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**Project Report**  
on  
**Development of Blood Bank (User Module)**

A project report submitted in partial fulfilment of the requirement for the degree of

**MASTER IN COMPUTER APPLICATION**

in

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by:**

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**  
MADHAV INSTITUTE OF TECHNOLOGY AND SCIENCE  
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Date: 22-April-2024

*To whom so ever it may concern*

This is to certify that Mr./Mrs./Miss. PRIYANKA SHARMA (0901CA221047) student of MCA at MITS, Gwalior, has completed Project Training/Internship program as an online/offline trainee at our organization PRAEDICO GLOBAL RESEARCH PVT. LTD. His/Her training details are:

Period - 01 JAN 2024 to 22 APR 2024

Technology – MERN Full Stack

Project Title – BLOOD BANK SYSTEM (USER MODULE)

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**CERTIFICATE**

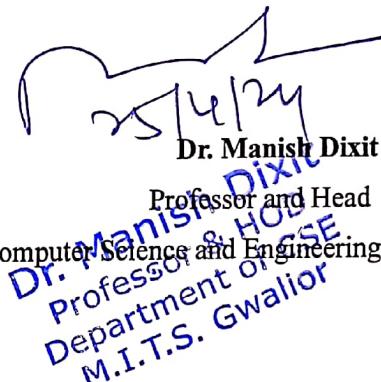
This is certified that **Priyanka Sharma (0901CA221047)** has submitted the project report titled **Blood Bank (User Module)** under the mentorship of **Mrs. Sweety Gupta (Praedico global research Pvt. Ltd)** in partial fulfilment of the requirement for the award of degree of **Master in Computer Application** in Computer Science and Engineering from **Madhav Institute of the Technology and Science, Gwalior.**



**Dr. Anshu Chaturvedi**

Faculty Coordinator and professor

Dept. of Computer Science and Engineering



25/4/24

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Professor and Head  
Dept. of Computer Science and Engineering  
Dr. Manish Dixit  
Professor & HOD  
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**DECLARATION**

I hereby declare that the work being presented in the project report, for the partial fulfilment of requirement for the award of the degree of Master in Computer Application in Computer Science and Engineering at **Madhav Institute of Technology and Science, Gwalior** is authenticated and original record of my work under the mentorship of **Mrs. Sweety Gupta, Praedico Global Research Pvt. Ltd**

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.

  
Priyanka Sharma  
0901CA221047  
2022-2024

Master in Computer Application  
Computer Science and Engineering

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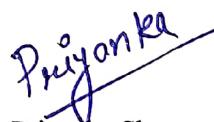
**ACKNOWLEDGEMENT**

The full semester project has proved to be pivotal to my career. I am very thankful to my institute, **Madhav Institute of Technology and Science** to allow me to continue my disciplinary project. I extend to my gratitude to the Director of the institute, **Dr. R.K. Pandit** and Dean Academics, **Dr. Manjaree Pandit** for this.

I would sincerely like to thank my department, **Department of Computer Science and Engineering** for allowing me to explore this project. I humbly thank **Dr. Manish Dixit**, Professor and Head, Department of Computer Science and Engineering, for this continued support during the course of this engagement, which eased the process and formalities involved.

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Priyanka Sharma

0901CA221047

2022-24

Master in Computer Application  
Computer Science and Engineering

## ABSTRACT

Blood is the fluid that provides body cells with essential ingredients like nutrients and oxygen. Blood bank is the place where blood is stored and transfuse when there is need of blood. Also, the knowledge about blood type is mentioned so that when the seeker needs the blood can know about the blood type present in the blood bank. The information about the blood type of seeker also needs to be determined for help in transfusion of blood. Sometime seeker is not able to get blood at right time due to the lack of knowledge or network, in such case the blood banks provide the proper detailed details about the blood present in bank which helps the seeker in getting the blood from bank.

Blood bank is the website which contains information about blood stock present in the bank. It contains the personal information about donors and donors can also change the personal information when he/she wants to change. The seeker can look for the blood. The seeker requests the blood type they needed.

