

# **JEEVAN – AN ONLINE BLOOD DONOR WEB APPLICATION**

## **A PROJECT REPORT**

*Submitted to*



**ASSAM DON BOSCO UNIVERSITY**

*by*

**VARGAB DAS**

**DC2018BCA0049**

**NIKITA DAS**

**DC2018BCA0041**

**EJAJ KHAN**

**DC2018BCA0055**

*in partial fulfilment for the award of the degree*

*of*

**BACHELOR OF COMPUTER APPLICATIONS**

**DEPARTMENT OF COMPUTER APPLICATIONS**

**SCHOOL OF TECHNOLOGY, ASSAM DON BOSCO UNIVERSITY**

**AZARA, GUWAHATI 781 017, ASSAM, INDIA.**

**BATCH (2018 - 2021)**

## **CERTIFICATE**

This is to certify that the Project Report entitled **JEEVAN – AN ONLINE BLOOD DONOR WEB APPLICATION** submitted by **VARGAB DAS (DC2018BCA0049), NIKITA DAS (DC2018BCA0041) and EJAJ KHAN (DC2018BCA0055)** to the Assam Don Bosco University, Guwahati, Assam, in partial fulfilment of the requirement for the award of Degree of Bachelor of Computer Applications is a bonafide record of the project work carried out by them under my supervision during the semester September 2020 to January 2021.

Internal Guide:

Mr. Alexy Bhowmick  
Assistant Professor (II)  
Department of Computer Science Engineering  
School of Technology  
Assam Don Bosco University

## **CERTIFICATE**

This is to certify that the Project Report entitled **JEEVAN – AN ONLINE BLOOD DONOR WEB APPLICATION**. Submitted by **VARGAB DAS (DC2018BCA0049), NIKITA DAS (DC2018BCA0041) and EJAJ KHAN (DC2018BCA0055)** to the Assam Don Bosco University, Guwahati, Assam, in partial fulfilment of the requirement for the award of Degree of Bachelor of Computer Applications is a bonafide record of the project work carried out by them during the semester July 2019 to December 2019.

Dr. Pranab Das  
Head of the Department,  
Department of Computer Applications  
Date: .....

## EXAMINATION CERTIFICATE

This is to certify that **VARGAB DAS, NIKITA DAS** and **EJAJ KHAN** bearing Roll Numbers **DC2018BCA0049, DC2018BCA0041** and **DC2018BCA0055** respectively of the **Department of Computer Applications** has carried out the project work in a manner satisfactory to warrant its acceptance and also defended it successfully.

We wish them all the success in their future endeavours.

Examiners:

01. Internal Examiner:

02. Internal Examiner:

## **DECLARATION**

We hereby declare that the project work entitled **JEEVAN – AN ONLINE BLOOD DONOR WEB APPLICATION** submitted to the Assam Don Bosco University, Guwahati, Assam, in partial fulfilment of the requirement for the award of Degree of Bachelor of Computer Applications is an original Work done by us under the guidance of **Mr. Alexy Bhowmick** (*Asst. Professor, ADBU Department of Computer Science & Engineering, School of Technology Assam Don Bosco University*) and has not been submitted for the award of any degree.

(Signature of the student)

**VARGAB DAS**

**DC2018BCA0049**

**Department of Computer Applications School of Technology,  
Assam Don Bosco University**

(Signature of the student)

**NIKITA DAS**

**DC2018BCA0041**

**Department of Computer Applications School of Technology,  
Assam Don Bosco University**

(Signature of the student)

**EJAJ KHAN**

**DC2018BCA0055**

**Department of Computer Applications School of Technology,  
Assam Don Bosco University**

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## **ABSTRACT**

The problem of finding appropriate blood donor and blood banks has been a critical one which has caused the loss of precious lives. The inability of quick and efficient access to blood donors to suit the patients needless cost time, effort and human lives. This project was created with the goal of finding a possible solution to this dire problem. The web application is made using HTML 5, CSS, Bootstrap (v5.0.0) and Ajax (v3. 2) for the front-end, Firebase - Firestore (v8. 2.1) as database, JavaScript (ES6) for back-end and Google API for map. Using these technologies, we were able to design a responsive, scalable and user-friendly web solution to create a platform for user, donors and patients, to effectively connect with each other. Making our website mobile friendly will also allow a broader scope of users access to our features and a UI designed with the end user in mind allows our website to perform in a more user centric manner.

**Keywords:** *Blood Donor, Blood Bank, HTML, CSS, JavaScript, Bootstrap, Firebase.*

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1. PROJECT TITLE:**

JEEVAN - An Online Blood Donor Web Application

#### **1.2. OBJECTIVE:**

The objective of this project is to develop a website to streamline the process of blood donation for patients in immediate need. The system will enable fluid communication between blood donors & patients taking into consideration all the criteria specified by the patient namely blood type, quantity, etc. The main objectives of the system are outlined below:

- 1) To enable donors to register themselves for blood donations on to the system.
- 2) To enable patients to get quick and efficient access to blood donations by simple searches on the website.
- 3) To create a website that better organizes and streamlines the blood donation and blood receiving process.

### **1.3. INTRODUCTION**

Blood donations and finding blood donors is a very complicated and time-consuming process for both the patient and their next of kin. In many cases, patients die because of not receiving appropriate blood donation on time. Currently, information for blood donations is managed wholeheartedly by hospitals and blood banks with normal patients unaware of how to properly procure the blood donation.

In some cases, blood banks may not carry the required type or units of blood. In the present scenario, people have to go to blood banks to find their required blood donation which is complicated & time-consuming. In cases of unavailability of the required blood type in hospitals or blood banks, the patient next of kin must resort to informal and unorganized means of acquiring the necessary blood donations, they may also turn to social media in case of emergency. These information methods are rarely effective and also risk the patient's life.

The project aims to develop an organized platform to allow donors and patients to communicate and arrange proper blood donations in time for those who need it. With the help of this website patient's families can easily post blood requests, search and locate the appropriate donor and contact them via their various contact details namely contact number, address, social media handles.

We have decided to develop a web application and not a mobile application of the same for the following reasons:

A website can be universally accessed from any phone with an internet connection and a browser while the same cannot be said for an application that is developed for specific operating systems. Using a website allows us to cover a greater span of consumers. Also our web application will be designed to be mobile - friendly. Using an app puts storage overhead on the device which is undesirable for people who have low budget phones with lower memory capacity. Using a website allows us to negate that overhead.

JEEVAN - The Online Blood Donor website will be easily available to everyone. When a person wants to donate blood he/she has to register on the website. Donor registration is very simple, to get registered to the website he/she has to fill up a registration form containing the following i.e. his/her name, age, blood group, contact details, address, etc. After submitting the registration form he/she can create a username and password. A donor can also change his account information when he wants to use his username and password.



## **1.4. STUDY OF THE EXISTING SYSTEM**

As part of our initial research, we decided to investigate applications that offer the same or similar services.

### **1.4.1. Friends2support.org**

#### **Description of Friends2support –**

1. "Friends2support" is an organization that brings voluntary blood donors and those in need of blood to a common platform. Through this website, they seek donors who are willing to donate blood, as well as provide the timeliest support to those in frantic need of it.
2. Their mission is to fulfil every blood request in the country with a promising web portal and motivated individuals who are willing to donate blood.
3. The Features that the website provides are:
  - Blood Donor Login/Register
  - Find blood donor
  - Post blood request
  - Displays latest news on their homepage
  - Displays Current Blood Requests on their homepage

Homepage –

Fig: 1.4.1.1 Homepage of Friends2support Website

Find Blood Donor –

Fig: 1.4.1.2 Find Blood Donor feature of Friends2support Website

## Donor Registration –



**friends2support.org**  
[Where strangers become friends]

Home | FAQs | Feedback | Contact Us

**Blood Donor Register Here** | **Find a Blood Donor** | **Post Your Blood Request** | **Find a Service Organisation** COMING SOON

**About Blood Donors Register**

Please fill the following information to register as voluntary blood donor and become part of F2S vision. Kindly update your date of donation once done, so that your name will be hidden automatically till next 3 Months. Also please update your profile information if in case you relocate in future.

**REGISTRATION FORM**

Full Name :

Blood Group :

**Contact Information**

Mobile Number  
(Don't add 0 before your number Except Malaysia) :

Land Line Number  
(Eg. 0883351725) :

Select Country :

Select State :

Select District :

Select City :

E-Mail ID :

Fig: 1.4.1.3 Donor Registration feature of Friends2support Website

### 1.4.2 Blood Bank Today

#### Description of Blood Bank Today –

1. "BloodBankToday" is an organization that brings voluntary blood donors and those in need of blood onto a common platform.
2. Through this website, they tie-up with blood banks and provide the timeliest support to those in frantic need of it.
3. Features that this website provides are:
  - Blood Donor Login/Register
  - They have tied up with blood banks to provide blood to the patients in need.
  - Donate to the blood bank
  - Displays current donor join on their homepage
  - Can request a donation for any crisis cause/event.

Find a blood donor –

Fig: 1.4.2.1 Find Blood Donor feature of Blood Bank Today website

Homepage -



Fig: 1.4.2.2 Home Page of Blood Bank Today website

Donor Registration –

**Login Information**

Full Name\*

Email

Mobile No.

Create Password

**Donor Information**

Blood Group\*

Gender\*

Birth Date  Month  Year  Weight\*

Last Donation Date (Optional)

**Contact Information**

Show Mobile

SMS Alert\*

Pin/Zip Code

State

Dist

Tehsil

City or Village

☐ I Accept Terms & Condition

**Recent Donor's Info**

Donor ID	Donor Name	Donor Blood Group	Donor Address
01	Mr. Arun Kumar	B+	1234567890
02	Mr. Arun Kumar	B+	1234567890
03	Mr. Arun Kumar	B+	1234567890
04	Mr. Arun Kumar	B+	1234567890
05	Mr. Arun Kumar	B+	1234567890
06	Mr. Arun Kumar	B+	1234567890
07	Mr. Arun Kumar	B+	1234567890
08	Mr. Arun Kumar	B+	1234567890
09	Mr. Arun Kumar	B+	1234567890
10	Mr. Arun Kumar	B+	1234567890

Fig: 1.4.2.3 - Donor Registration feature of Blood Bank Today website

### 1.4.3. Indian Blood Donors

#### Description of Indian Blood Donors -

1. In this website the patient in need , has to utilize the Donors name and Telephone number provided and contact the donor for blood donation.
2. The details of the donors are given only to facilitate the users for contacting them when in need of blood in case of any emergency.
3. They cannot post blood requests.
4. No connection with blood banks.
5. Features that this website provides are:

- Blood Donor Login/Register
- News on homepage
- Include posters for awareness

Homepage -



Fig: 1.4.3.1 Homepage of Indian Blood Donor website

## Donor Login -

The screenshot displays the Indian Blood Donors website. The header includes the logo, navigation links (HOME, DONORS LOGIN, UNSUBSCRIBE, ABOUT OUR POSING, PRIVACY POLICY, FACEBOOK), and mobile app icons. The main content area features a 'Donors Login' form with fields for 'Email address / Mobile Number' and 'Password', and a 'Sign in' button. The footer contains four sections: 'TECHNOLOGY PARTNERS' (listing 'Arista On'), 'CONNECTIONS MADE' (listing statistics like '12917 Blood Donors Registered'), 'OUR OTHER INITIATIVES' (listing 'Regular Donors' and 'Save Human'), and 'CONTACT US' (providing address and email).

