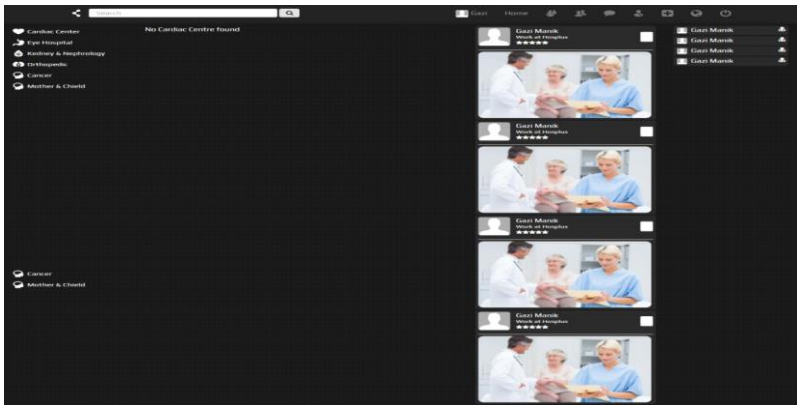
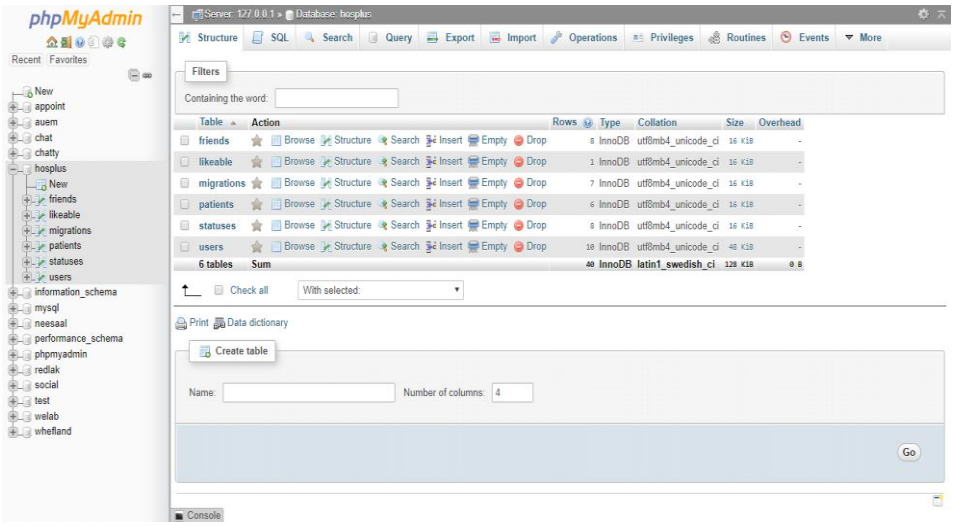


Figure 4.1.8: Hospital Page

4.2 Backend Design

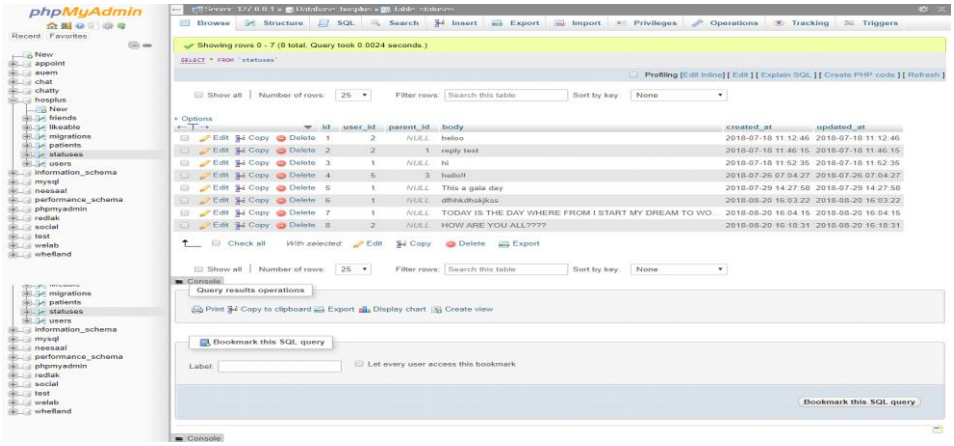
DB Hosplus

Table 4.2.1 shows the DB Hosplus table of the system containing all the necessary information including rows ,type, collation, size etc.