User can access information about the blood type and details of blood donations on the website. If the user wants to request for the blood or to donate, they need to register. After registration user needed to login and proceed further. The user can update the profile also, the date of donation is appointed to the user.

All the information related to the blood donor and the blood type presents in the bank is maintained in efficient manner by the blood bank system. It also contains the information about the camps organised by the organization in the future and the camps which are already organised in the past. It also manages the request for the blood. The need of blood is managing in the system.

The main purpose of the project is to help the people who are in the need of the bloods. The number of the people who are in the need of the blood is increasing day by day. The blood donation provides the life to the people who are in the need of the blood

## सार

रक्त वह तरल पदार्थ है जो शरीर की कोशिका जैसे पोषक तत्वों और ऑक्सीजन को आवश्यक पदार्थ पहुंचाता है। ब्लड बैंक वह जगह है जहां रक्त की आवश्यकता होने पर रक्त संग्रहीत और चढ़ाया जाता है। साथ ही ब्लड ग्रुप के बारे में जानकारी का उल्लेख किया जाता है ताकि साधक को जब रक्त की आवश्यकता हो तो ब्लड बैंक में मौजूद ब्लड ग्रुप के बारे में जान सके। रक्त के आधान में मदद के लिए साधक के रक्त प्रकार के बारे में जानकारी भी निर्धारित करने की आवश्यकता है। कभी-कभी ज्ञान या नेटवर्क की कमी के कारण साधक को सही समय पर उचित मात्रा में रक्त प्राप्त नहीं हो पाता है, ऐसे मामले में रक्त बैंक दाताओं और बैंक में मौजूद रक्त के बारे में उचित विस्तृत जानकारी प्रदान करते हैं जो बैंक से रक्त प्राप्त करने में साधक की सहायता करता है।

ब्लड बैंक वह वेबसाइट है जो बैंक में मौजूद रक्त के स्टॉक के बारे में जानकारी प्रदान करती है। इसमें दाताओं के बारे में व्यक्तिगत जानकारी होती है और दाता व्यक्तिगत जानकारी को बदल सकते हैं जब वह बदलना चाहता है। साधक रक्त की खोज कर सकता है। साधक उस रक्त प्रकार के लिए अनुरोध करता है जिसकी उसे आवश्यकता होती है।

उपयोगकर्ता वेबसाइट पर जाता है और रक्त के प्रकार और रक्तदान तथ्यों के बारे में जानकारी प्राप्त कर सकता है और यदि उपयोगकर्ता रक्त के लिए अनुरोध करना चाहता है या दान करना चाहता है तो उसे पंजीकरण करने और पासवर्ड बनाने की आवश्यकता है। पंजीकरण के बाद उपयोगकर्ता को लॉगिन करने और आगे बढ़ने की आवश्यकता है। उपयोगकर्ता प्रोफ़ाइल को भी अपडेट कर सकता है, उपयोगकर्ता को दान की तारीख नियुक्त की जाती है।

परियोजना रक्त दाताओं से संबंधित सभी जानकारी, रक्त बैंक में उपलब्ध विभिन्न रक्त समूहों को बनाए रखती है और बेहतर तरीके से प्रबंधन करती है। इसमें भविष्य में संगठन द्वारा आयोजित शिविरों और उन शिविरों के बारे में जानकारी भी शामिल है जो पहले से ही आयोजित किए जा चुके हैं। यह रक्त के अनुरोध का प्रबंधन भी करता है। रक्त की आवश्यकता प्रणाली में प्रबंधन कर रही है। परियोजना का मुख्य उद्देश्य उन लोगों की मदद करना है जिन्हें रक्त की आवश्यकता है। रक्त की आवश्यकता वाले लोगों की संख्या दिन-प्रतिदिन बढ़ती जा रही है। रक्तदान उन लोगों को जीवन प्रदान करता है जिन्हें रक्त की आवश्यकता होती है।

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# **CHAPTER: 1**

# **INTRODUCTION**

## CHAPTER 1: INTRODUCTION

Blood bank is the place where the blood that has been donated is stored and preserved for use in blood transfusion. Blood Bank are often referred to as hospital sections where blood is stored and proper testing is done to reduce the risk of adverse transfusion outcomes. But it also refers as collection center. Few organizations in the medical field are as important as blood banks in terms of providing life-saving assistance. The blood bank is a source of hope, a centre for kindness, and a meeting place for relationships that may change lives. Blood Bank has a strong dedication to helping people and saving lives, it is pleased to introduce its web portal, which integrates the ease of modern technology with the generous act of giving blood. It not only makes blood donations easier, but it also acts as a resource for information about blood.

