HUMAN COMPUTER INTERACTION
CSE-4015
2019

J-COMPONENT FINAL REPORT

BLOOD BANK MANAGEMENT SYSTEM

SUBMITTED BY

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Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

ABSTRACT

The main aim of this project is to help needy people in case of emergencies. There are many reasons patients need blood like accident victims, for cancer treatment, orthopedic surgeries, treated for inherited blood disorders. Blood donors play vital role in the healthcare of patients in our community. Most of the population are eligible to donate blood yet very few actually do. With every blood donation, you are providing strength, hope and courage to patients and their families in your local hospitals. The reason to donate is simple it helps to save lives. In fact, every two seconds of every day, someone needs blood. Since blood cannot be manufactured outside the bloody and has a limited shelf life, the supply must constantly be replenished by generous blood donors. So, we have created a platform for blood donors where they can fill their details and our team will reach their locations for safe blood transfusion. Every year, a huge number of individuals depend on accepting and giving blood and blood items to remain alive. To clear off the shortage of blood and guarantee accessibility of protected and quality blood and other blood parts, nonstop and consistently. This will prompt lightening of human sufferings, even to the distant zones in the country. Blood Bank may be one of the absolute best instances of unselfishness in real life for fulfilling the need of blood to the people.

INTRODUCTION

The principle point of this task Blood Bank Management System is to keeping up all the data relating to blood donors, different blood groups accessible in each blood donation center and help them oversee in a most ideal manner. This system give straightforwardness in this field, make the way toward getting blood from a blood donation bank corruption free and make the arrangement of blood donation center administration successful. Blood Bank Management System can gather blood from numerous donors from different sources and convey that blood to poor individuals who require blood. This framework or system has numerous facilities like online transfer of blood starting with one blood donation center then onto the next. This undertaking can oversee List of Donors who are qualified for donation on a specific date with contact Number. This system is an online blood donation center administration framework that aides in overseeing different blood donation center tasks viably. The system comprises of central storehouse containing different blood gatherings store accessible alongside related details. These details incorporate blood classification, storage region and date of storage. These details help in keeping up the blood stores. The project is an online framework that permits to check climate required blood stores of a specific gathering are accessible in the blood donation center. This system likewise helps to track patient name and contacts, blood booking and even requirement for certain blood gathering is presented on the site on find accessible contributors for a blood crisis. This system is created on PHP platform and MySQL database to store blood and client details. Blood donation center Management System gives the Donor data framework, Acceptor data framework, Staff data framework. Donor information system deals with the association of the organization.

LITERATURE SURVEY

S.NO.	TITLE	PURPOSED WORK	ADVANTAGE AND DISADVANTAGE
1	"Blood Bank Management Information System" directed by Vikas Kulshreshtha and Dr. Sharad Maheshwari	It gives information for the comparison of various existing systems and introduces some new ideas for improving existing techniques.	It helps to predict and analyse the differences and evaluate the errors and help to improve it. The new ideas are not applicable to all the existing systems.
2	"Android Blood Bank" by Prof. Snigdha, Pratiksha Lokhande, Siddhi Kasar and Pranita More	An android application which provides every information related to blood in blood banks to a user.	This is an Android based Application. It requires internet connectivity. The android based may not applicable to all the users.
3	"Benefits of Management Information System in Blood Bank" by Vikas Kulshreshtha and Dr. Sharad Maheshwari	It displays all the advantages and benefits of the management information system in blood bank framework. The system help to control a blood transfusion service or blood management and create a database to hold data of blood in each area as data on donors in each city irrespectively.	It only focuses on the advantages with respect to donors, receivers and blood bank. Its disadvantage is not mentioned. It provides all process management tool elements like modelling, analysis, and simulation of report generated by the blood bank.
4	A Dynamic Blood Information Management System Based on RFID	The fingerprint sensor is adopted to enable the process of identifying blood donor more reliable and credible and RFID tag is used to make the management conveniently.	A great deal of information can be stored. Human error in recording donor information can be reduced. The security of the information has been strengthened.
5	Data Warehouse Based Analysis with Integrated Blood Donation Management System	In this system after blood collection at donation camps most importantly PS of the donor would be updated into the national citizens' database. A well-advertised communication would allow the citizens to know about the PS points they can accrue for every possible good deed.	A new measure of humanity called philanthropy score (PS)and based on the PS has been proposed. On every humanitarian deed, citizens will earn PS. People with higher PL will get priority and extra benefits while availing different government services and benefits. This will encourage citizens to get involved in more and more humanitarian acts.

GOALS AND OBJECTIVES

The goals and objectives of the Blood Bank Management System are as follows:

- To provide a means for the blood bank to publicize and advertise blood donation programs.
- To allow the probable recipients to make search and match the volunteer donors, and make request for the blood.
- To provide an efficient donor and blood stock management functions to the blood bank by recording the donor and blood details.
- To improve the efficiency of blood stock management by alerting the blood bank staffs when the blood quantity is below it par level or when the blood stock has expired.
- To provide synchronized and centralized donor and blood stock database.
- To provide immediate storage and retrieval of data and information.

EXISTING SYSTEM

- Time consuming
- Leads to error prone results
- Consumes lot of manpower
- Lacking of donor information
- Uncertainty of Donor availability
- Retrieval of data takes lot of time
- Percentage of accuracy is less

PROPOSED SYSTEM

- Access from anywhere of world
- Access at any time
- Quick Search
- Better Communication
- Optimize to volunteer
- Time Optimize
- Cost Optimize

METHODOLOGY

- **Project Identification and Selection**

  In this task, we meant to build up an online blood donation center framework which will center for the most part on dealing with the contributor's blood data. Any individual who is keen on blood gift can give the blood at the clinic or blood gift focuses.

- **Project Initiation and Planning**

  To start the task, we have accumulated client prerequisite of this framework and plan the extension and goal. The outcomes from this stage are degree and restriction, goals, cost and advantages, highlight of the proposed framework and UI structure.

- **Analyzing System needs**

  We have studied and distinguished issues of existing framework, at that point we create information flow diagram for the current framework. We likewise create information stream chart (Data Flow Diagram) what's more, substance connection chart (E-R diagram) for the proposed framework or system.

- **Designing the Proposed System**

  In view of the analysis stage, we changed over E-R graph into relational database model and made information data dictionary and DFD and UI are structured in this process.

- **Development of the Proposed System**

  In this stage, we are going to change over the plan of proposed framework to PC programming, which incorporates PC programming utilizing phpMyAdmin as a programming apparatus of XAMPP server written in PHP, which is proposed to deal with the organization of MySQL, and making an interpretation of the plan details into the computer code.

- **Testing the Proposed System**

  This progression is the way toward testing whether the programming code will work effectively with the conditions in our framework(system) or not. In this stage, we will fix bugs in request to deliver a framework with most extreme execution or performance.

- **Implementing the Proposed System**

  We wish to dispatch this framework on the web, with the goal that contributors can see their blood donation records on the web and chairmen can make, update, delete, and query records helpfully.

WORKING MODULE

MODULE DEPENDENCY DIAGRAM

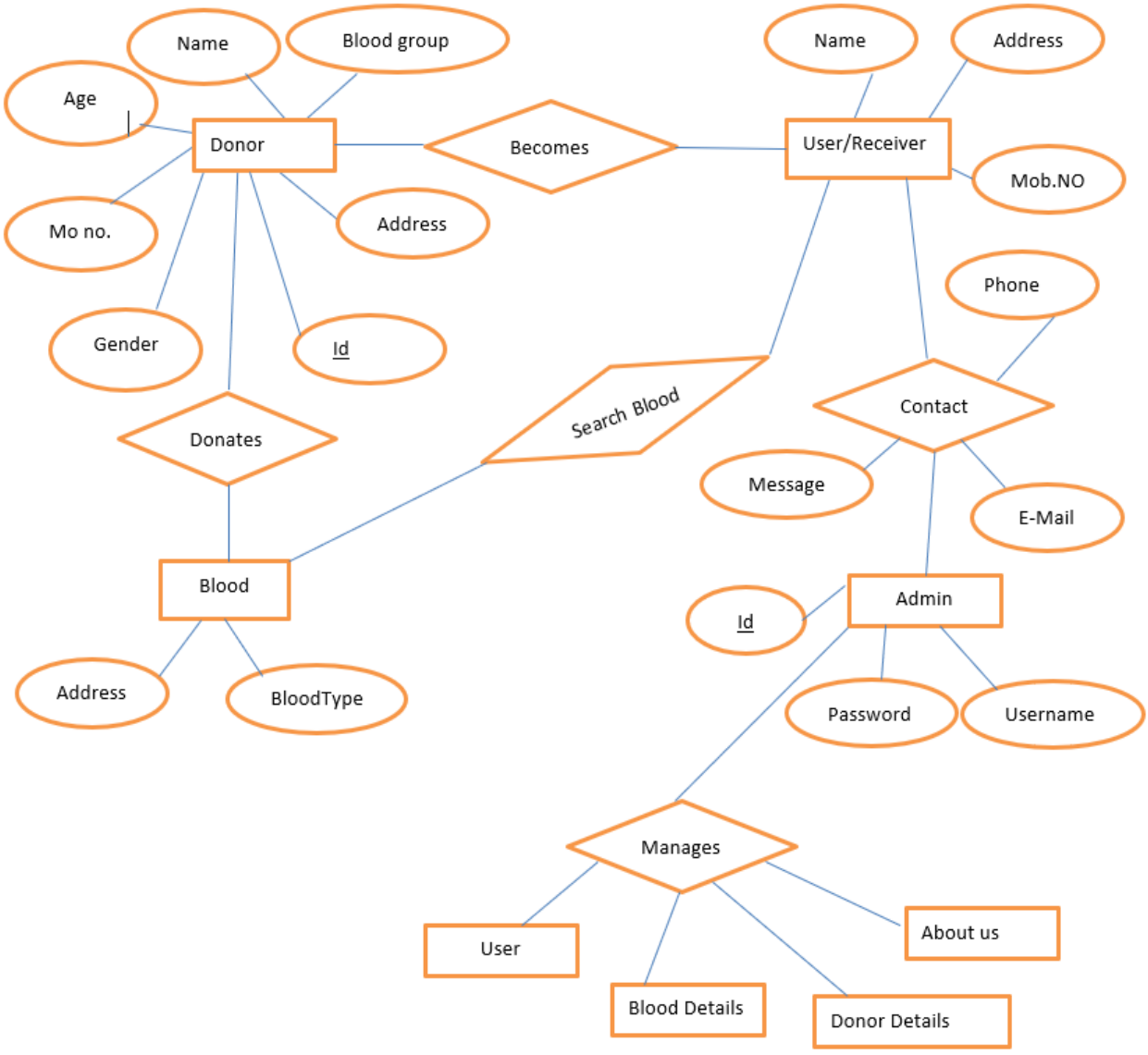
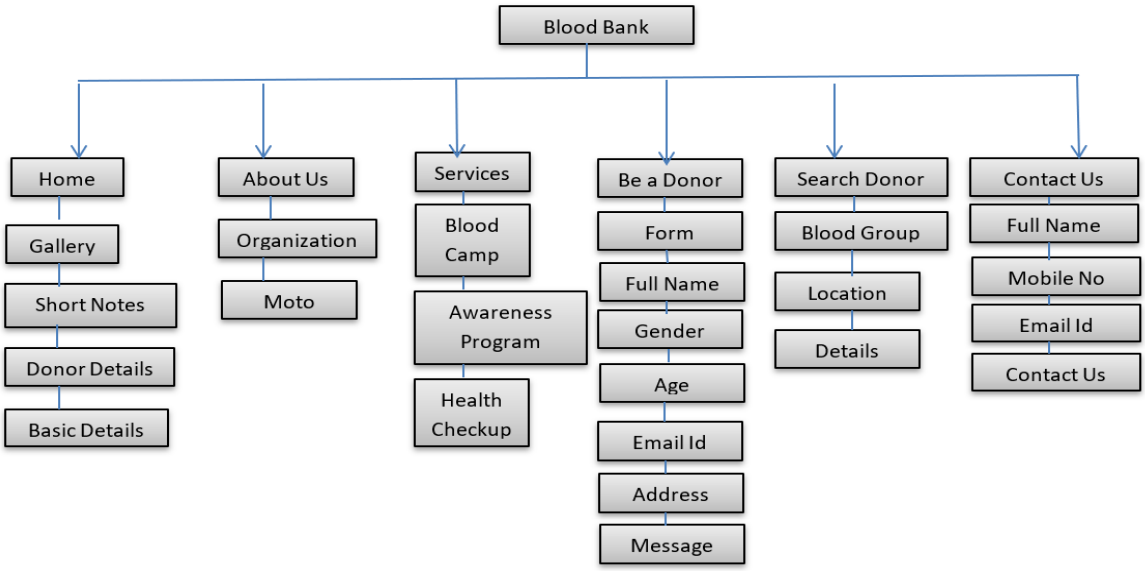