TECHNOLOGY PARTNERS	CONNECTIONS MADE	OUR OTHER INITIATIVES	CONTACT US
<a href="#">Arista On</a>	12917 Blood Donors Registered	<a href="#">Regular Donors</a>	<b>Address:</b>
	189155 Request Served Till Date	<a href="#">Save Human</a>	Indian Blood Donors
	679 Cures/flows made in last 30 Days		127, New Colony,
	1 Donor's Consented to Donate		Hawar - 440001,
	0 Donors Refused to Donate		Maharashtra (India)
			Email: <a href="mailto:info@indianblooddonors.com">info@indianblooddonors.com</a>

Fig: 1.4.3.2 Donor Registration feature of Indian Blood Donor website



#### 1.4.4. Eraktkosh

##### Description of e-Rakt Kosh -

1. E-Rakt Kosh ensures proper collection & donation, effective management, and monitoring of the quality and quantity of the donated blood.
2. Considering the national roll-out, e-Rakt Kosh has been developed with a modular and scalable approach with configurable rule-based architecture allowing customization to easily incorporate specific requirements from nationwide stakeholders.
3. Features that this website provides are:
  - Blood Donor Login/Register
  - Search nearby blood banks
  - Statistic of nationwide blood donations
  - Information about compatible blood type donor
  - Notification about important days and occasions
  - Check blood availability.

##### Homepage -



Fig: 1.4.4.1 Homepage of E-Rakt Kosh website



Find blood banks –

[illegible]

**Fig: 1.4.4.2 Find Blood Banks Feature of E-Rakt Kosh website**

## Donor Registration –



[Home](#)
[About Us](#)
[Services](#)
[Contact Us](#)
[FAQs](#)

[Online Donation Request](#)

[GENERAL](#)

[SERVICES](#)

[DOWNLOADS](#)

[ABOUT US](#)

[LOGIN](#)

### Donor Details

<b>Name*</b> <input type="text"/>	<b>Gender*</b> <input type="text" value="Select Value"/>	<b>Date of Birth*</b> <input type="text" value="dd/mm/yyyy"/>
<b>Mobile Number*</b> <input type="text"/>	<b>Address</b> <input type="text"/>	<b>Terminative Date</b> <input type="text" value="dd/mm/yyyy"/>
<b>State*</b> <input type="text" value="Select State"/>	<b>District/City*</b> <input type="text" value="Select District"/>	<b>Blood Bank Name*</b> <input type="text" value="Select Blood Bank"/>
<b>Blood Group</b> <input type="text" value="Select Blood Group"/>	<b>Gal ID</b> <input type="text" value="Select Value"/>	

Save

**Fig: 1.4.4.3 Donor Registration Feature of E-Rakt Kosh website**

## **1.5. LIMITATIONS OF EXISTING SYSTEM**

- Some of these blood donor websites do not have the feature of direct interaction between the patient and the donor.
- Some of these blood donor websites do not include the feature to post blood requests
- Some of these blood donor websites do not include the feature to search nearby blood banks.
- Some of these blood donor websites do not include any latest updates about blood requests, recent blood donors, news, and important days/occasions.
- Some of the blood donor websites do not include proper information about blood.
- Compatibility and knowledge about blood donation.

## 1.6. FEATURES TO BE INCLUDED IN THE SYSTEM

Tool used for development: Visual Studio Code (<https://code.visualstudio.com/>)

Current Trends in Web-Design:

- Dark mode
- Full-page headers
- Dynamic scrolling
- Ultra-minimalist navigation
- Playful cursors
- Custom illustrations

From the Current Trends in Web design we are using the full page headers, dynamic scrolling, and Ultra-minimalist navigation for the website.

Design inspiration of UI: Website design templates from Dribbble,  
([https://dribbble.com/tags/website\\_template](https://dribbble.com/tags/website_template))

Making the website Mobile Friendly: We will make our website mobile friendly by following the certain criteria's:

- By using Responsive Web design.
- Optimizing Image Size
- Eliminating pop-ups
- Making buttons size large
- Using larger font size.

1. **Homepage** – A home page is a web page that serves as the starting point of a website. On our homepage there will be two options - Donor and Patient, users will choose his/her type accordingly and will be redirected to the following page where either he/ she can login as a donor or as a patient. The homepage also has a navigation menu and a Login button where the donor, patient and admin can login to their profiles also there is a view blood request button which once clicked will show the patients' blood requests. Our homepage consist of the following features:

- Donor / Patient (Register/Sign in)
- Donor / Patient/ Admin (Login)
- Current Blood Requests

2. **Donor** - In our web Application the donor can register himself/herself to donate blood so that the patients who are in need of blood can contact the registered donor. He/ She have to complete a survey to check whether he/ she are eligible to be a donor. The donor page consist of the following features:

- Create a profile/log in
- Complete a survey to check eligibility
- Enter required information
- Set as Available/Unavailable
- Accept / Respond to Blood request

3. **Patient** - In our web application the patient or their next of kin can find blood donors of the particular blood group they are looking for. The patient has to register/login to the website and then choose the blood group according to his/ her requirements from the website's blood group category. If the patient does not find the required blood group he/she is searching for, he/she can post a blood request to our website's post blood request section which can be viewed by the donors and they can respond to the request accordingly. And we have also kept an option for the patient to search for the nearby blood banks and contact. Our Patient page consist of the following features:

- Create a profile/log in
- Select blood group
- Select donor
- Contact donor
- Post blood request
- Search for nearby blood banks

4. **Post blood request** – Post blood request is a feature that allows the patients in need of blood to post a blood request in the website's post blood request section which can be viewed by the donors and they can respond to the request accordingly and contact. The blood request post contains - required blood group, quantity, date of requirement, address, contact number, etc.

## **CHAPTER 2**

### **FEASIBILITY STUDY & REQUIREMENT ANALYSIS**

#### **2.1. FEASIBILITY STUDY**

The feasibility study is an evaluation and analysis of the potential of a proposed project which is based on extensive investigation and research to support the process of decision making. A feasibility study looks at the viability of the project focusing on identifying problems within the project and answering questions like:

- I. Is the project technically feasible?
- II. Is it feasible within the estimated cost?

Information on the resources available, cost estimation, manpower needed for software development, benefits to the organization after development, and maintenance costs are considered in the feasibility study. The various types of feasibility considered are economic feasibility, technical feasibility, operational feasibility, and schedule feasibility.

## 2.2. TECHNICAL FEASIBILITY:

### 2.2.1. SOFTWARE REQUIREMENTS

OS	Windows 10 64-bit
Platform	HTML 5, JavaScript ES6, CSS, Bootstrap 5.0.0. , Ajax 3.2
Database	Firebase - Firestore 8.2.1

Table: 2.2.1 Software Requirements for “JEEVAN - Online Blood Donor Website”

### 2.2.2. HARDWARE REQUIREMENTS

Processor	Intel Pentium P6200 @ 2.13 GHz
RAM	4.00 GB
Hardware Disk Space	512 GB

Table: 2.2.2 Hardware Requirements for “JEEVAN - Online Blood Donor Website”

## 2.3. ECONOMIC FEASIBILITY

The purpose of the economic feasibility assessment is to determine the positive economic benefits to the organization that the proposed system will provide. It includes quantification and identification of all the benefits expected.

This assessment typically involves a cost/ benefits analysis.

### 2.3.1. COCOMO Model

The Basic COCOMO model is a static, single-valued model that computes software development effort (and cost) as a function of program size expressed in estimated lines of code (LOC).

COCOMO Model Constructive Cost Model (COCOMO)

The basic COCOMO equations take the form:

Effort Applied (E) =  $a_b(KLOC)^{b_b}$ , [person-months]

Development Time (D) =  $c_b(Effort Applied)^{d_b}$  [months]

People Required (P) = Effort Applied/Development Time [Count].

Where KLOC is the estimated number of delivered lines (expressed in thousands) of code. The coefficients  $a_b$ ,  $b_b$ ,  $C_b$ , and  $d_b$  are given in the following table:

Software Project	$A_b$	$b_b$	$C_b$	$d_b$
Organic	2.4	1.05	2.5	0.38
Semi-detached	3.0	1.12	2.5	0.35
Embedded	3.6	1.20	2.5	0.32

Table: 2.3.1 COCOMO MODEL coefficient values



Our project type is Organic project, Estimate LOC = 2000

Now the basic COCOMO equation of our project is

$$\text{Effort Applied (E)} = a_b (\text{KLOC})^{b_b} [\text{person-months}]$$

$$= 2.4(2K)^{1.05} [\text{person-months}]$$

$$= 4.96 [\text{person-months}]$$

$$\text{Development Time (D)} = c_b (\text{Effort Applied})^{d_b} [\text{months}]$$

$$= 2.5 (4.96)^{0.38} [\text{months}]$$

$$= 4.59 [\text{months}]$$

$$\text{People Required (P)} = \text{Effort Applied} / \text{Development Time} [\text{count}]$$

$$= 4.96 / 4.59 [\text{count}]$$

$$= 1.08 [\text{count}] = 1 \text{ (approximately)}$$

The projected development time for this project is 4.59 months which will require 1 person. As we have a limited time of approximately 2.5 months to complete this project we will require more people to develop this project.

Since we have 3 members in our group the project development time is justified.

## 2.4. SCHEDULED FEASIBILITY

It is a measure of how reasonable the project timetable is. It is the determination of whether a project can be implemented in the allotted time frame. This is illustrated with the help of the Work Breakdown Structure and Gantt chart provided below.

### 2.4.1. Work Breakdown Structure

A WBS provides the necessary framework for detailed cost estimating and control along with guiding schedule development and control.

The total project development time (in hours) for our web application is 178 hrs. To further explain the calculation of hours.

Start date of the project = 5 September 2020 End/Submission Date of the project = 13 January 2021

Total number of days = 89 days.

1 day = 2 hours of work.

So now,

Total number of days  $\times$  Number of hours of work per day

89 days  $\times$  2 hours = 178 hours.

Then, we have divided the total hour (178 hrs.) according to the various phases mentioned in the diagram below.