The Blood Bank Website stands at the forefront of a transformative approach to blood donation management, combining cutting-edge technology and user-centric design to address the critical need for efficient blood supply systems. With the ever-growing demand for blood transfusions, there is an increasing imperative to streamline the donation process, connect donors with recipients seamlessly, and empower administrators with powerful tools for effective resource management. The MERN stack, comprising MongoDB, Express.js, React.js, and Node.js, serves as the technological backbone of this innovative platform. This stack is chosen for its ability to provide a scalable, responsive, and dynamic web application that can handle the complexities of blood donation management with agility. The primary objective of the Blood Bank Website is to bridge the gap between blood donors and recipients, leveraging the power of real time data processing and intuitive user interfaces. The Advanced features such as donor registration, blood type matching, analytics functionality, and a robust notification system.

The website blood bank collects the details about the donors and blood seekers. Blood Bank stored the individual information and history of donation of the donors. It helps the blood seekers to search for the blood of their blood group. It also contains detail of the blood seekers. The detail of the seeker helps in finding the blood type they needed.

As we know each and every drop of blood is precious and each donor is hero to the blood seeker. In this website the donors can create their profile, request for donation, and the date of donation is appointed the donor. The blood seeker can also find the donor and ask donor for blood. Our purpose is to make the blood donation and search process easier.

Blood bank offers an aspect of hope to those in need of blood transfusions right away. Hospitals and other healthcare facilities can track available units in real-time, request specific blood types, and quickly transfuse

blood to patients in critical condition by using an effective and safe method. Giving the gift of life is as simple as a few clicks with Blood Bank.

### 1.1 Problem Identification

Blood is the essential component with provides the necessary substance to the body cell. By providing a safe and sufficient supply of blood, Blood Bank are important for the healthcare system. There are still various issues in blood bank that must be solved in order to operate effectively and provide better patient care. The increasing need for sufficient blood supply to meet demand is a major problem. Blood Bank resources mostly strained by emergency, surgeries, and seasonal fluctuation. To maintain inventory levels, a steady donation flow become essential. Because blood products have a short shelf life, their careful tracking and rotation are necessary to avoid expiry waste.

### 1.2 Parent Organization

The stock market intelligence financial neurons were created by Praedico Global Research Pvt. Ltd. We are the first finance neuron developer in India who are making accurate global stock market performance predictions with their uniquely designed neural networks. We are contemporary Fintech company that believes in using AI to discover new research products in finance. We believe in providing high-quality, world-class research to people all over India. Our products predict Indian Stock Market and financial products with an accuracy of over 80%. Praedico will be responsible for advisory and research fees, for which average Indian investors spend between 40,000 and 50,000 rupees.

Praedico Global Research (Pvt) Ltd. Is the first “integrated global research cum training” organization in India. It will work on the global spread of “financial literacy” model and has a unique research model for India and global stock exchanges. Praedico Global Research Pvt. Ltd. Is proud of developing its own unique investment strategies and educating its staff on how to utilize them. Praedico Global Research Pvt. Ltd. Offers financial workshops and training on a wide range of financial products around world.

**Our Vision-** Our goal is to be the global leader in reducing financial disparities by providing financial assistance to those who do not have sufficient funds so that they can obtain costly financial products.

**Our Mission-** To be leader in financial products development. In comparison to other financial products on the market, these products should have the best performance and the lowest fees.

### 1.3 Hardware and Software Specification

#### Hardware specification:

- CPU: Intel core i3 or higher or equivalent.
- Network: 1 Gbps Ethernet or higher.
- Processor: 64-bit processor with at least 1.4 GHz or higher.
- RAM: 4 GB or more.
- Hard Drive Space: A minimum of 1 GB available to use.