Fig. 1.1 Module diagram of project.

Donor entity have name, age, blood group, mobile no, address, gender and id attributes which have relation with donates blood and blood type where blood entity has relation with search blood which has relation with user/receiver and user have relation with contact entity which can be managed by the admin panel for that you required ‘username’ and ‘password’ which manages ‘User’, ‘Blood details’, ‘Donor Details’ and ‘About us’ page.

SITEMAP



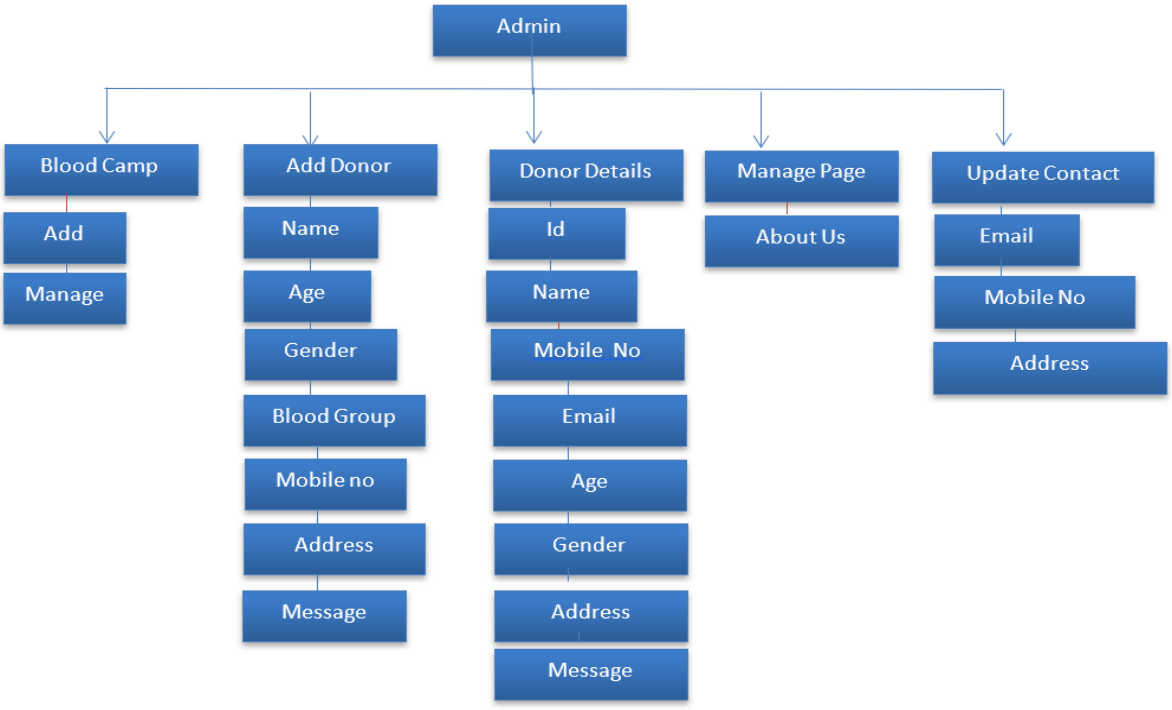


Fig. 2.1 Sitemap of project.

TOOLS USED

HTML 5

HTML5 is the fifth and current major version of HTML, and subsumes XHTML. The current standard, the HTML Living Standard is developed by WHATWG, which is made up of the major browser vendors (Apple, Google, Mozilla, and Microsoft), with the Living Standard also existing in an abridged version. HTML5 includes detailed processing models to encourage more interoperable implementations; it extends, improves and rationalizes the markup available for documents, and introduces markup and application programming interfaces (APIs) for complex web applications.[6] For the same reasons, HTML5 is also a candidate for cross-platform mobile applications, because it includes features designed with low-powered devices in mind.

CSS

Cascading Style Sheets (CSS) is a stylesheet language used to describe the presentation of a document written in HTML or XML (including XML dialects such as SVG, MathML or XHTML). CSS describes how elements should be rendered on screen, on paper, in speech, or on other media. CSS is one of the core languages of the open Web and is standardized across Web browsers according to the W3C specification. Developed in levels, CSS1 is now obsolete, CSS2.1 is a recommendation, and CSS3, now split into smaller modules, is progressing on the standardization track.

PHP

PHP: Hypertext Preprocessor (or simply PHP) is a general-purpose programming language originally designed for web development. It was originally created by Rasmus Lerdorf in 1994;[6] the PHP reference implementation is now produced by The PHP Group. PHP originally stood for Personal Home Page,[6] but it now stands for the recursive initialism PHP: Hypertext Preprocessor.

SQL

Structured Query Language is a domain-specific language used in programming and designed for managing data held in a relational database management system (RDBMS), or for stream processing in a relational data stream management system (RDSMS). It is particularly useful in handling structured data, i.e. data incorporating relations among entities and variables.

JAVASCRIPT

JavaScript often abbreviated as JS, is a high-level, interpreted scripting language that conforms to the ECMAScript specification. JavaScript has curly-bracket syntax, dynamic typing, prototype-based object-orientation, and first-class functions.

Alongside HTML and CSS, JavaScript is one of the core technologies of the World Wide Web. JavaScript enables interactive web pages and is an essential part of web applications. The vast majority of websites use it,[10] and major web browsers have a dedicated JavaScript engine to execute it.

DATA FLOW DIAGRAM

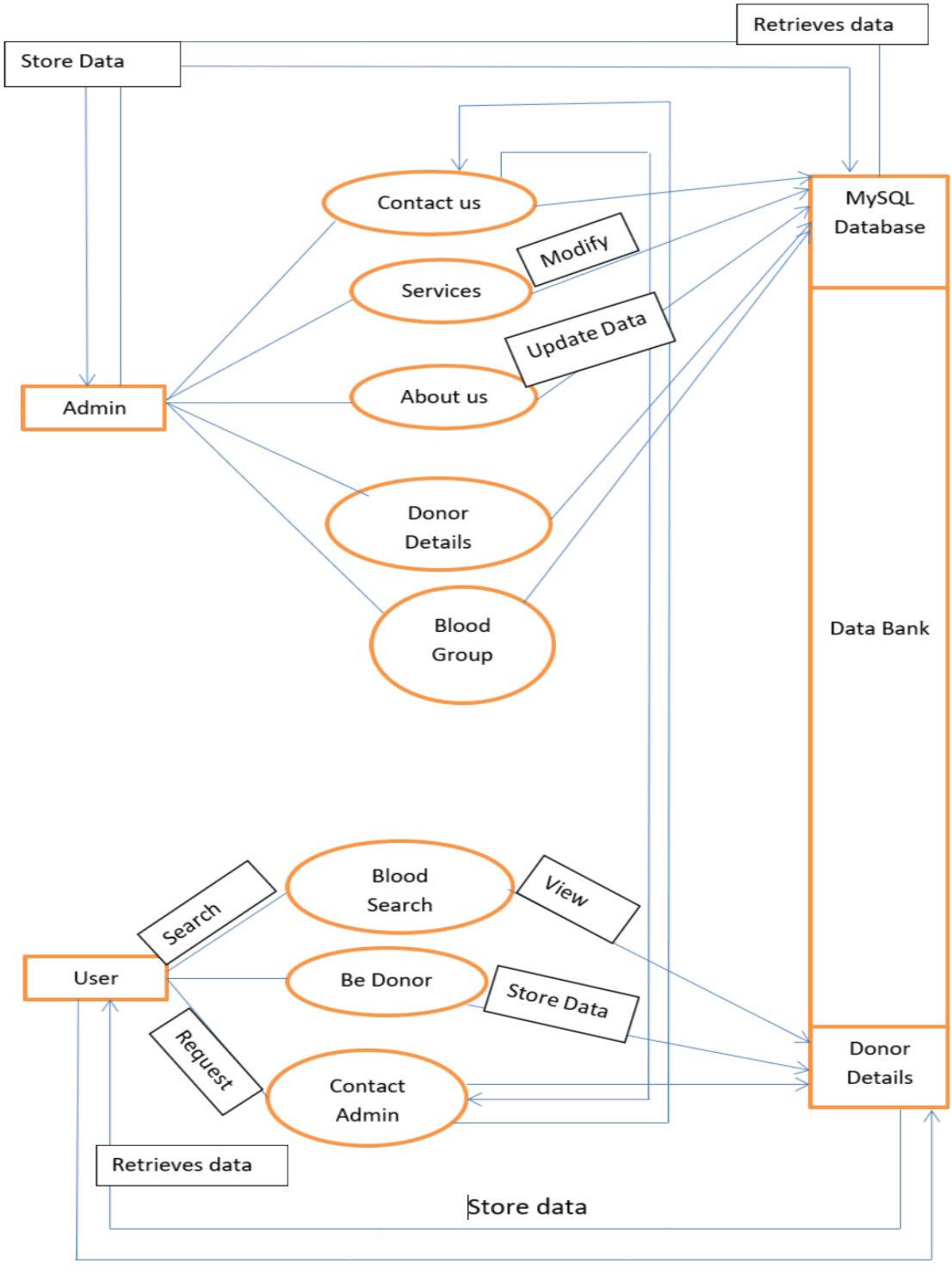


Fig. 3.1 State or data flow diagram.