## WBS (Work Breakdown Structure)

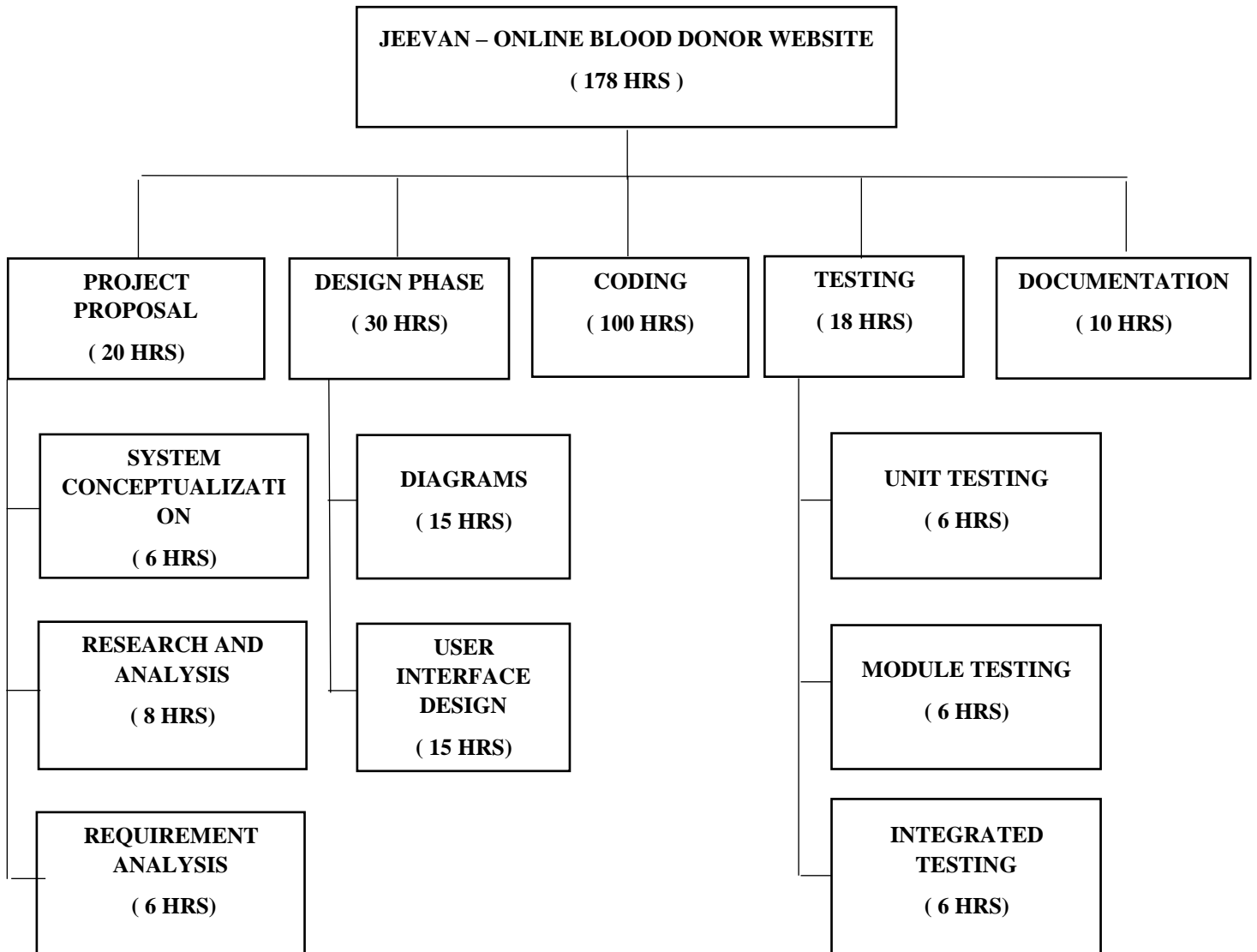


Fig: 2.4.1 Work Breakdown Structure for “JEEVAN - Online Blood Donor Website”

## 2.4.2. GANTT CHART

A Gantt chart is a type of bar chart that illustrates the start and finish dates of the terminal elements and summary elements of a project.

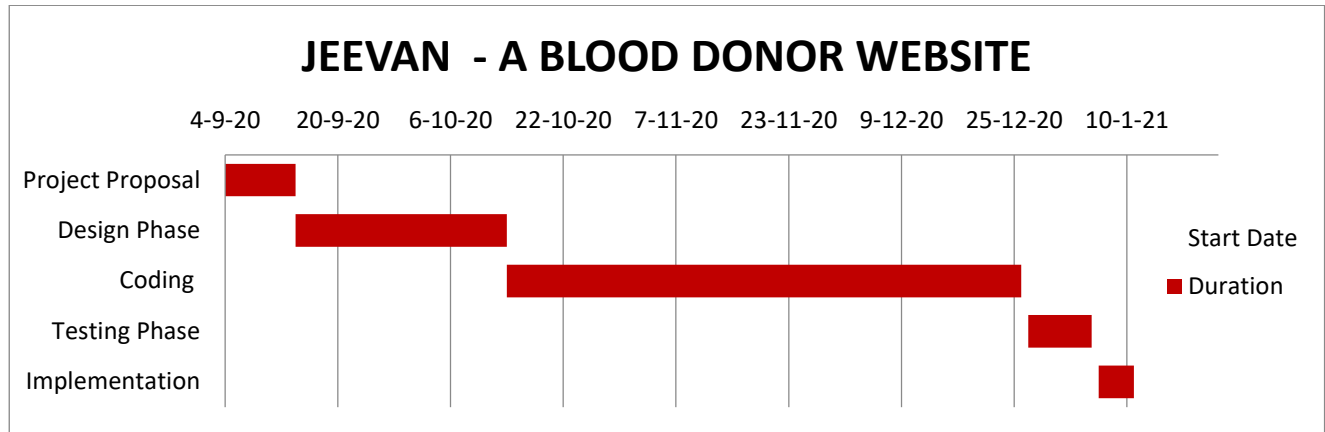


Fig: 2.4.2 Gantt chart for “JEEVAN - Online Blood Donor Website”

## 2.5. OPERATIONAL FEASIBILITY

The proposed system is operationally feasible as the final output of the project can be used by the users and it will be easy and user friendly to use. The proposed system does not require special training to operate the web application. This website will fulfil the need for the user in emergency situations.

## Chapter 3

### DESIGN DIAGRAMS

#### 1.1. USE CASE DIAGRAM

A use case diagram at its simplest is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved. A use case diagram can identify the different types of users of a system and the different use cases and will often be accompanied by other types of diagrams as well. The use cases are represented by either circles or ellipses. Here is the Use Case Diagram of the website:

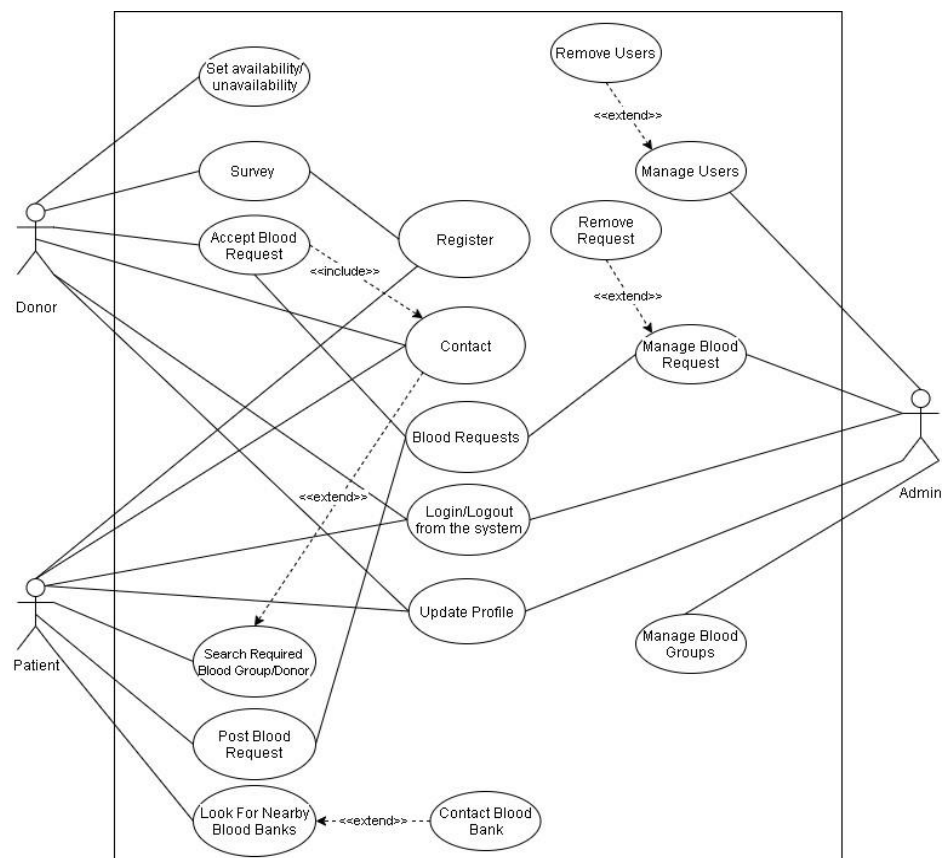


Fig: 3.1 Use Case Diagrams for “JEEVAN - Online Blood Donor Website”

## 1.2. ACTIVITY DIAGRAM

An activity diagram is a behavioural diagram i.e. it depicts the behaviour of a system. An activity diagram portrays the control flow from a start point to a finish point showing the various decision paths that exist while the activity is being executed.

Here are the Activity Diagrams of the website:

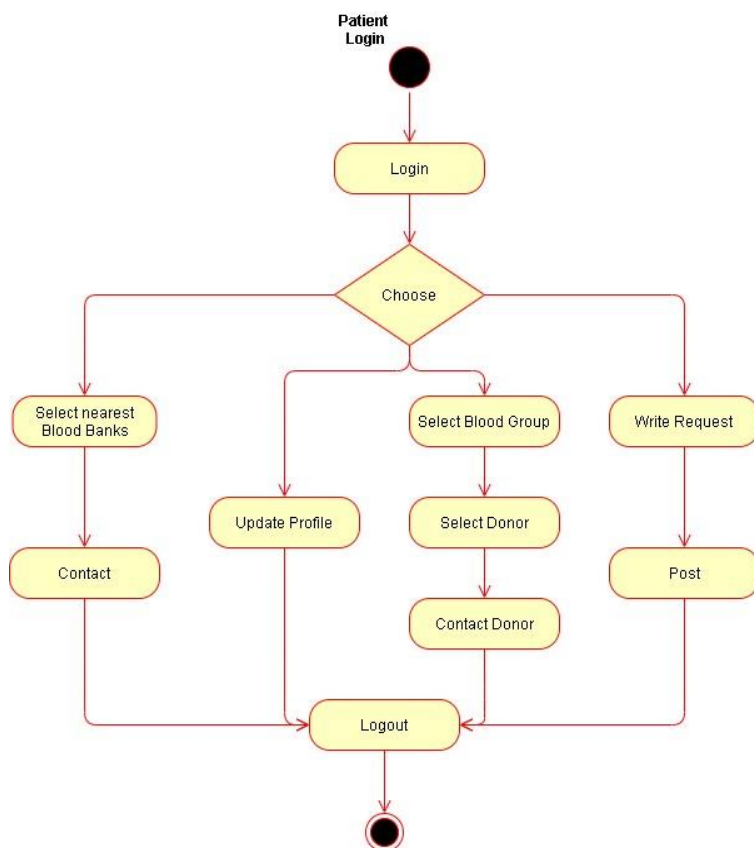


Fig: 3.2.1 Patient Login Activity Diagram

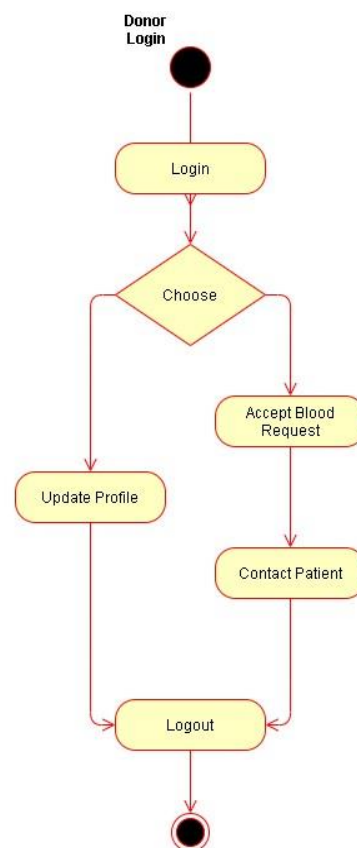


Fig: 3.2.2 Donor Login Activity

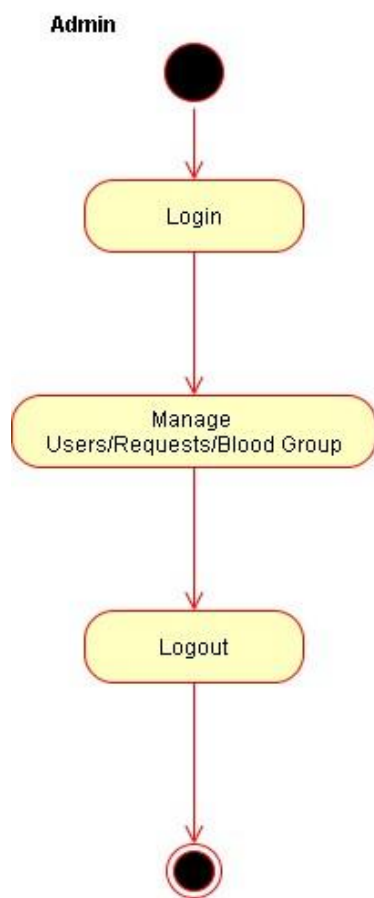


Fig: 3.2.3 Activity Diagram for Admin

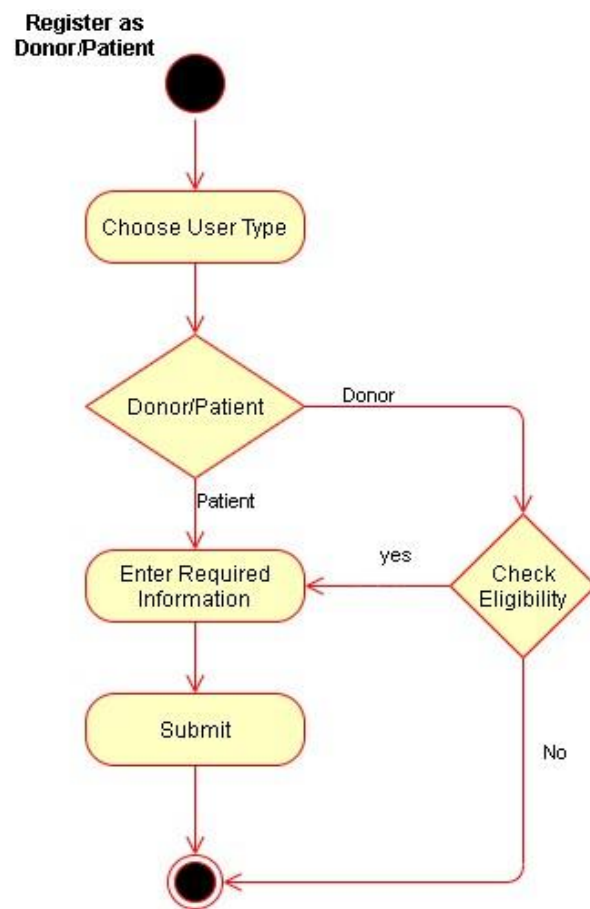


Fig: 3.2.4 Register as Donor or Patient Activity Diagram

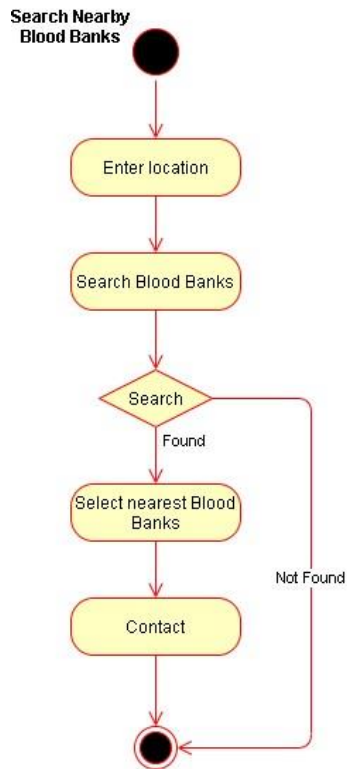


Fig: 3.2.5 Activity Diagram to for Nearby Blood Banks

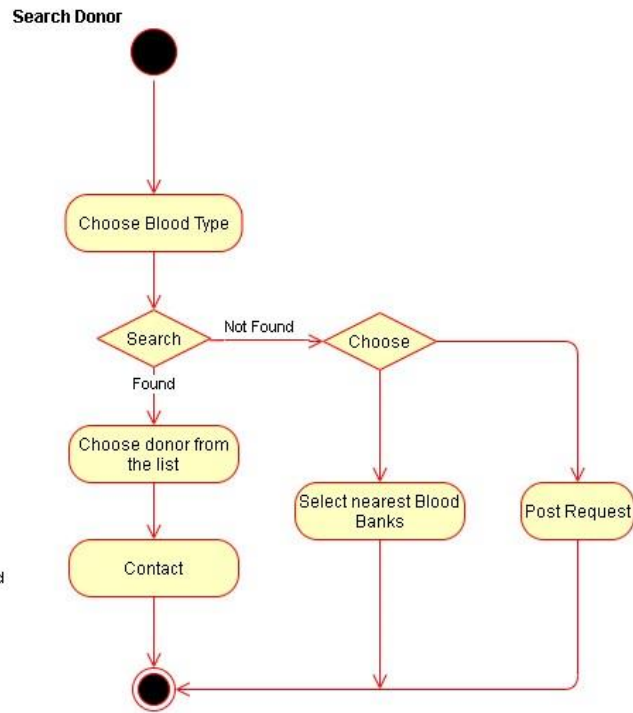


Fig: 3.2.6 Activity Diagram for Searching Donor

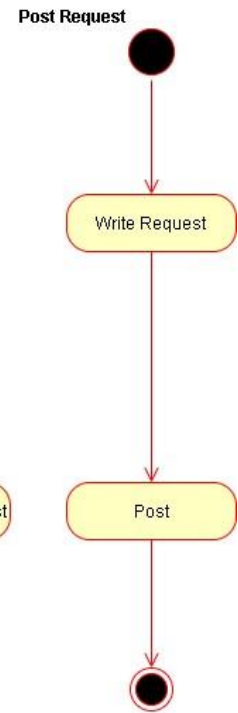


Fig: 3.2.7 Activity Diagram Search for Posting Blood Request



### 1.3. CLASS DIAGRAM

A class diagram is a type of diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among objects.

Here is the Class Diagram of the website:

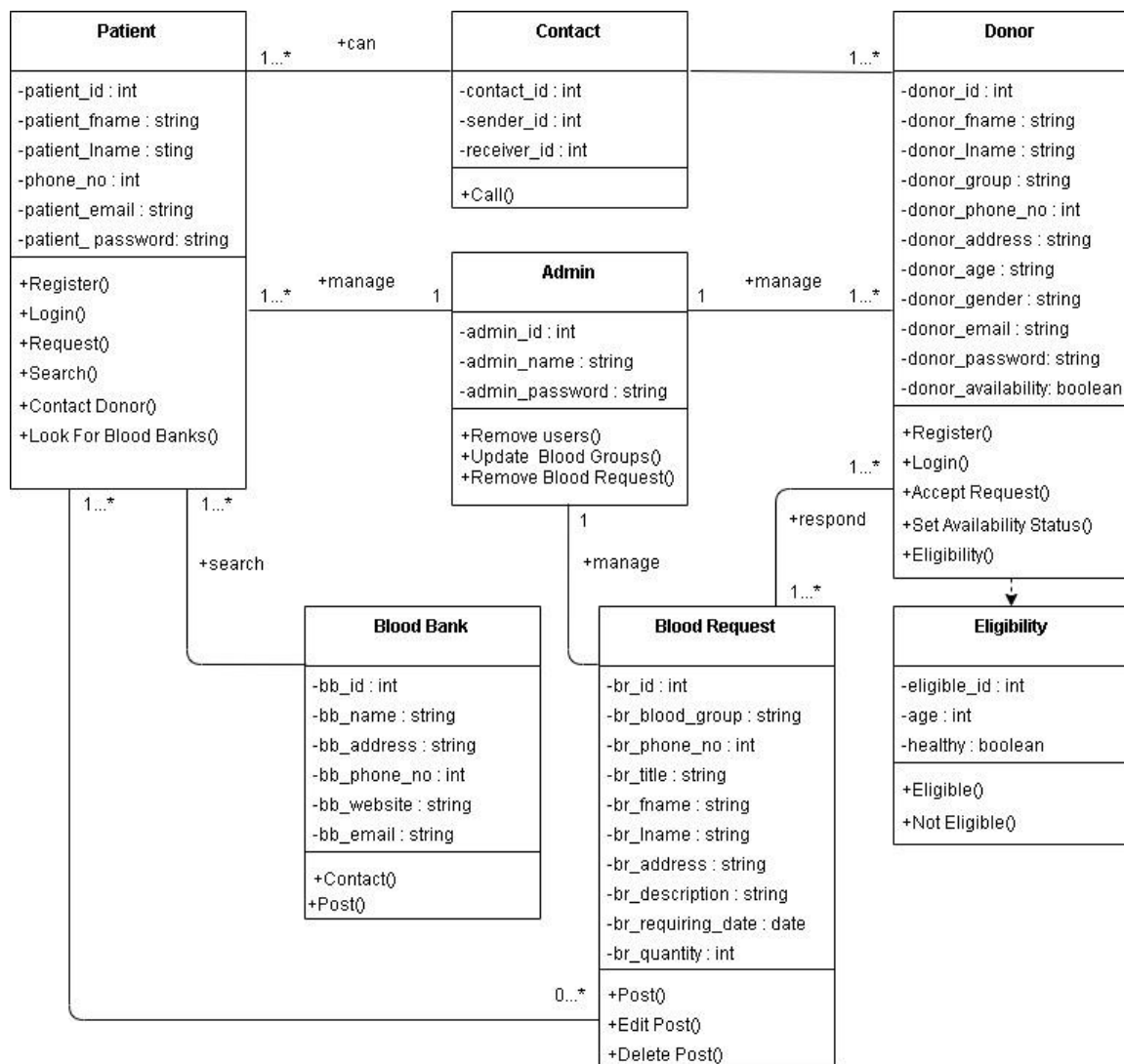


Fig: 3.3 Class Diagram for “JEEVAN - Online Blood Donor Website”

## **Chapter 4**

### **IMPLEMENTATION**

In our web application – JEEVAN – AN ONLINE BLOOD DONOR WEB APPLICATION we used HTML, CSS, JavaScript, Bootstrap, and Firebase. We used html to design the basic structure and elements of our website. Using html, we were able to design the basic functional features that our users will interact. By implementing a consistent style scheme across our website, we have tried to make it virtually appealing and interactive for the users. This was done with the help of bootstrap and CSS. Using popular fonts, suitable icons and appropriate colour scheme we have made the website more engaging by improving the user's experience. Our web application makes use of various programs written in JavaScript to provides the features added in our website to the users. Our JavaScript programs communicate with the firebase database on the backend to retrieve and store data as in when needed on request by the user.