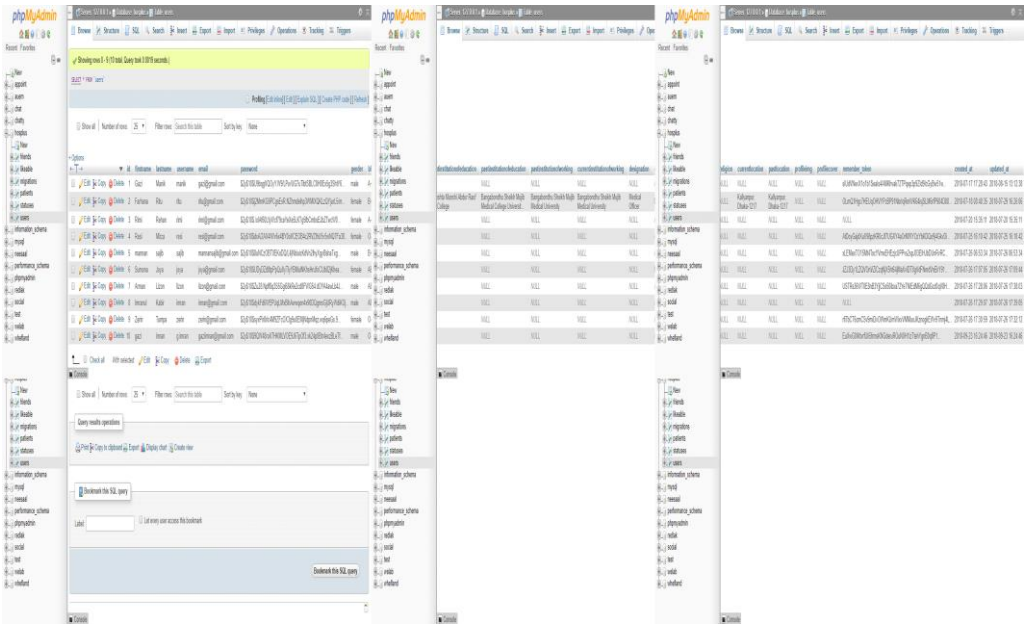
DB Status

Table 4.2.2 shows the DB Status table of the system containing all the necessary information including id,user id,patient id etc.



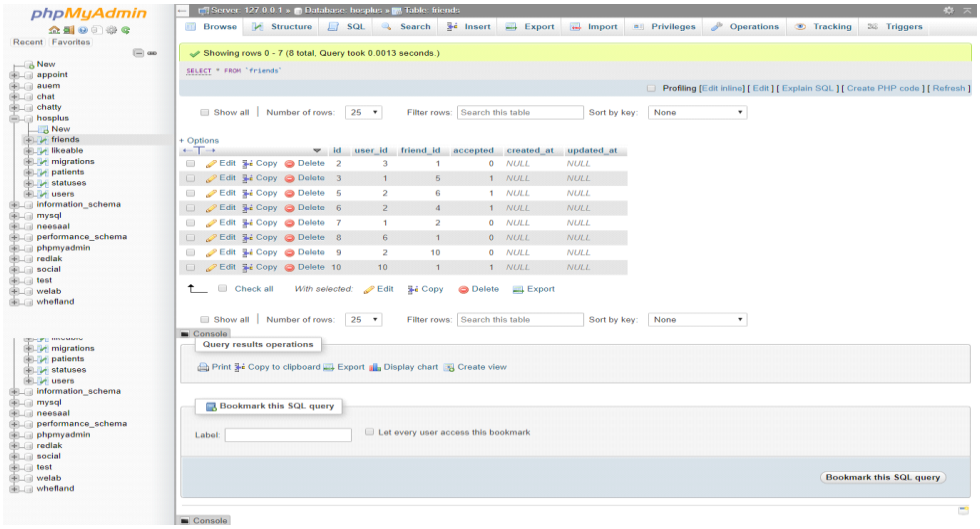
DB User

Table 4.2.3 shows the DB User table of the system containing all the necessary information including id,user id,patient id etc.