DATABASE AND SCHEMA

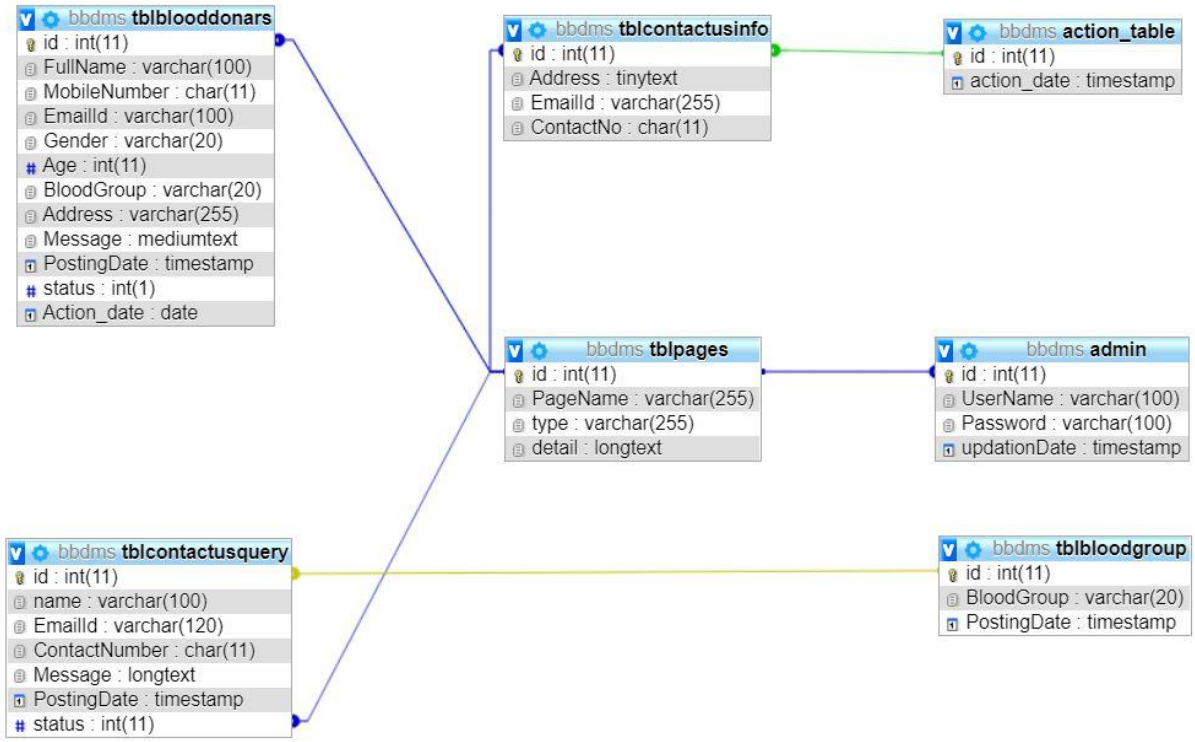


Fig. 4.1 Database and schema diagram.

In our database part we have created 7 tables, admin table have id, UserName, Password and updationDate which is connected to tblpages table which contain pageName, type and detail which is connected to the which is connected to the tblblooddonors and tblcontactsquery which contains the donor details and the user query who wants to donate the blood they can visit our page and can fill the donor details and even if interested they can leave their message which can be stored in our database and the admin section will be monitoring all these things and can be modify the page according to the demands and necessity of the users the admin can even put the message in the notice board of the home page of website. All this information related to the users and the website will be stored in our database and can be modify, update, delete through the admin panel or directly through the database.

GANTT CHART

S.N	Task Name	Start	Finish	Duration
1	**I)Identify and selecting Topic**	**1/08/019**	**5/08/019**	**5days**
2	Identify and selecting Topic	1/08/019	5/08/019	5days
3	**II)Project Initiation and Planning**	**5/08/019**	**15/08/019**	**10days**
4	collect information	5/08/019	8/08/019	3days
5	Identify user requirement	8/08/019	11/08/019	3days
6	Define scope and Objectives	11/08/019	12/08/019	1day
7	Identify Technology Support	12/08/019	14/08/019	2days
8	Cost and Benefit Analysis	14/08/019	15/08/019	1day
9	**III)Analysis System needs**	**15/08/019**	**30/08/019**	**15days**
10	Study the Existing System	15/08/019	20/08/019	5days
11	Identify the Existing	20/08/019	22/08/019	2days
12	Identify Data Flow Diagram of Existing System	22/08/019	24/08/019	2days
13	Develop Data Flow Diagram	24/09/019	27/08/019	3days
14	Develop ER Diagram	27/08/019	30/08/019	3days
15	**IV)Design the purposed System**	**30/08/019**	**21/09/019**	**22 days**
16	Design Relational Database	30/08/019	4/09/019	5days
17	Develop Relational Database	4/09/019	12/09/019	8days
18	Design Some Simple Interface	12/09/019	21/09/019	9days
19	**V)Implementing and Documenting the System**	**21/09/019**	**29/10/019**	**38days**
20	Refing Requirements	21/09/019	25/09/019	4days
21	Design Interface	25/09/019	7/10/019	12days
22	System Implementation	7/10/019	22/10/019	15days
23	Develop Documents	22/10/019	29/10/019	7days
24	**VI)Final presentation Preparation**	**29/10/019**	**03/11/019**	**5days**
25	Project Submission	29/10/019	30/10/019	1day
26	Slide and Presentation Preparation	30/10/019	1/11/019	2days
27	Final Presentation	1/11/019	3/11/019	2days

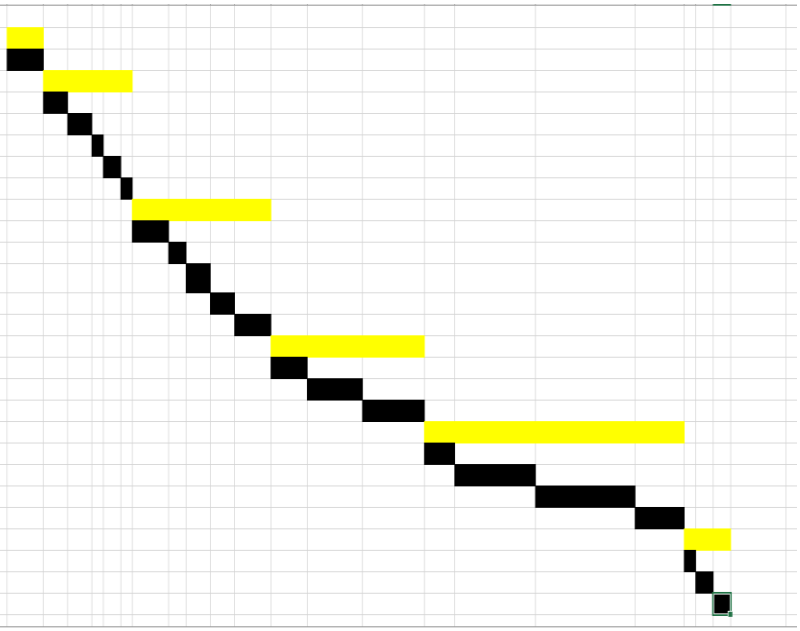


Fig 4.1 Gantt Chart

STRATEGY FOR GIVING BLOOD

On the off chance that an individual is thinking about being a blood contributor, it is significant that they comprehend the means associated with the procedure.

ARRANGEMENT

Before giving, individuals must enlist for donation, total a medicinal history, and have a smaller than expected physical examination. These steps help guarantee that an individual has not been presented to infections that could be spread to others by blood donations. The tests likewise uncover on the off chance that somebody is definitely not a decent contender for giving blood because of individual wellbeing concerns. Instances of these issues incorporate low hemoglobin levels or high or low pulse.

DURING THE DONATION

The giver's arm is cleaned with a liquor prep cushion, and an individual from the donation group embeds a needle into a vein. The needle is spic and span and sterile. The needle is joined to an accumulation tubing and pack, and the blood will stream into the sack until it is full. As indicated by the American Red Cross, an entire blood donation takes 8-10 minutes by and large. On the off chance that an individual is giving a blood item, for example, platelets or plasma, this procedure can take as long as 2 hours.

AFTER THE DONATION

At the point when an individual has completed the process of giving blood, medicinal staff will expel the needle or intravenous catheter, apply weight with a cotton dressing, and spot a gauze over the individual's arm. The benefactor will as a rule hang tight for 10-15 minutes before leaving, during which time they will be urged to eat and drink a few refreshments. After the donation, medicinal groups will step through the blood and examination it for potential blood-borne maladies. Instances of these incorporate HIV, hepatitis B, hepatitis C, and syphilis. The giving association as a rule performs in excess of twelve tests to guarantee the security of the gave blood. Given blood can keep going for a specific time and should be utilized before it terminates. Thus, blood donation centres and medical clinics have very nearly a consistent requirement for gave blood.

CONTEMPLATIONS

Potential blood contributors must meet a few necessities before they can give blood. They should be healthy and weight at any rate 110 pounds. Age prerequisites can change from state to state, however most permit those between the age of 16 and 17 to give with a parent's consent, just as anybody more established. On the off chance that an individual decides to give blood, they ought to get a decent night's rest previously and abstain from eating high-fat nourishments upon the arrival of the testing. High-fat nourishments may cause false outcomes in a portion of the tests completed

upon the arrival of giving blood. Drinking a lot of water when blood donation can enable an individual to remake liquids they have lost by their donation.

ADVANTAGE

- Access from anywhere of world
- Access at any time
- Quick Search
- Better Communication
- Optimize to volunteer
- Time Optimize
- Cost Optimize

DISADVANTAGE

- At present it is available for some limited zone.
- Problem to calculate number of donor available in list.
- Difficulty in identifying blood donor’s expiry date.
- In future we must overcome this drawback by using modern technologies.