#### **4.1. HOMEPAGE - JEEVAN AN ONLINE BLOOD DONOR WEB APPLICATION**

We have used html and CSS to design our web application as per the current trend of web development. Our homepage has a minimalistic design with simple iconography to not confuse the users and streamline their usage of the website. By leveraging bootstrap libraries, we have generated a simple navigation bar at the top of the website to help our users to move through the web application easily. From this homepage users can navigate to the most important feature of the website that is to choose the user type and register as a donor or as a patient.

**JEEVAN** Home Donor Patient About Us Login

The Gift of **BLOOD** is the gift of **Life.** [Donate Now](#)

**JEEVAN** CHOOSE USER TYPE Donor Patient About Us More

**Donate blood.**

**Why Should We Donate Blood?**

Safe blood saves lives and improves health. Blood transfusion is needed for:

- women with complications of pregnancy, such as ectopic pregnancies and haemorrhage before, during or after childbirth
- children with severe anaemia often resulting from malaria or malnutrition;
- people with severe trauma following man-made and natural disasters; and
- many complex medical and surgical procedures and cancer patients.

**Blood Compatibilities**

**YOU'RE SOMEBODY'S TYPE**

AB-

O+ A+ B+ AB+

O- A- B- AB-

**Donor's Blood Type**

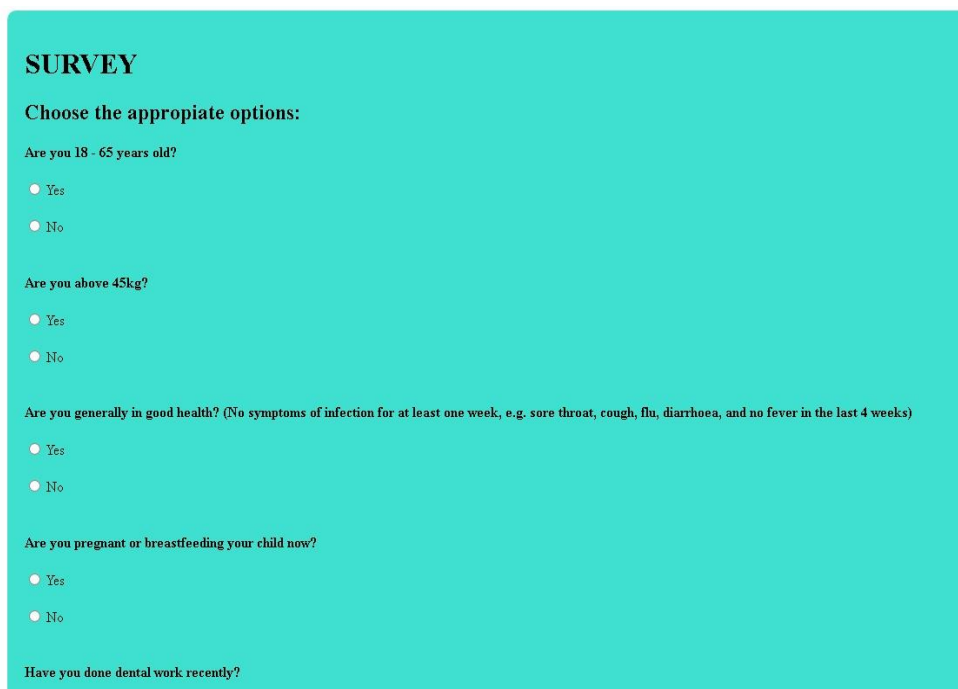
	O-	O+	B-	B+	A-	A+	AB-	AB+
AB+	✓	✓	✓	✓	✓	✓	✓	✓
AB-	✓	✓	✓	✓	✓	✓	✓	✓
A+	✓	✓			✓	✓		
A-	✓				✓			
B+	✓	✓	✓	✓				
B-	✓		✓					
O+	✓	✓						
O-	✓							

**Patient's Blood Type**

Fig 4.1 Homepage of “JEEVAN - Online Blood Donor Website”

## 4.2. SURVEY FORM - JEEVAN AN ONLINE BLOOD DONOR WEB APPLICATION

We used Simple html and CSS to create a survey form for donors taking some standard details from the WHO (World Health Organisation) guidelines for blood donation eligibility/suitability. This survey form utilises a JavaScript program to check the eligibility of prospective donors only if a donor is found eligible in accordance to the questions set on the basis of WHO guidelines for blood donation eligibility only then are they redirected to the donor registration form as seen in fig 4.3, if ineligible the users are redirected to the homepage with a pop up message as seen in fig 4.5. In fig 4.5 we can see the patient registration form where the patient can register or else, they can skip if there's an emergency.



The image shows a screenshot of a web-based survey form titled "SURVEY". The form is set against a light blue background with a subtle grid pattern. It contains five questions, each with two radio button options: "Yes" and "No". The questions are: "Are you 18 - 65 years old?", "Are you above 45kg?", "Are you generally in good health? (No symptoms of infection for at least one week, e.g. sore throat, cough, flu, diarrhoea, and no fever in the last 4 weeks)", "Are you pregnant or breastfeeding your child now?", and "Have you done dental work recently?". The form is styled with a clean, modern aesthetic using a sans-serif font.

**SURVEY**

Choose the appropriate options:

Are you 18 - 65 years old?

☐ Yes

☐ No

Are you above 45kg?

☐ Yes

☐ No

Are you generally in good health? (No symptoms of infection for at least one week, e.g. sore throat, cough, flu, diarrhoea, and no fever in the last 4 weeks)

☐ Yes

☐ No

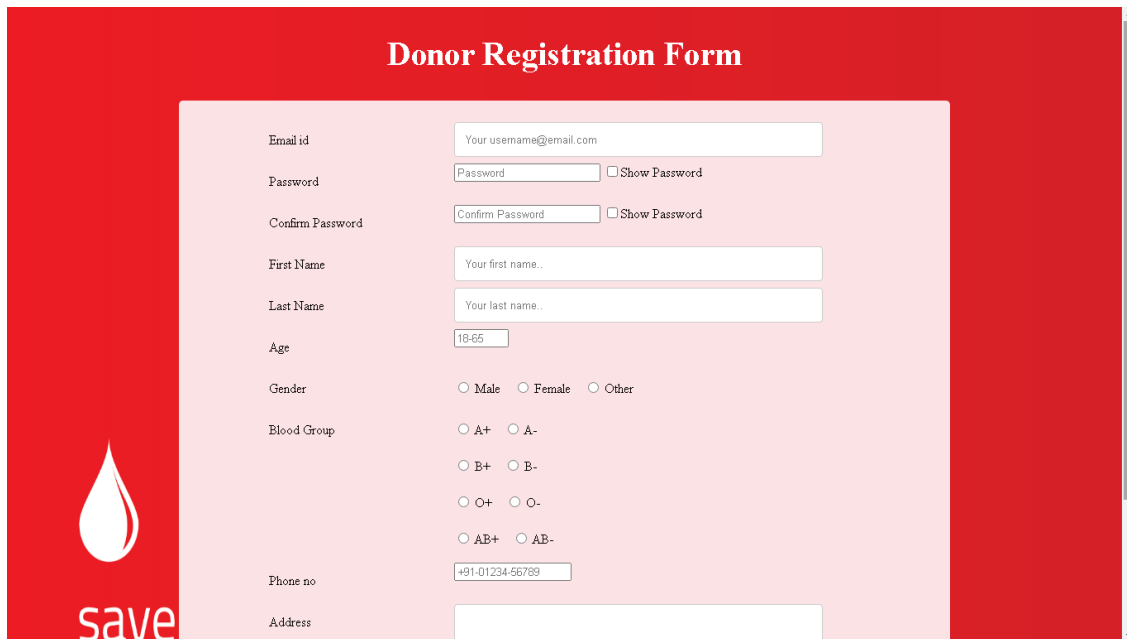
Are you pregnant or breastfeeding your child now?

☐ Yes

☐ No

Have you done dental work recently?

Fig.4.2 Survey form of “JEEVAN - Online Blood Donor Website”



**Donor Registration Form**

Email id:

Password:  ☐ Show Password

Confirm Password:  ☐ Show Password

First Name:

Last Name:

Age:

Gender: ☐ Male ☐ Female ☐ Other

Blood Group: ☐ A+ ☐ A- ☐ B+ ☐ B- ☐ O+ ☐ O- ☐ AB+ ☐ AB-

Phone no:

Address:


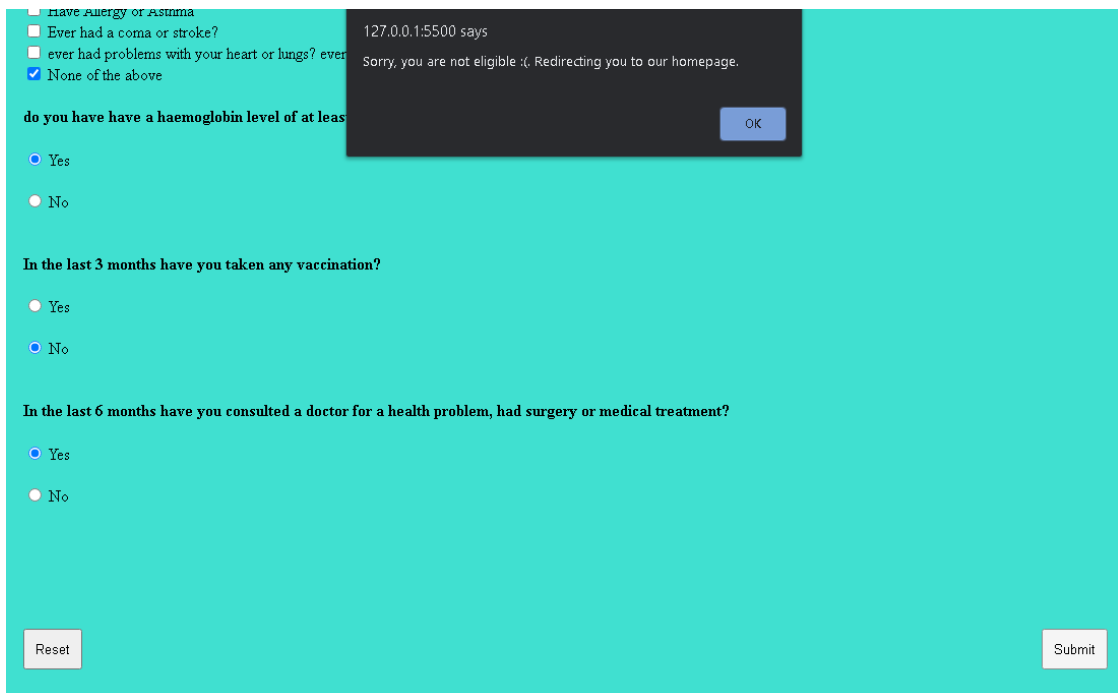
 **save**

Fig.4.3 Donor Register form of “JEEVAN - Online Blood Donor Website”



☐ Have Allergy or Asthma

☐ Ever had a coma or stroke?