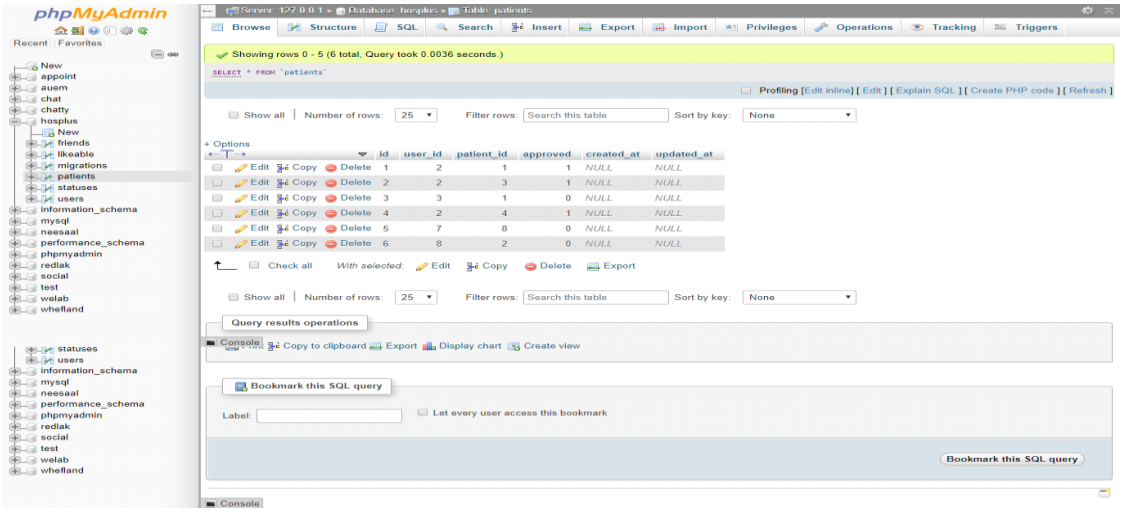
DB Friend

Table 4.2.4 shows the DB Friend table of the system containing all the necessary information including id,user id,patient id etc.



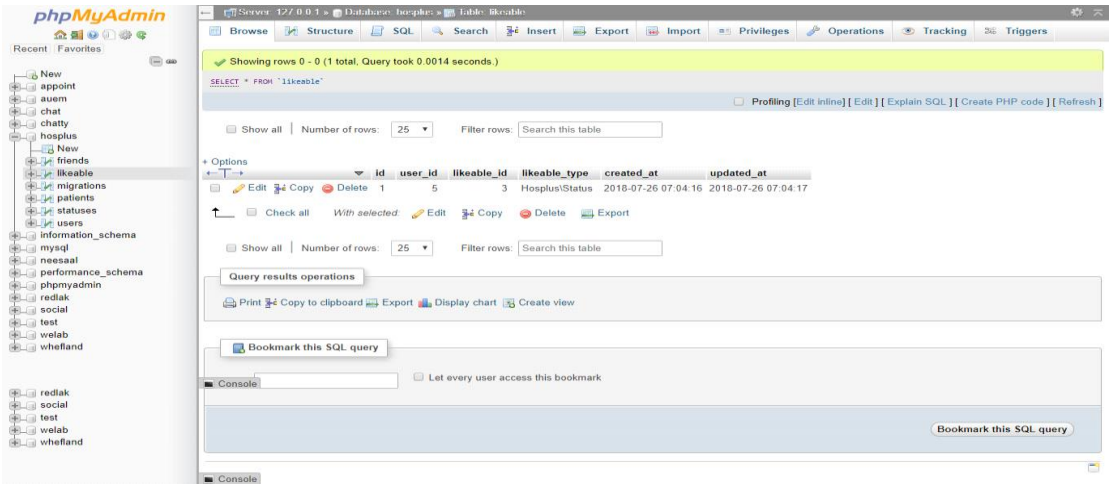
DB Patients

Table 4.2.5 shows the DB Patients table of the system containing all the necessary information including id,user id,patient id,update,approved etc.



DB Like

Table 4.2.6 shows the DB Like table of the system containing all the necessary information including id,user id,patient id etc.



CHAPTER 5

IMPLEMENTATION AND TESTING

It is necessary to make it clear that this project was designed and developed entirely based on collecting information from existing systems, concepts and imaginary scenarios. To remind the readers of this report, many developers are still arguing about the core concept of different components of the android-based education system. Their opinion is that we are trying to implement the new system Implementation of Front-End Design the screenshots below show the main project view. Capture an image of what you see on your mobile screen and how to use it. Implementation is process of setting an action for the formulated plan. Before when we implement, that plan should have been accomplished and our purpose should be clear.

Testing is the process carry out on software to find the differences between its behavior and intended behavior as mortgaged by the requirements specifications.

5.1 Implementation of Database

The database contains all the device models for recommend. As mentioned previously, because we are still implementing a prototype and the database is dynamic.
The catalog and prices will be fixed through all time. However, we try to make the codes to connect will database as an independent module, if the is actually connected with a dynamic later, the code logic to be changed will be kept minimal.
The database also holds the complaint and feedback from a user. The complaint is used for the customer service people to follow up. The feedback actually means the whether the customer likes the recommendation.

5.2 Implementation of Front-end Design

Front-end design is a comprehensive guide for visual, motion, and interaction design across platforms and devices. Home page is decorated with lots of tools. From home page we can switch any other pages. In home page we can see the latest activities of the doctors. Also suggestions are visible in home page. Search option is also be seen where we can search our desire doctors. In short, home page is like a main page from where we can go any kinds of page as our desire. In search page where we can search doctors, patients also. As we need to check a friends profile or to check his or her previous post we can search and give a look or appointments as we need. In blood page we can check out the blood as we need. In this page there is visible the blood donating profile. Which blood we need can easily communicate with the donators. Doctors profile is decorated with his or her information. There are classified in which sectors

he or she has involved. In update page we can update our profile. If we change anything here we can add and update our information.