SCREENSHOT OF WORKING MODEL

Fig 5.1 Home Page

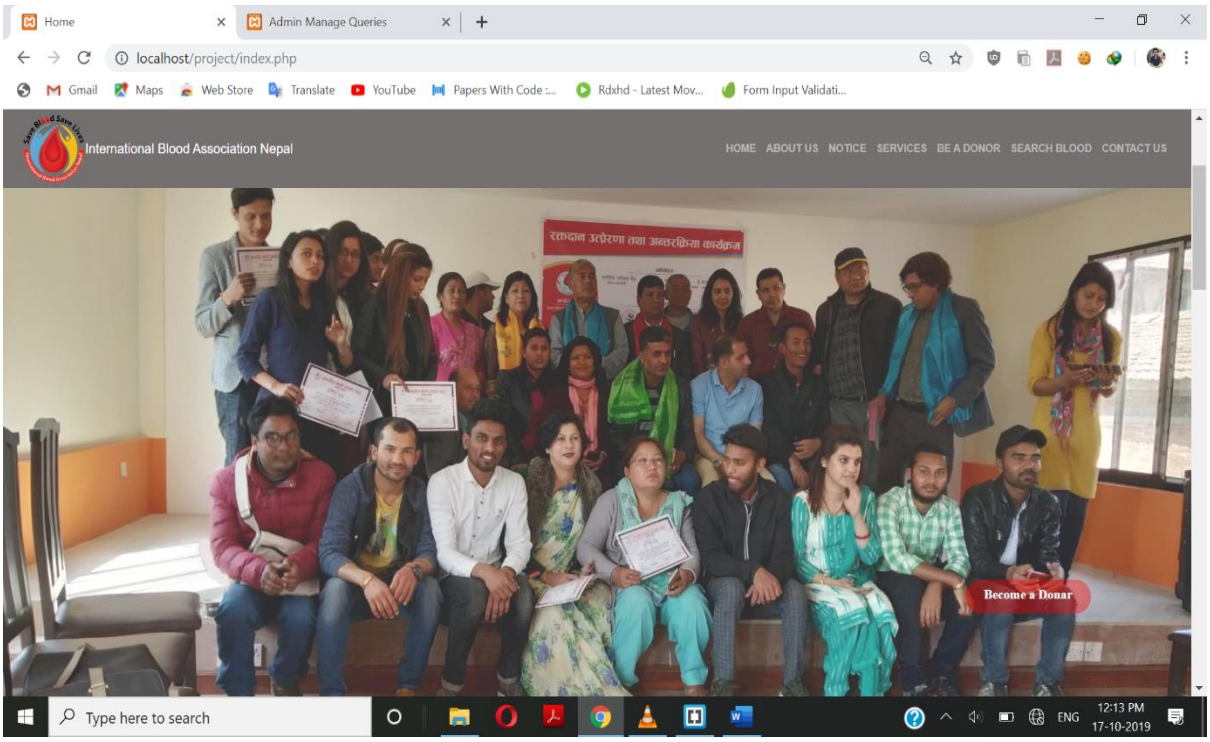


Fig 5.2 Home Page

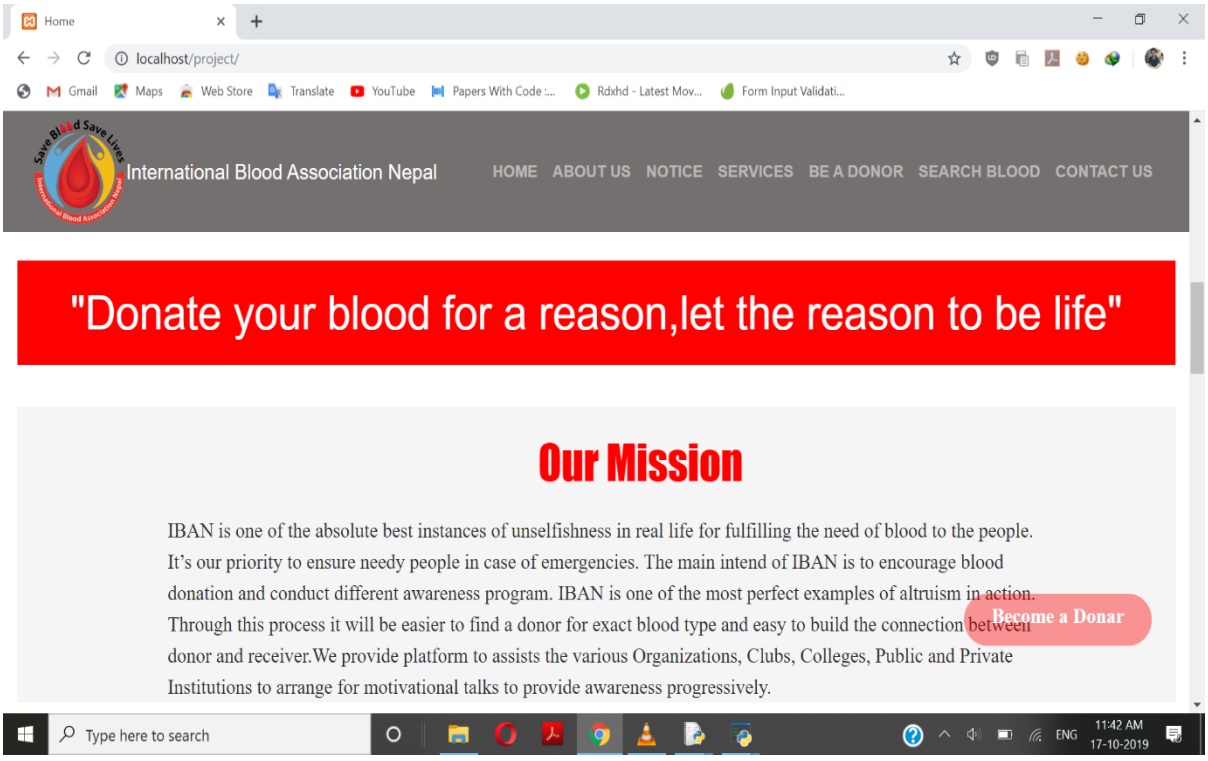


Fig 5.3 Home Page

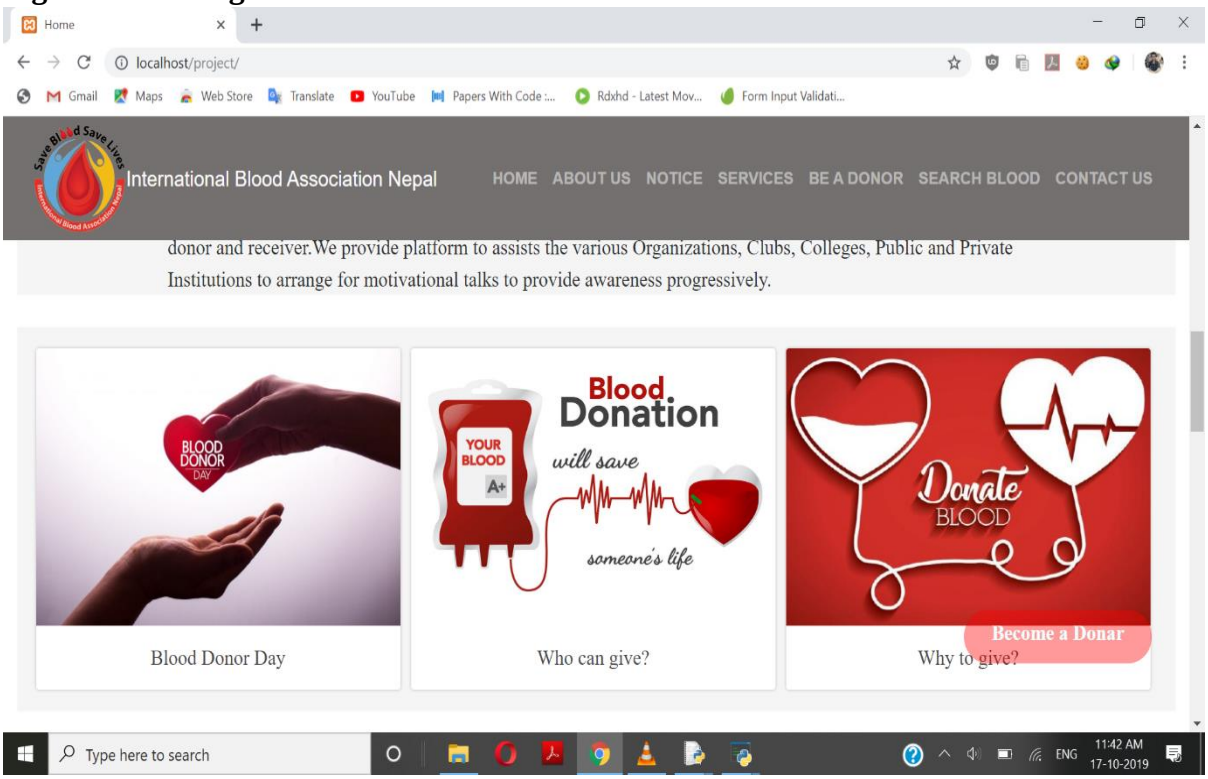


Fig 5.4 Home Page

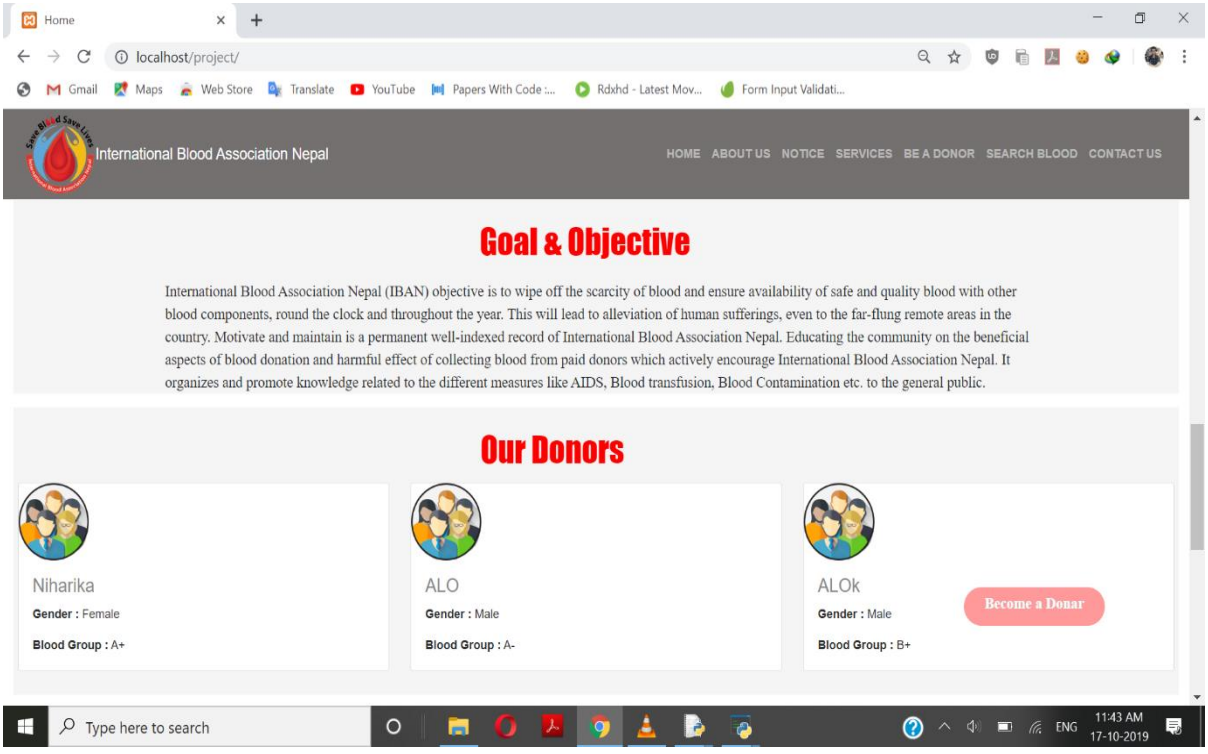


Fig 5.5 Home Page

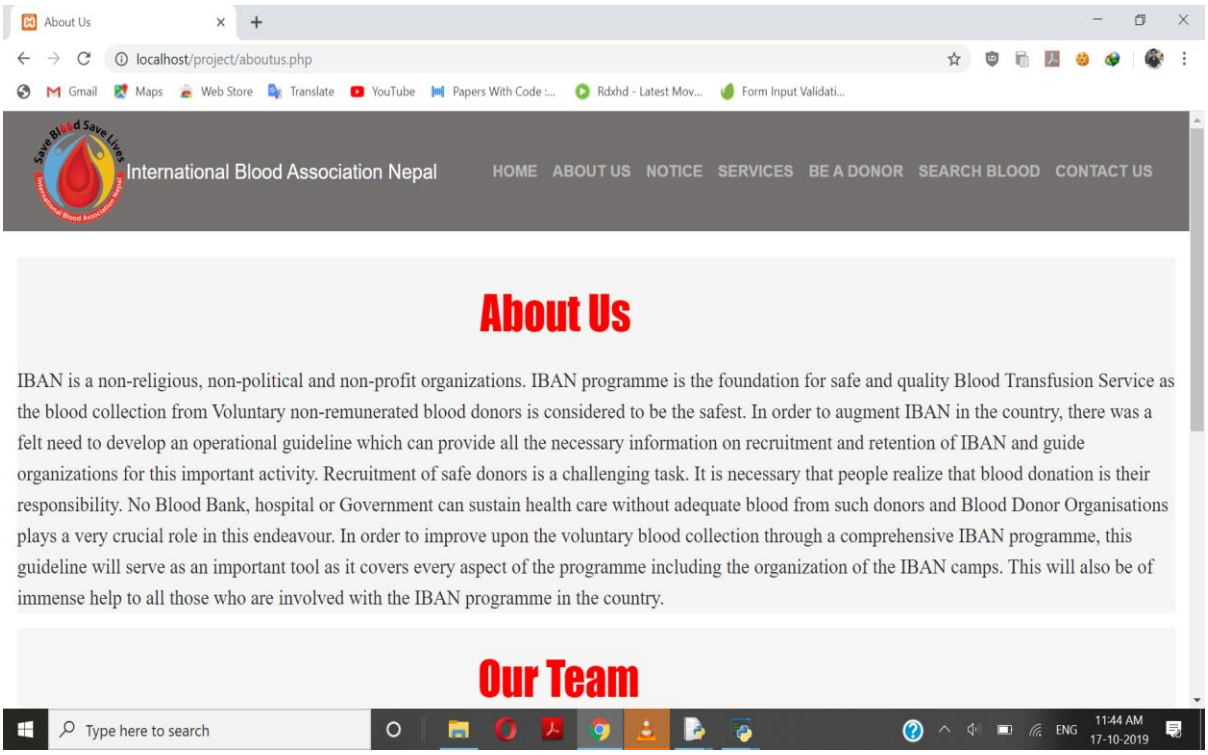


Fig 6.1 About Us

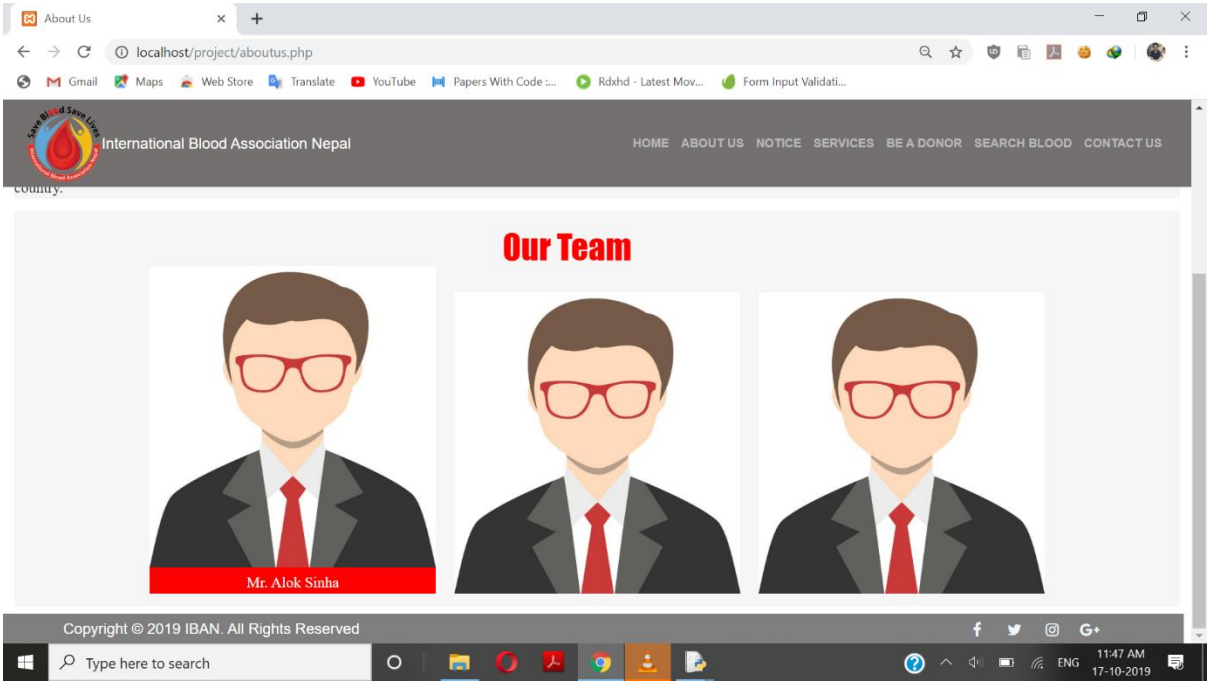


Fig 6.2 About Us

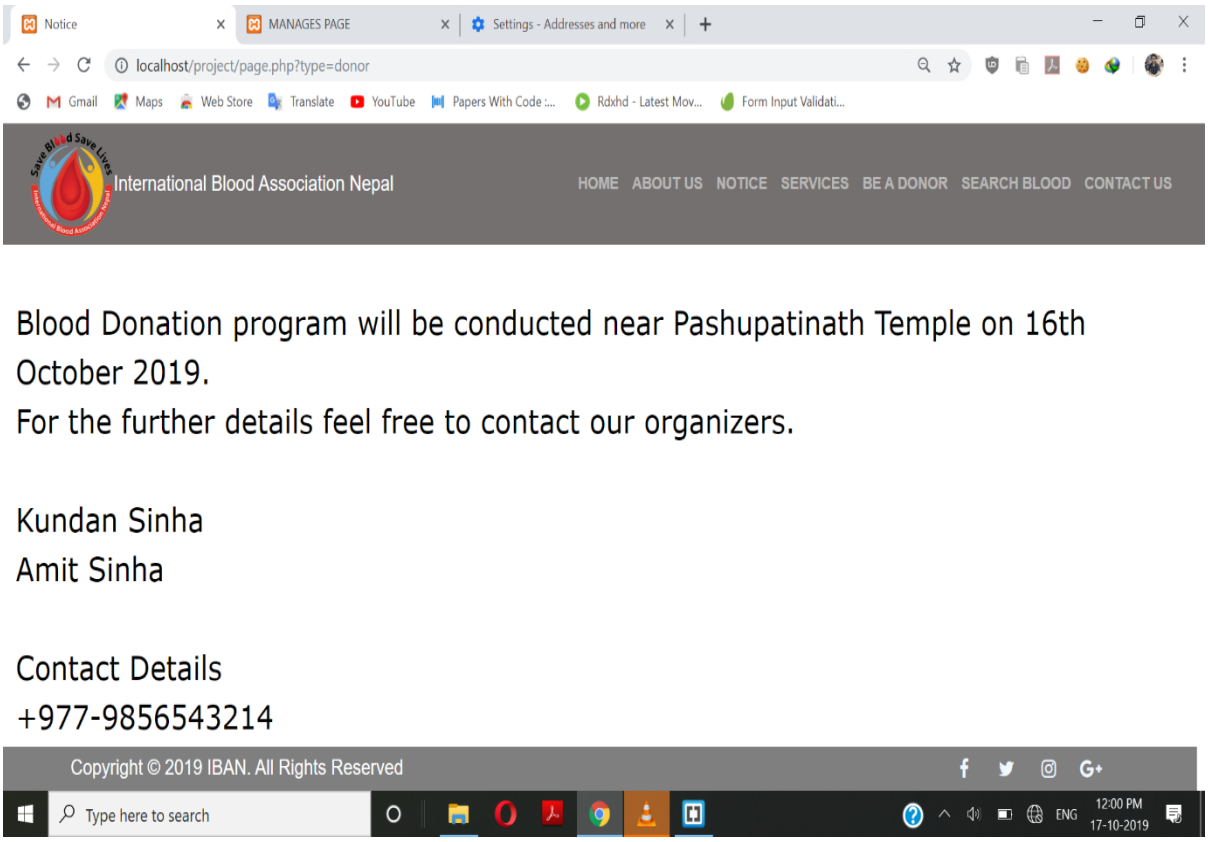


Fig 7.1 Notice

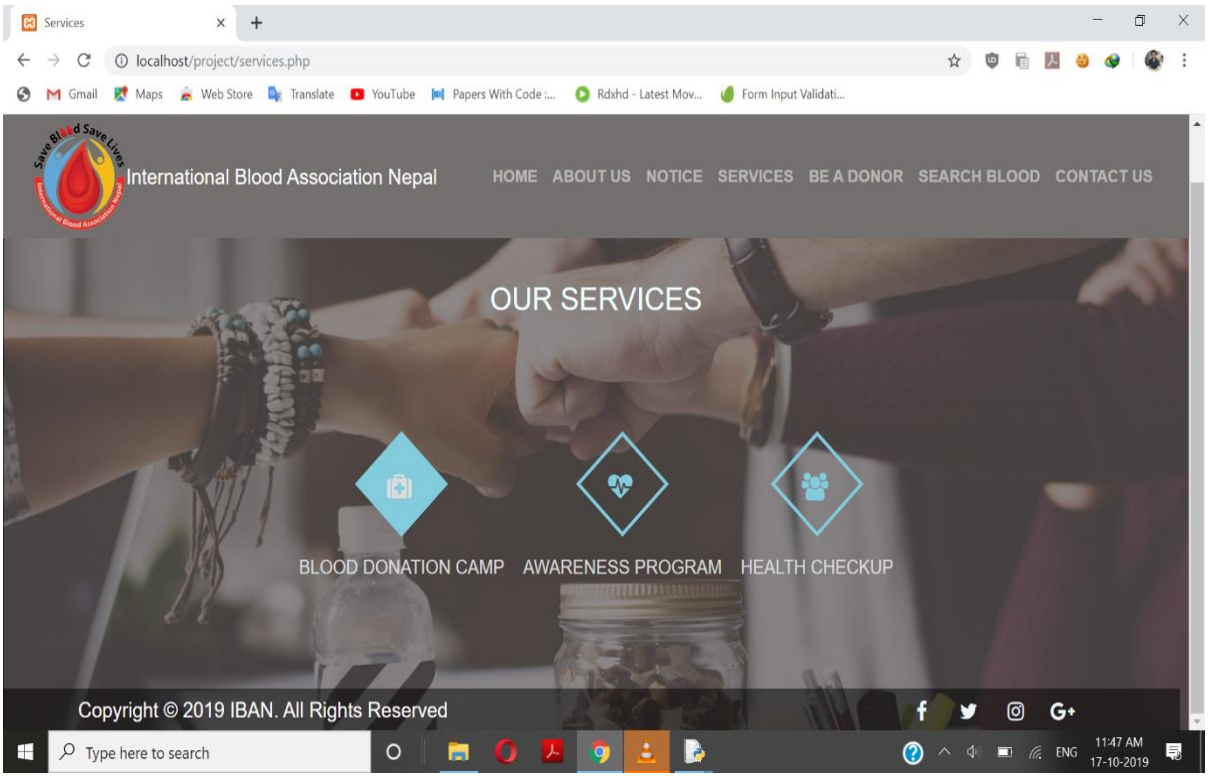


Fig 8.1 Services

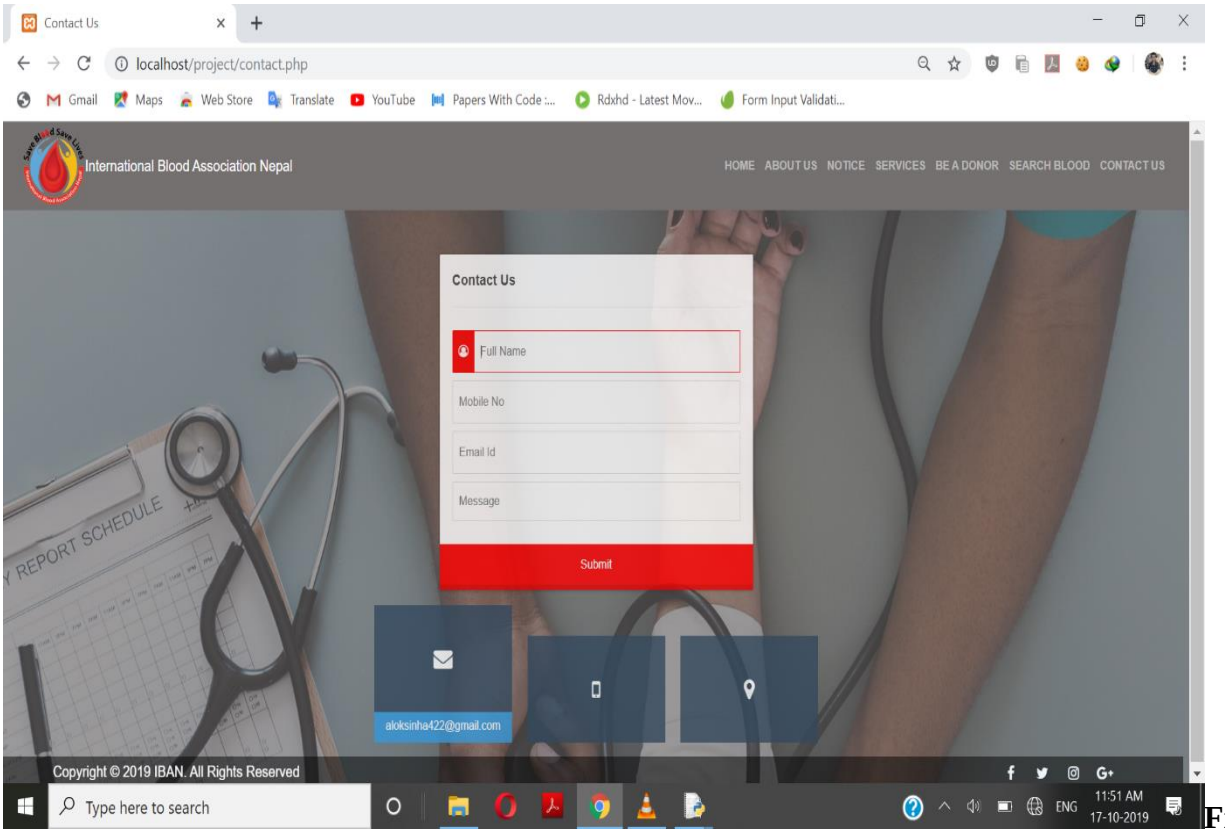


Fig 9.1 Contact Us

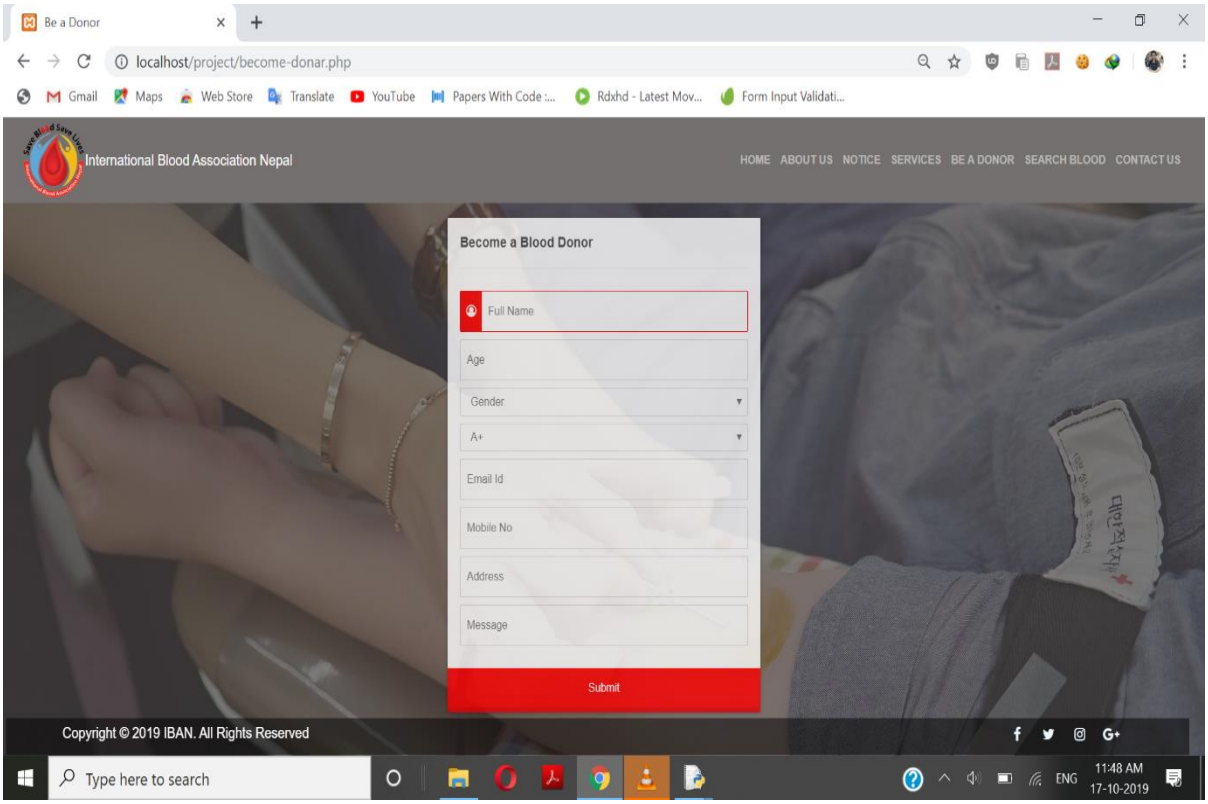