☐ ever had problems with your heart or lungs? ever

☒ None of the above

do you have have a haemoglobin level of at least

☒ Yes

☐ No

In the last 3 months have you taken any vaccination?

☐ Yes

☒ No

In the last 6 months have you consulted a doctor for a health problem, had surgery or medical treatment?

☒ Yes


☐ No

Reset Submit

127.0.0.1:5500 says  
Sorry, you are not eligible :( Redirecting you to our homepage.  
OK

Fig.4.4 Ineligible for donor registration “JEEVAN - Online Blood Donor Website”

**Patient Registration Form**



save lives.  
donate blood.

Email id	<input type="text" value="Your username@email.com"/>
Password	<input type="password" value="Password"/> <input type="checkbox"/> Show Password
Confirm Password	<input type="password" value="Confirm Password"/> <input type="checkbox"/> Show Password
First Name	<input type="text" value="Your first name.."/>
Last Name	<input type="text" value="Your last name.."/>
Phone no	<input type="text" value="+91-01234-56789"/>

[SKIP>>>](#)

Fig.4.5 Patient Register form of “JEEVAN - Online Blood Donor Website”

### 4.3. CHOOSE BLOOD CATEGORY - JEEVAN AN ONLINE BLOOD DONOR WEB APPLICATION

In fig 4.6 on choosing any one of the blood categories the patient/user is redirected to a different html page containing the donors list that match the chosen blood type.

On clicking the post blood request button located in the same page users are navigated to the form as seen in fig 4.8 after filling and submitting the form their blood request will be posted and users can see that request on the view blood request option located in the home page.

On clicking the look for nearby blood banks button users are then navigated to a webpage which uses Google Map API to show the location of the nearest blood banks and their contact information currently this feature covers only the city of Guwahati but this feature can be scaled up as needed.

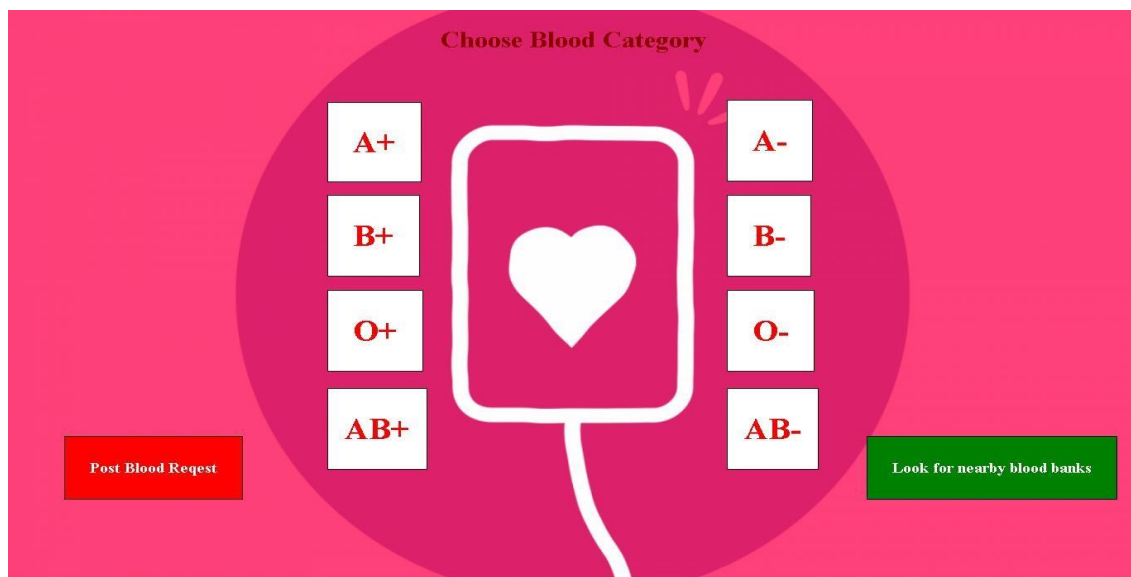


Fig.4.6 Blood Categories page of “JEEVAN - Online Blood Donor Website”

## Donors List

Filter By: Availability: <input type="text"/> Gender: <input type="text"/> Locality: <input type="text"/>	
Vargab Das 20 Male Ganeshguri	70026-12064 Available
Zimzee Das 20 Female Silpukhuri	88654-32455 Unavailable
Ramesh Varma 22 Male Hatigaon	88654-32455 Available
David Bora 21 Male	70025-41405

Fig.4.7 List of Donors page of “JEEVAN - Online Blood Donor Website”

## Donors List

Filter By: Availability: <input type="text"/> Gender: <input type="text"/> Locality: <input type="text"/>	
Vargab Das 20 Male Ganeshguri	70026-12064 Available
Ramesh Varma 22 Male Hatigaon	88654-32455 Available
David Bora 21 Male Maligaon	70025-41405 Available
Deempi Nath 20 Female Beltola	70026-12024 Available

Fig.4.8 Filter Donors By Available



## Donors List

Filter By: Availability:  Gender:  Locality: Maligaon

David Bora 21 Male Maligaon	70025-41405 Available
Dimpu baruah 20 Male Maligaon	70026-12024 Unavailable
Neem Das 20 Female Maligaon	88654-32455 Unavailable

Fig.4.9 Filter Donors by Locality

## Post Blood Request



save

Title	<input style="width: 90%;" type="text" value="Your title.."/>
First Name	<input style="width: 90%;" type="text" value="Your first name.."/>
Last Name	<input style="width: 90%;" type="text" value="Your last name.."/>
Blood Group	<input type="radio"/> A+ <input type="radio"/> A- <input type="radio"/> B+ <input type="radio"/> B- <input type="radio"/> O+ <input type="radio"/> O- <input type="radio"/> AB+ <input type="radio"/> AB-
Blood Quantity	<input style="width: 80%;" type="text" value="Select"/>
Requiring Date	<input style="width: 80%;" type="text" value="dd-mm-yyyy"/> <input style="width: 20px;" type="button" value=""/>
Phone no	<input style="width: 80%;" type="text" value="1234-5678"/>
Address	<input style="width: 90%;" type="text" value="Address..."/>
Description	<input style="width: 90%;" type="text" value="Description..."/>

Fig.4.10 Post Blood Request page of “JEEVAN - Online Blood Donor Website”

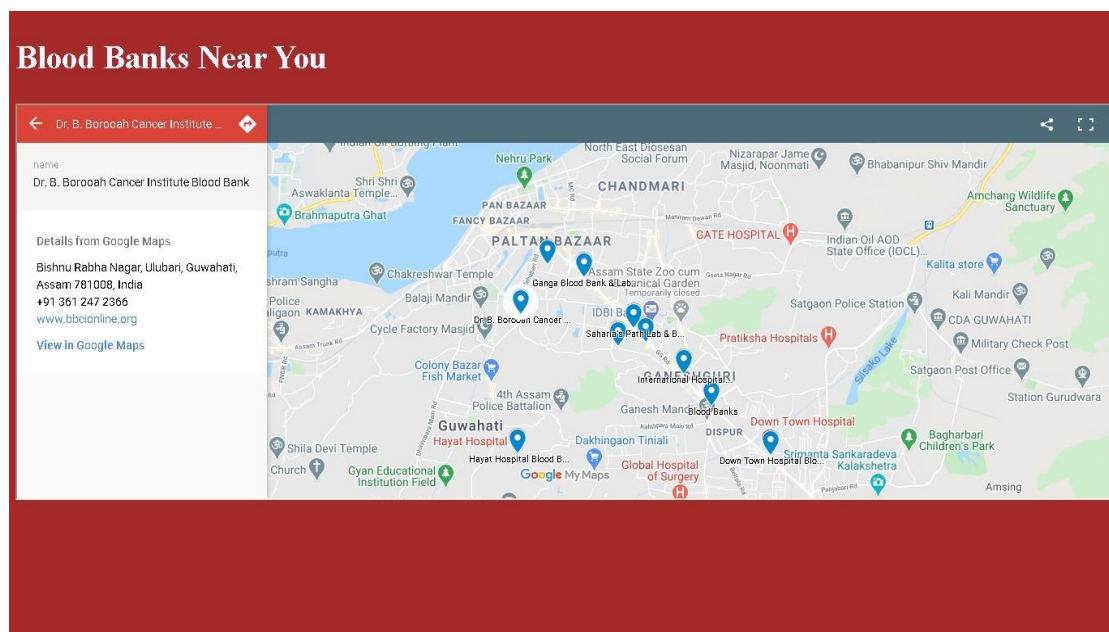


Fig.4.11. Finding nearest blood bank (MAP)