5.3 Testing Implementation

Doctor's Profile will be verified by admin. Doctors have his or her individual profile. Where doctor's all information are available. Doctor's specialties are also available here. Whether doctors are online or offline are also shown here. Patients also have profile. By which they can stalk the doctors. Patient can give friend request to the doctors. Doctors can accept the request. Doctors can post any kind of status related to medical works. By which patient can able to know the present condition of doctors. There are message boxes where both doctors and patients are able to communicate with each other's.

A smart appointment booking system that provides patients or any user an easy way of booking a doctor's appointment online. This is a web based application that overcomes the issue of managing and booking appointments according to user's choice or demands. The task sometimes becomes very tedious for the compounder or doctor himself in manually allotting appointments for the users as per their availability. Hence this project offers an effective solution where users can view various booking slots available and select the preferred date and time. The already booked space will be marked yellow and will not be available for anyone else for the specified time.

This system also allows users to cancel their booking anytime. The system provides an additional feature of calculating monthly earnings of doctor. Doctor has to just feed the system regularly with daily earnings and the system automatically generates a report of total amount earned at the end of the month.

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

Hosplus is designed in such a way that future modifications can be done easily. It provide a friendly graphical user interface which proves to be better when compared to the existing system. It gives appropriate access to the authorized users depending on their permissions. It effectively overcomes the delay in communication with doctors. It is so much time consuming. Updating information becomes so easier. System security, data security and reliability are the striking features. The system has adequate scope for modification in future if it is necessary.

6.2 Limitation

- Users can’t upload picture
- Disabled to verify doctor

6.3 Scope for Further Developments

For the future development, we will

- We can add live chat
- Auto Prescription generate
- Verifying doctor’s id according to their license
- Blood proper Information

It’s only for Web and Android version; we will apply for IOs platform

REFERENCES

[1] "Doximity - Apps on Google." [Online]. Available: https://auth.doximity.com/sessions/login?redirect_to=https%3A%2F%2Fwww.doximity.com%2F

[2] "Figure 1." [Online]. Available: https://app.figure1.com/account/register

[3] "Medscape - PDF." [Online]. Available: https://login.medscape.com/login/sso/getlogin?ac=401[4"Business

[4] "Concept: Use-Case Model." [Online]. Available: http://www.utm.mx/~caff/doc/OpenUPWeb/openup/guidances/concepts/use_case_model_CD178AF9.html. [Accessed: 29-Oct-2018].

[5] "PhpStorm: The Lightning-Smart IDE for PHP Programming by JetBrains," *JetBrains*. [Online]. Available: https://www.jetbrains.com/phpstorm/. [Accessed: 03-Nov-2018].

[6] "Blog post : XAMPP - Global Health Data Management." [Online]. Available: https://globalhealthdatamanagement.tghn.org/community/blogs/post/5122/2013/07/xampp/. [Accessed: 13-Oct-2018].

[7] "How to Use Adobe Illustrator," *wikiHow*. [Online]. Available: https://www.wikihow.com/Use-Adobe-Illustrator. [Accessed: 13-Oct-2018].

[8] "10 Conclusion and Discussion.doc," *Google Docs*. [Online]. Available: https://drive.google.com/file/d/0B_35PUDUqOVxbTg2MmQxQzBYZ1k/view?usp=sharing&usp=embed_facebook. [Accessed: 15-Oct-2018].

Appendix

IDE - Integrated Development Environment

UI - user Interface

PHP Storm- PHP Storm is perfect for working with Symfony, WordPress, Laravel, Joomla, CakePHP, and other frameworks. The editor actually 'gets' your code and deeply understands its structure, supporting the PHP language features for modern and legacy projects.

SDK - Software Developer's Kit.

UX - User Experience.

BPM - Business Process Modeling.

R4.1.3.5 - It is a Standard Rules.

JSON - JavaScript Object Nation.

API - Application Programming Interface.

Web API - A Web API is an application programming interface for either a web server or a web browser. A server-side web API is a programmatic interface consisting of one or more publicly exposed endpoints to a defined request–response message system, typically expressed in JSON or XML, which is exposed via the web—most commonly by means of an HTTP-based web server.

Location API - The Google Location Services API, part of Google Play Services, provides a more powerful, high-level framework that automates tasks such as location provider choice and power management. To learn more about the Location Services API, see Google Location Services for Android.