Fig 10.1 Become a Donor

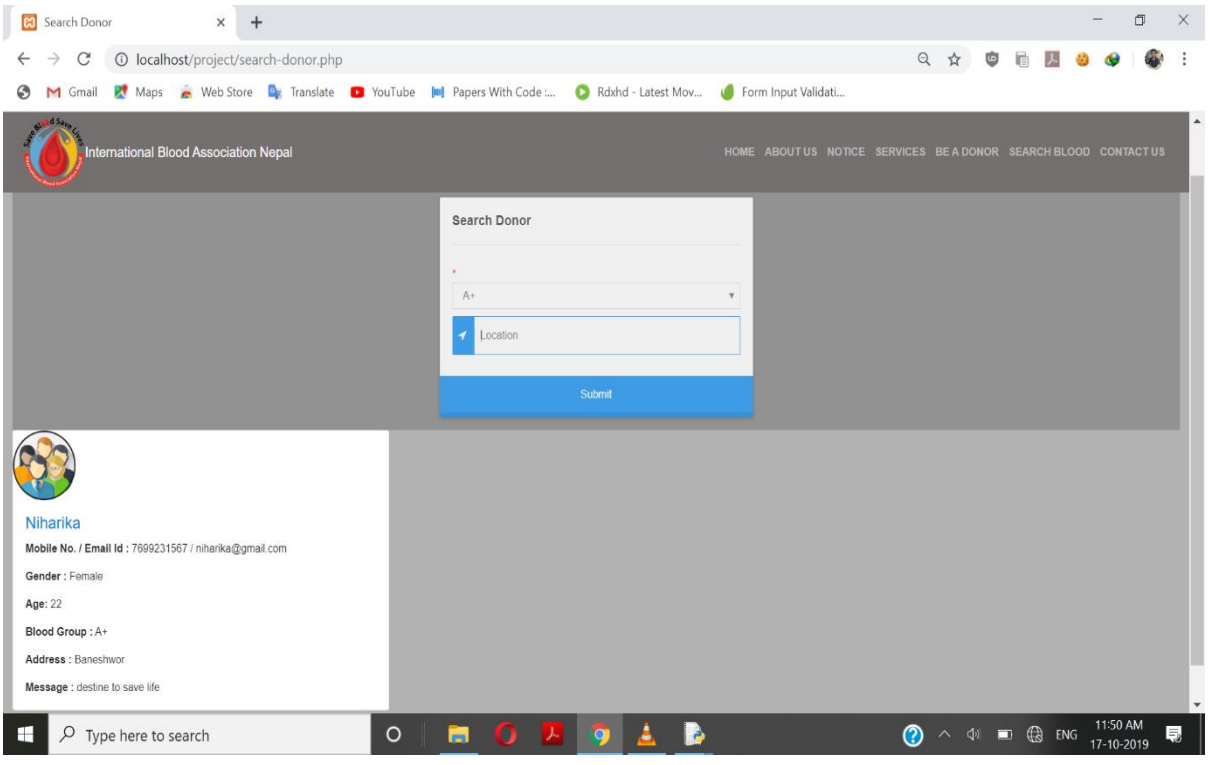


Fig 11.1 Search Donor

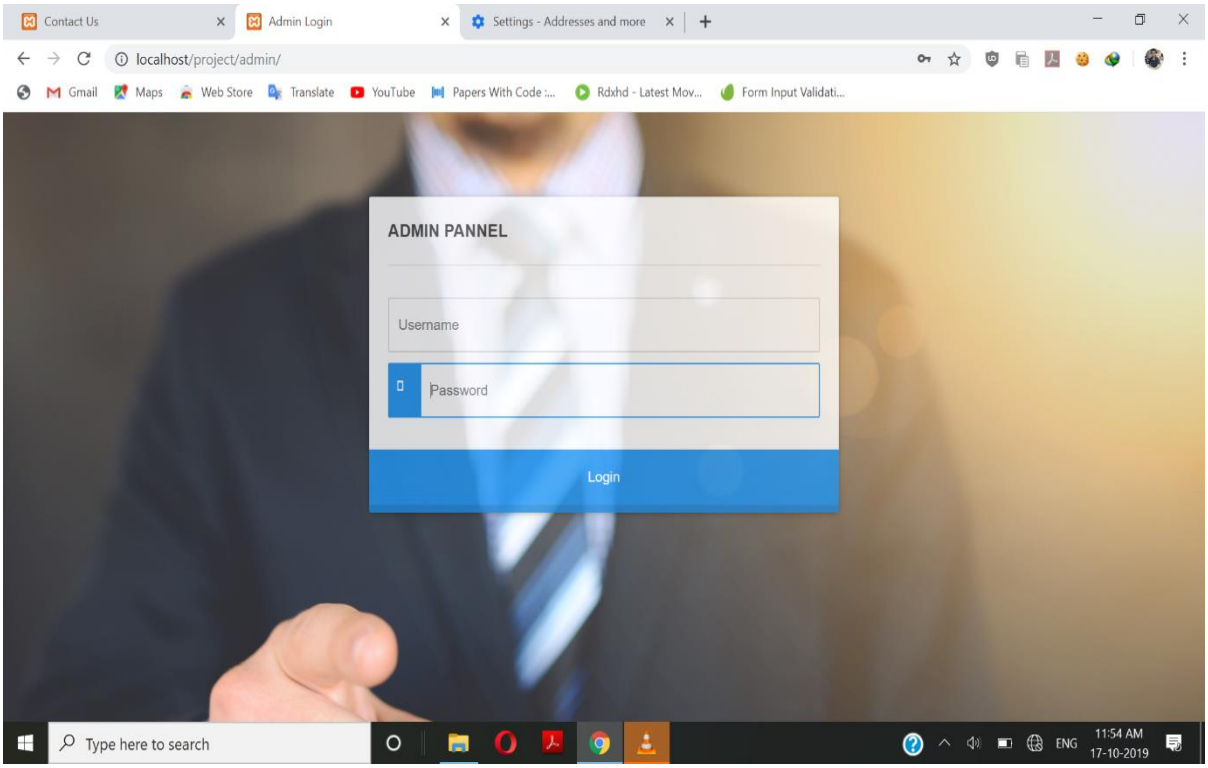


Fig 12.1 Admin Page

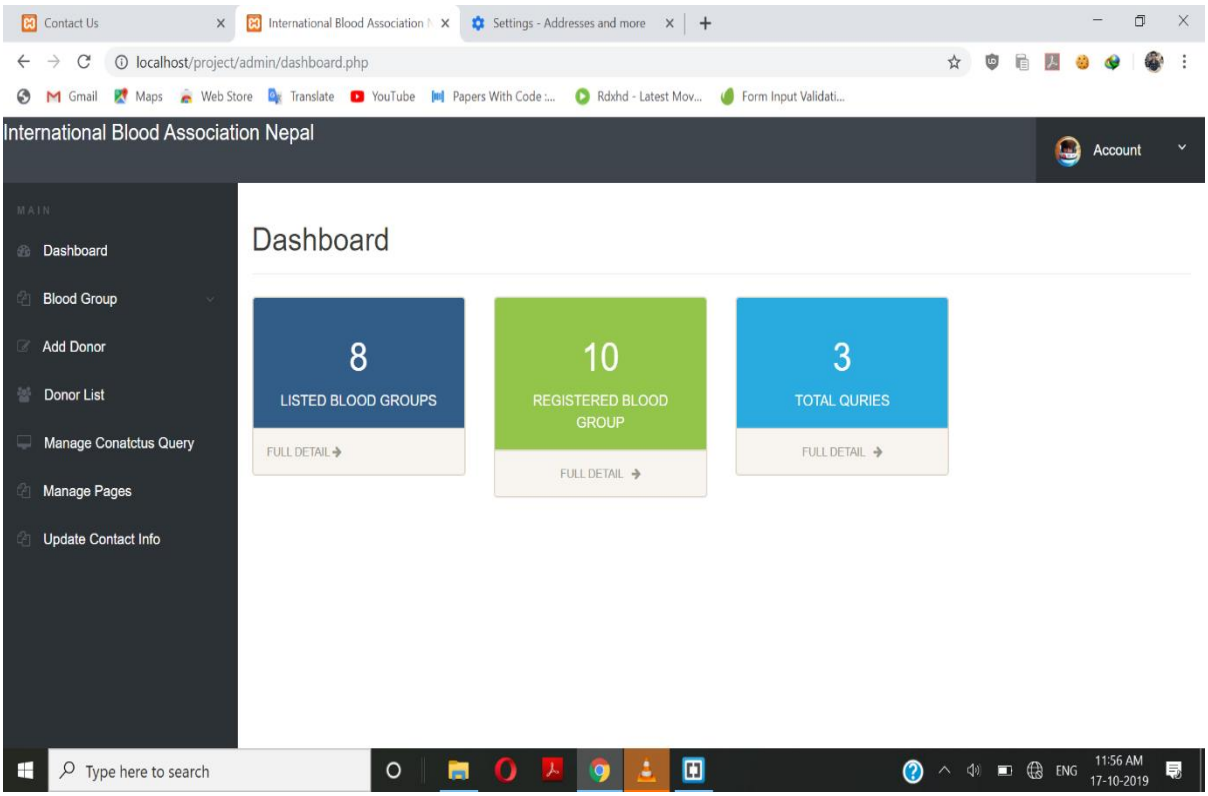


Fig 13.1 Dashboard

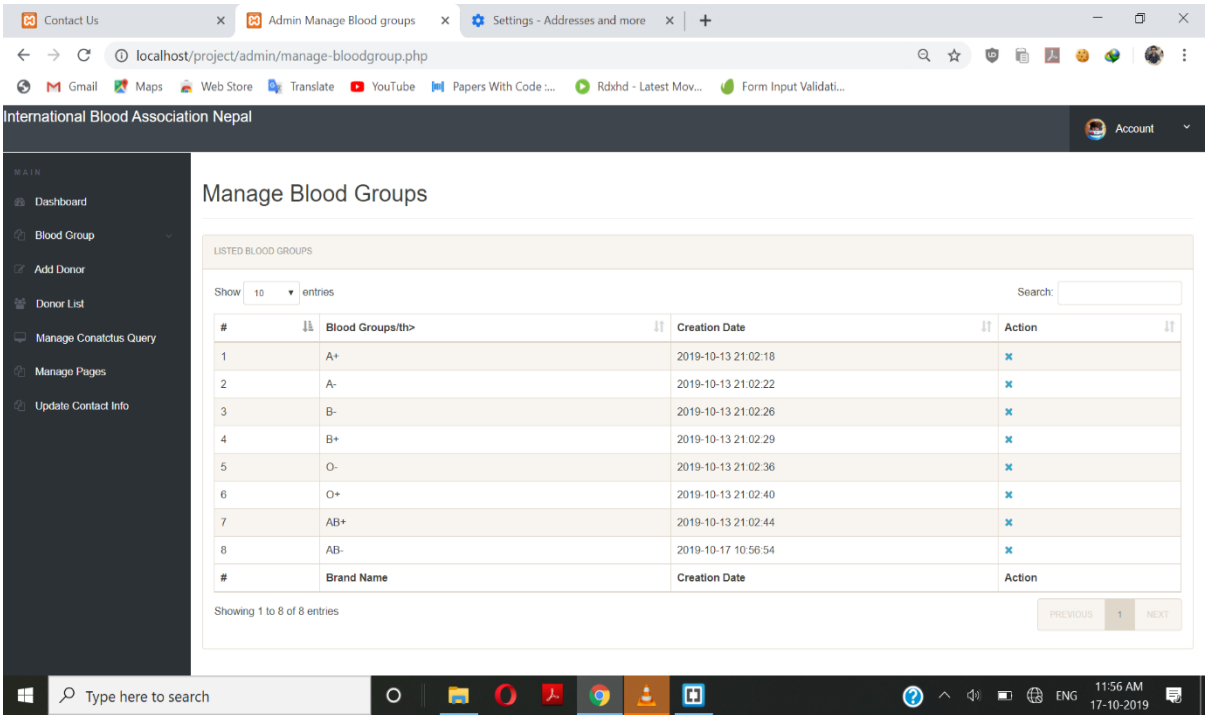


Fig 14.1 Manage Blood Group

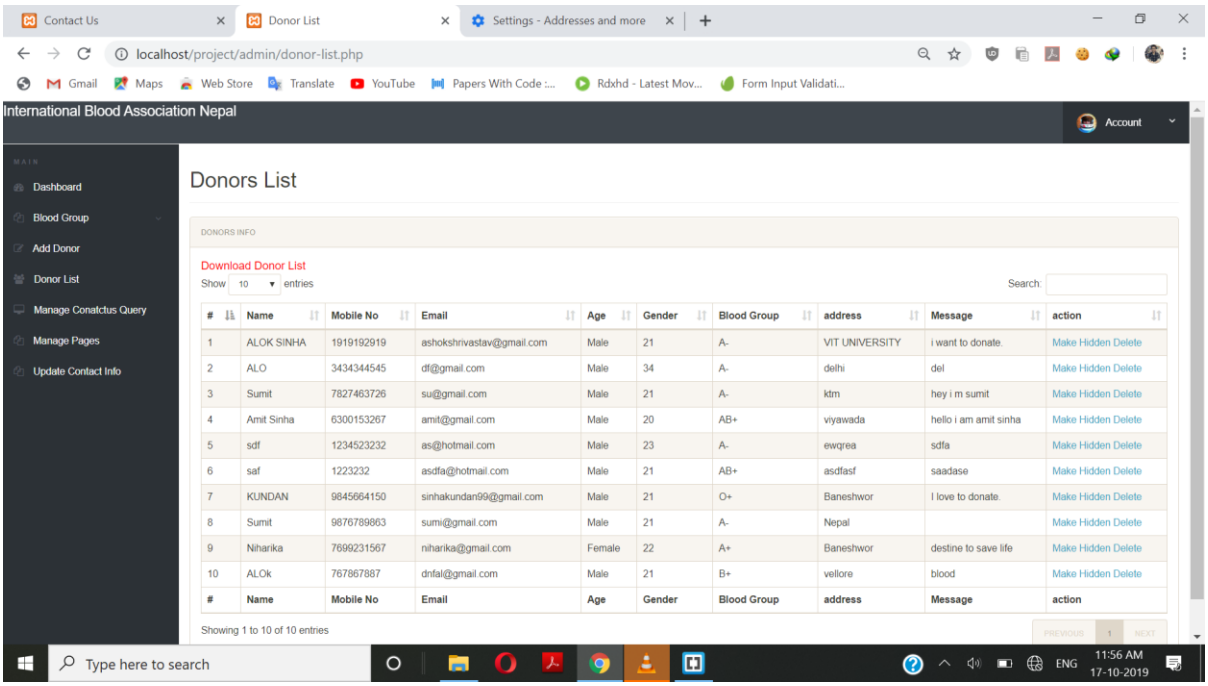


Fig 15.1 Donor List

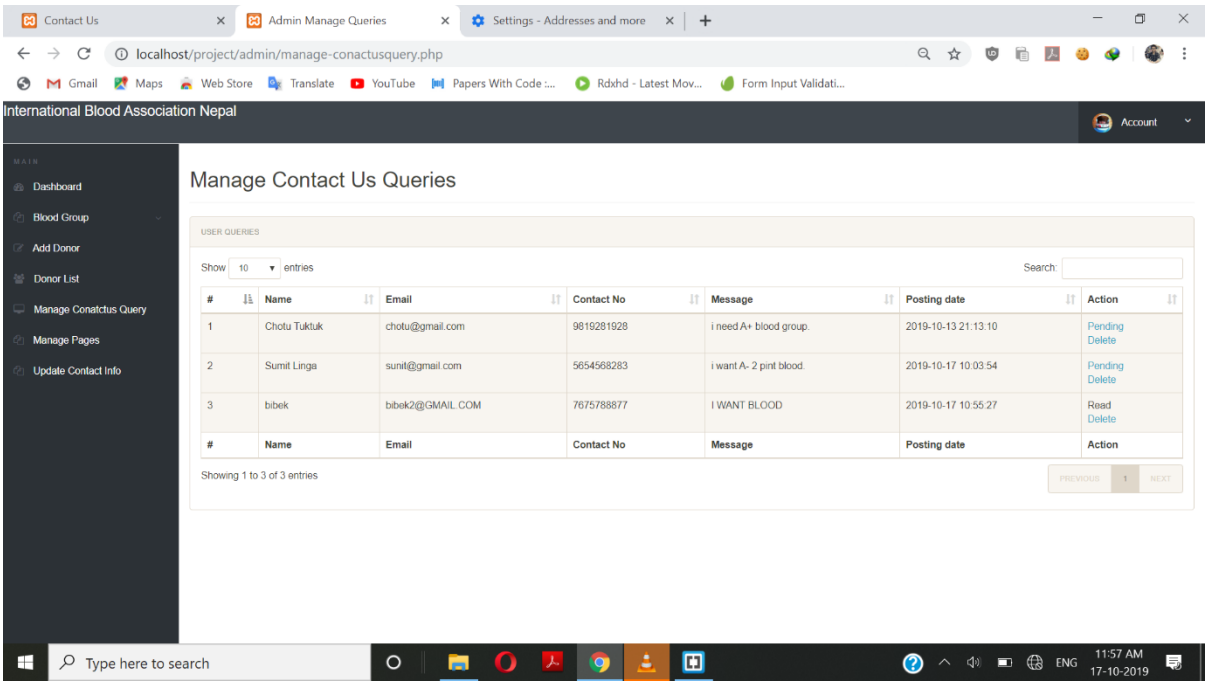
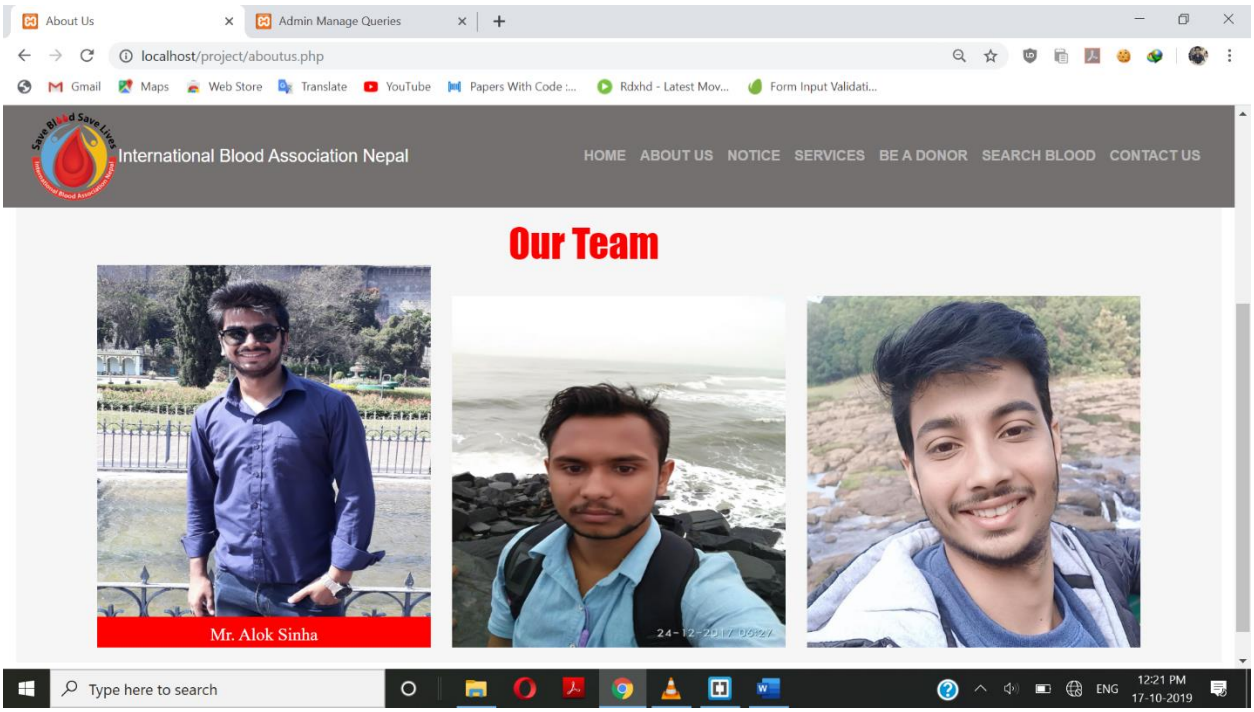


Fig 16.1 Contact Us Queries



CONCLUSION AND FUTURE WORK

The website eases the access to the blood of different blood groups required by the particular person in need. The user can know about the nearby blood banks