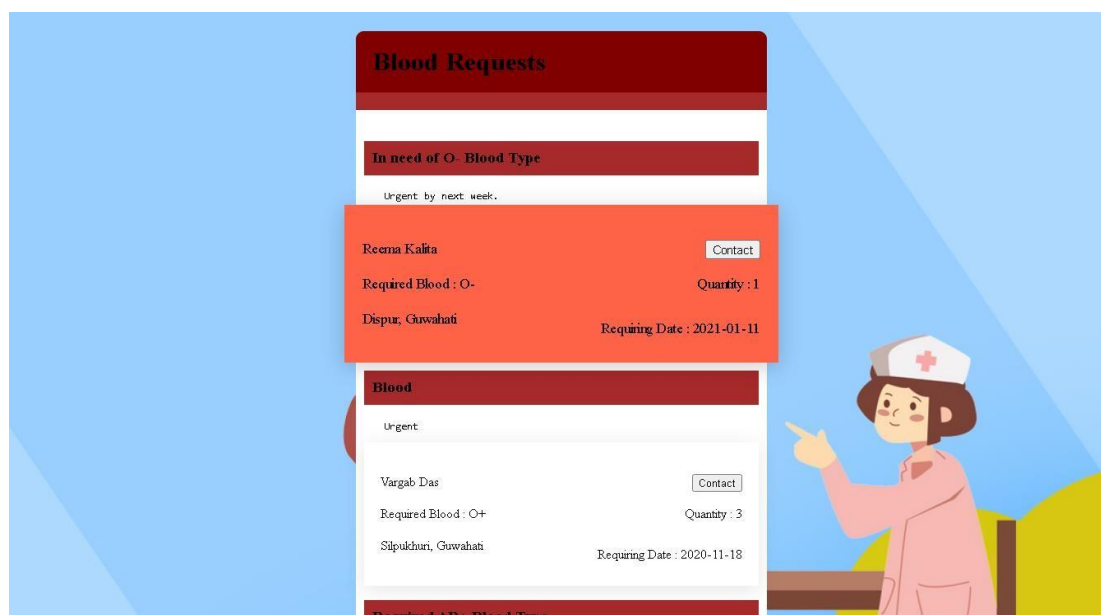


Fig.4.12. Blood Requests display page of “JEEVAN - Online Blood Donor Website”

#### 4.4. LOGIN PAGE - JEEVAN AN ONLINE BLOOD DONOR WEB APPLICATION

The Login Page utilises Html, CSS, JavaScript and Bootstrap to allow users (Donor, Patient, and Admin) to login and go to their profile page .They can simply login using their email id and password. When a donor or a patient logs into the system their profile is opened containing their provided information at the time of registration and when an admin logs into the system he can monitor the donor, patient and can manage blood request .The data for the user's profile are retrieved by a JavaScript from the firebase database on the clicking of the login button.

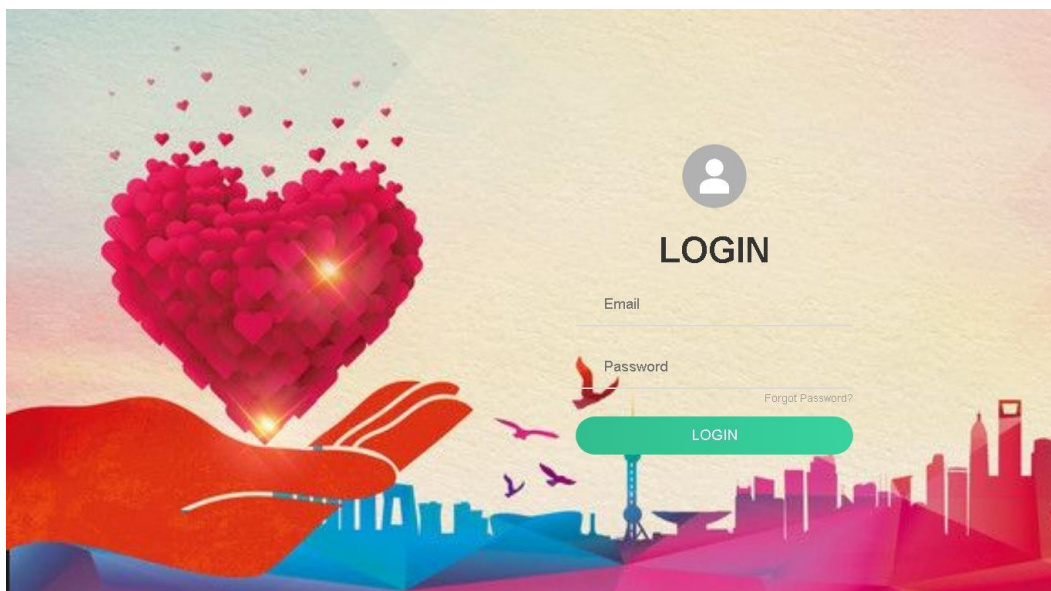


Fig.4.13 Donor/Patient/Admin Log In page of “JEEVAN - Online Blood Donor Website”

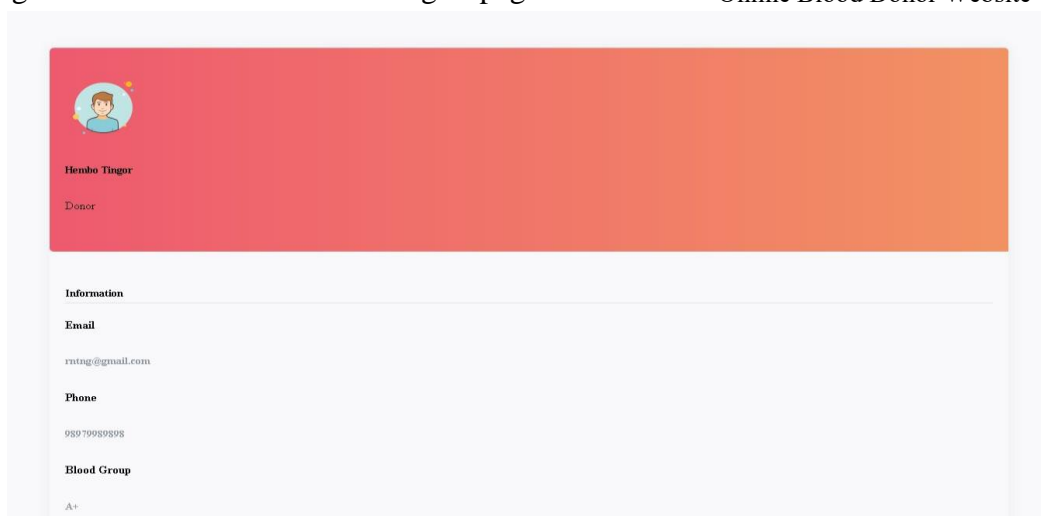


Fig.4.14 Profiles of donor & patients of “JEEVAN - Online Blood Donor Website”

WELCOME ADMIN	
DONORS	PATIENTS
Vargab Das 21 Male A+ 70026-12064	Theboo Poo +91-70025-41405 x
Nivee Das 20 Female A+ 70026-12064 Guwahati	Nivee Das 70025-41405 x
Vargab Das 21 Male	Pranab Das +91-79887-76756 x

Fig.4.15 Admin monitoring donors and patients

BLOOD REQUESTS
Reema Kalita 1 In need of O- Blood Type O- 70025-41405 Dispur, Guwahati 2021-01-11 Urgent by next week.
Vargab Das 3 Blood O+ 70026-12064 Silpukhuri, Guwahati 2020-11-18 Urgent
Nikita Das 2 Required AB+ Blood Type AB+ 70026-12064 House no. 23 , Indira Gandhi Path , Santipur Hill side 2021-01-05 Urgent

Fig.4.16. Admin monitoring blood requests.

## 4.5. VALIDATION

Validation check ensures data consistency and correctness in the system.

The figure displays three sequential screenshots of a 'Donor Registration Form' to illustrate validation checks. The form is set against a red background.

- Top Screenshot:** Shows initial input with errors. The 'Email id' field contains 'user'. The 'Password' and 'Confirm Password' fields contain masked text '\*\*\*\*\*'. A yellow error message box is present: 'Please match the requested format. Must contain username and email address. Eg. (example@example.com)'. The 'First Name' and 'Last Name' fields contain 'User'. The 'Age' field contains '18'. The 'Gender' field has 'Male' selected. The 'Blood Group' field has 'A-' selected. The 'Phone no' field contains '+91-89483-79038'.
- Middle Screenshot:** Shows the password validation step. The 'Email id' field now contains 'user@gmail.com'. The 'Password' field has a yellow error message box: 'Please match the requested format. Must contain at least one number and one uppercase and lowercase letter, and at least 6 or more characters'. Below this, a list of requirements is shown: 'A lowercase letter', 'A capital (uppercase) letter', 'A number', and 'Minimum 6 characters'. The 'Confirm Password' field also has a yellow error message box. Other fields remain the same.
- Bottom Screenshot:** Shows the final state with the 'Address' field. The 'First Name', 'Last Name', 'Age', 'Gender', 'Blood Group', 'Phone no', and 'Availability' (checked 'Available') fields are filled. The 'Address' field contains a placeholder and a green checkmark icon. A 'Reset' button is at the bottom left, and a 'Submit' button is at the bottom right.

Fig 4.17 Donor Registration Validation

**Patient Registration Form**

Email id:

Password:  ☐ Show Password

Confirm Password:  ☐ Show Password

First Name:

Last Name:

Phone no:

[SKIP>>>](#)

**save lives.  
donate blood.**

---

**Patient Registration Form**

Email id:

Password:  ☐ Show Password

**Password must contain the following:**

- ✓ A lowercase letter
- ✗ A capital (uppercase) letter
- ✗ A number
- ✗ Minimum 6 characters

Confirm Password:  ☐ Show Password

First Name:

Last Name:

[SKIP>>>](#)

**save lives.  
donate blood.**

---

**Patient Registration Form**

Email id:

Password:  ☐ Show Password

Confirm Password:  ☐ Show Password

First Name:

Last Name:

Phone no:

**Please match the requested format.**  
Must start with '+91' and contain two '-' Eg. (+91-70025-79878)

[SKIP>>>](#)

**save lives.  
donate blood.**

Fig 4.18 Patient Registration Validation

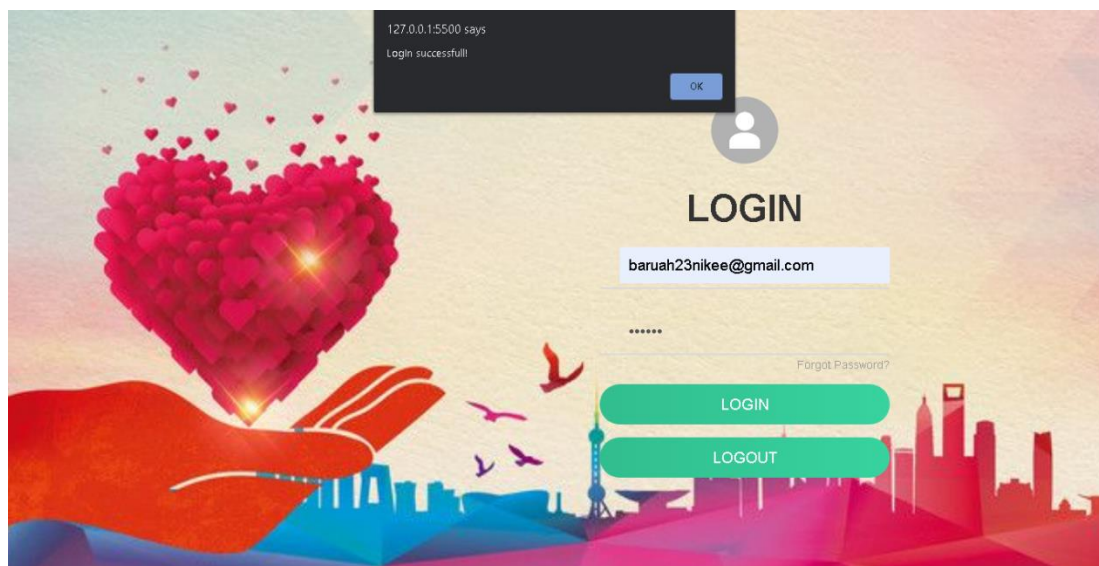
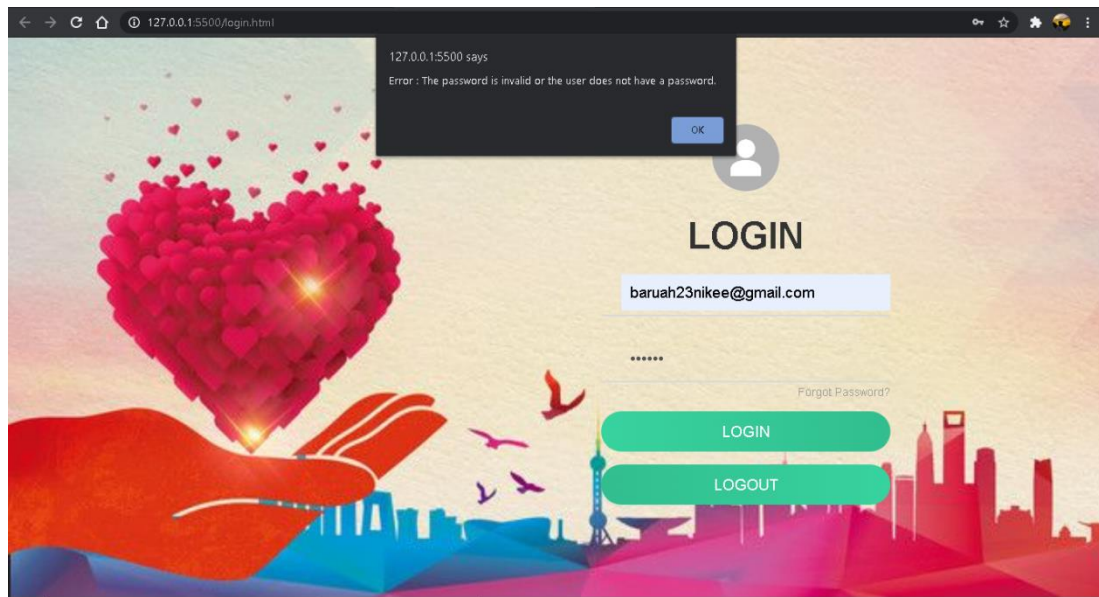


Fig 4.19 Log-in Page Validation

4.6. Below figures shows what our website looks in mobile view.

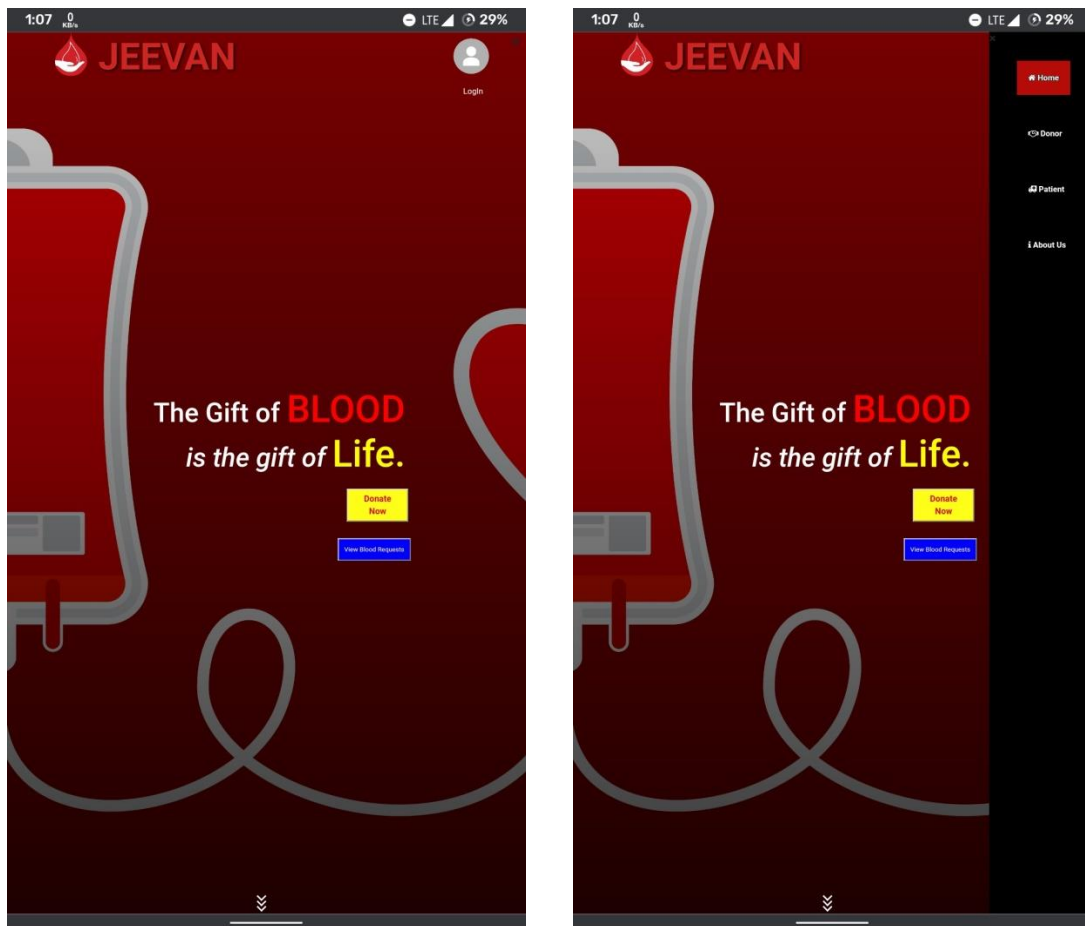
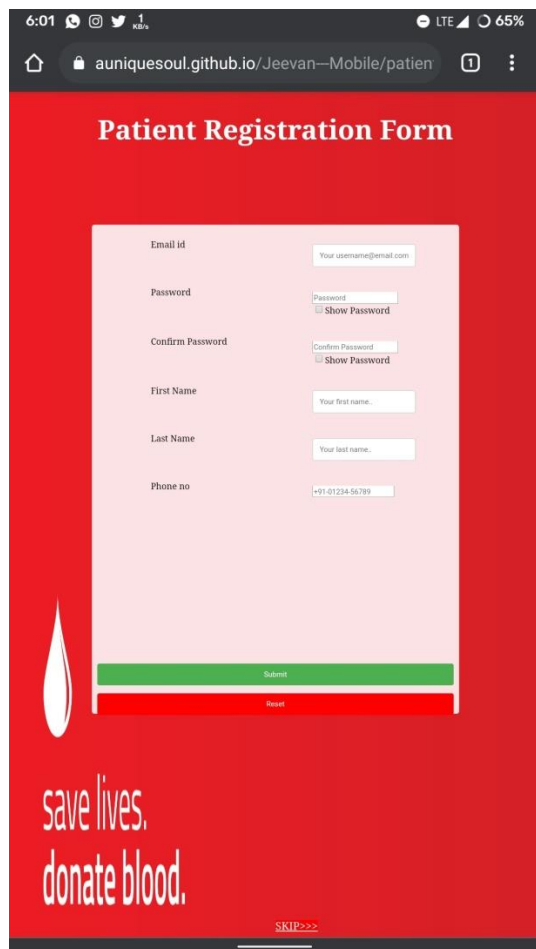


Fig 4.20 Homepage Mobile View





6:01 1 KB/s LTE 65%

auniquesoul.github.io/Jeevan-Mobile/patien

## Patient Registration Form

Email id


Password  [Show Password](#)

Confirm Password  [Show Password](#)

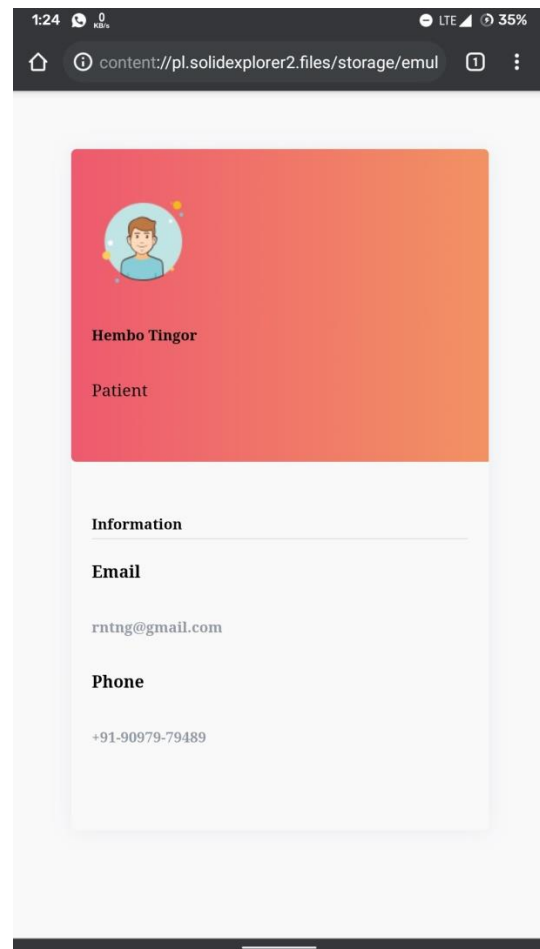
First Name

Last Name

Phone no


 save lives.  
donate blood.

[SKIP>>>](#)



1:24 0 KB/s LTE 35%

content://pl.solidexplorer2.files/storage/emul



**Hembo Tingor**  
Patient

**Information**

**Email**

rntng@gmail.com

**Phone**

+91-90979-79489

Fig 4.21 Donor Registration Mobile View

Fig 4.22 User Profile Mobile View

## **Chapter 5**

### **CONCLUSION**

#### **5.1. SUMMARY**

As our project aims in helping and connecting the patients who are in need of blood and people who are willing to donate blood.

This project will provide a web application that will make:

1. Blood donation/receiving process easier.
2. Easier to Find a Donor of the required blood type just by simple searches.
3. Easier in making contact and staying connected with the donors via the contact information provided.

#### **5.2. Future Scope**

Our future work would be to:

- i) Integrate this blood donor Web Application with hospitals & Blood Banks.
- ii) Enable direct communication between Donor and Blood Banks.
- iii) Adding the feature of filtering location to find nearest Blood Banks.
- iv) Improvement in the security level of the system.

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[https://www.who.int/bloodsafety/publications/guide\\_selection\\_assessing\\_suitability.pdf](https://www.who.int/bloodsafety/publications/guide_selection_assessing_suitability.pdf)