depending on its location. The website also tells us about the blood stocks as it is regularly updated by the respective blood banks. The overall basic information which is required for the donor is made available in the website hence making it easy for the user to operate. Our main aim for the blood donation site is to eradicate the shortage of the supply and provide modern tools and technique or algorithm to reach to people and have good communication in different areas. Our reliable communication with the donor and receiver will establish the trust between the system. This system will be more scalable and a smart phone application of this system will prevail.

REFERENCES

[1]. "Benefits of Management Information System in Blood Bank" , Vikas Kulshreshtha, Dr. Sharad Maheshwari, Research Scholar, Associate Professor, Singhania University, Jhunjhunu, Rajasthan, India, Government Engineering College Jhalawar, Rajasthan, India

[2]. "Blood Bank Management Information System in India" by 1, Vikas Kulshreshtha, Dr. Sharad Maheshwari, Research Scholar, Associate Professor, Singhania University, Jhunjhunu, Rajasthan, India, Government Engineering College Jhalawar, Rajasthan, India

[3]. "Android Blood Bank" by Prof. Snigdha1, Varsha Anabhavane, Pratiksha lokhande3, Siddhi Kasar, Pranita More Lecturer, Information Technology, Atharva College of Engineering, Mumbai, India 1 Student, Information Technology,Atharva College of Engineering, Mumbai, India.

[4]. Maji, G., Debnath, N. C., & Sen, S. (2018, July). Data Warehouse Based Analysis with Integrated Blood Donation Management System. In *2018 IEEE 16th International Conference on Industrial Informatics (INDIN)* (pp. 855-860). IEEE.

[5]. Jiang, M., Xing, B., Sun, Z., Fu, P., Chen, H., Chen, M., ... & Wang, Y. (2006, January). A dynamic blood information management system based on RFID. In *2005 IEEE Engineering in Medicine and Biology 27th Annual Conference* (pp. 546-549). IEEE.