#### Software Specification:

- Frontend-ReactJS: -

For frontend design we have decided to use ReactJS because: -

- i. A Free and open-source frontend JavaScript library called ReactJS is used to create user interface using UI component.
- ii. React's Virtual DOM improves the user experience and speed up developer work.
- iii. Permit to reduce React Component significantly save times.
- iv. One-way data flow in ReactJS ensures consistent code.
- v. A community accessible and continuously evolving open-source Facebook library.
- vi. Redux: a helpful state container.
- vii. React Hooks: an enhanced method of state management.

- Backend-NodeJS: -

For Backend design we have decided to use NodeJS because: -

- i. NodeJS is an open source, cross-platform backend runtime environment for JavaScript that does not require a web browser to function. It operates on the V8 engine.
- ii. Node.js provides simple Scalability.
- iii. Simple to understand.
- iv. The single programming language utilized is Node.js.
- v. The advantages of Full stack JS.
- vi. Recognized for providing High Performance.

vii. The support of big and engaged Community.

- **Database-MONGODB: -**

MongoDB is one type NoSQL database application, a cross platform document-oriented database that employs JSON-like documents with optional schemas. Also: -

- i. Adaptable Database.
- ii. Quick Speed.
- iii. Excellent Availability.
- iv. Scalability.
- v. Easy configuration of environment
- vi. Entire technical support.

- **Framework-ExpressJS: -**

A NodeJS backend web application framework, ExpressJS is made available as free and open-source software under the MIT licence. It is made for APIs and web applications. It is known as the NodeJS standard server framework for faults. Also: -

- i. Rapidly expand our application.
- ii. It is easy to learn JavaScript.
- iii. The frontend can be coded in the same language.
- iv. Lower maintenance code for developer.
- v. Google V8 engine SUPPORT.
- vi. Public assistance.
- vii. Approved Caching.

# CHAPTER: 2

## SYSTEM ANALYSIS

## **CHAPTER 2: SYSTEM ANALYSIS**

### **2.1 Problem Analysis**

The project blood bank is efficient for user to easily donate the blood and request for the blood. This system is user friendly, as the user can easily access the information related to the blood type and the blood available in the bank. The blood bank organised the camps for awareness of donation, the details related to the camps is mentioned in the system. User can easily access the details related to the camps when and where camp is organizing so that they can join the camps. The blood bank is the social app helps in creating awareness for the youth related to donation. User can also see the blood stock present in the blood bank which helps the user. The user can register easily for donation without any guidance as the system developed is user friendly. The blood products have limited shelf lives, thus it is important to keep them stored properly to ensure their effectiveness. Blood product may get degraded or spoiled due to inadequate storage facilities or incorrect temperature regulation, making them unsuitable.

### **2.2 Feasibility Study**

The project's technical, behavioural, and operational viability are all assessed by the feasibility study. The feasibility and possibility that the system will be beneficial to the organizations are examined in the preliminary investigation. The goal of the feasibility study is to access the project's potential for expansion and development. The technical, economical, behavioural and operational feasibility of the project are: -

#### **2.2.1 Economic Feasibility**

Developing a blood bank website on MERN (MongoDB, Express.js, React.js, and Node.js) stack is economically feasible as it is open-source, scalable, and efficient. As MERN components are free and there are many online development resources available easily so initial costs are low. Since MERN's is scalable with affordable cloud hosting providers minimize operational expenses by efficiently handling high traffic and cost-effective deployment solutions. Hence the blood bank is economically feasible.

#### **2.2.2 Technical Feasibility**

The technical feasibility of blood bank is evaluated. Developing project using MERN technology is technically feasible due to its reliable structure, the efficient data storage, server-side logic, dynamic user interface and server operations. The hardware and software required for the project is evaluated and verified that the project is technically feasible.

### 2.2.3 Behavioural Feasibility

The system is user friendly as the steps for the using the website is mentioned in it. The system saves the time and efforts the user needs to do for donating and in need of the blood. The user easily registers and donate the blood in the system and also search for the camps which will be organize. The behaviour of the project is feasible for users.

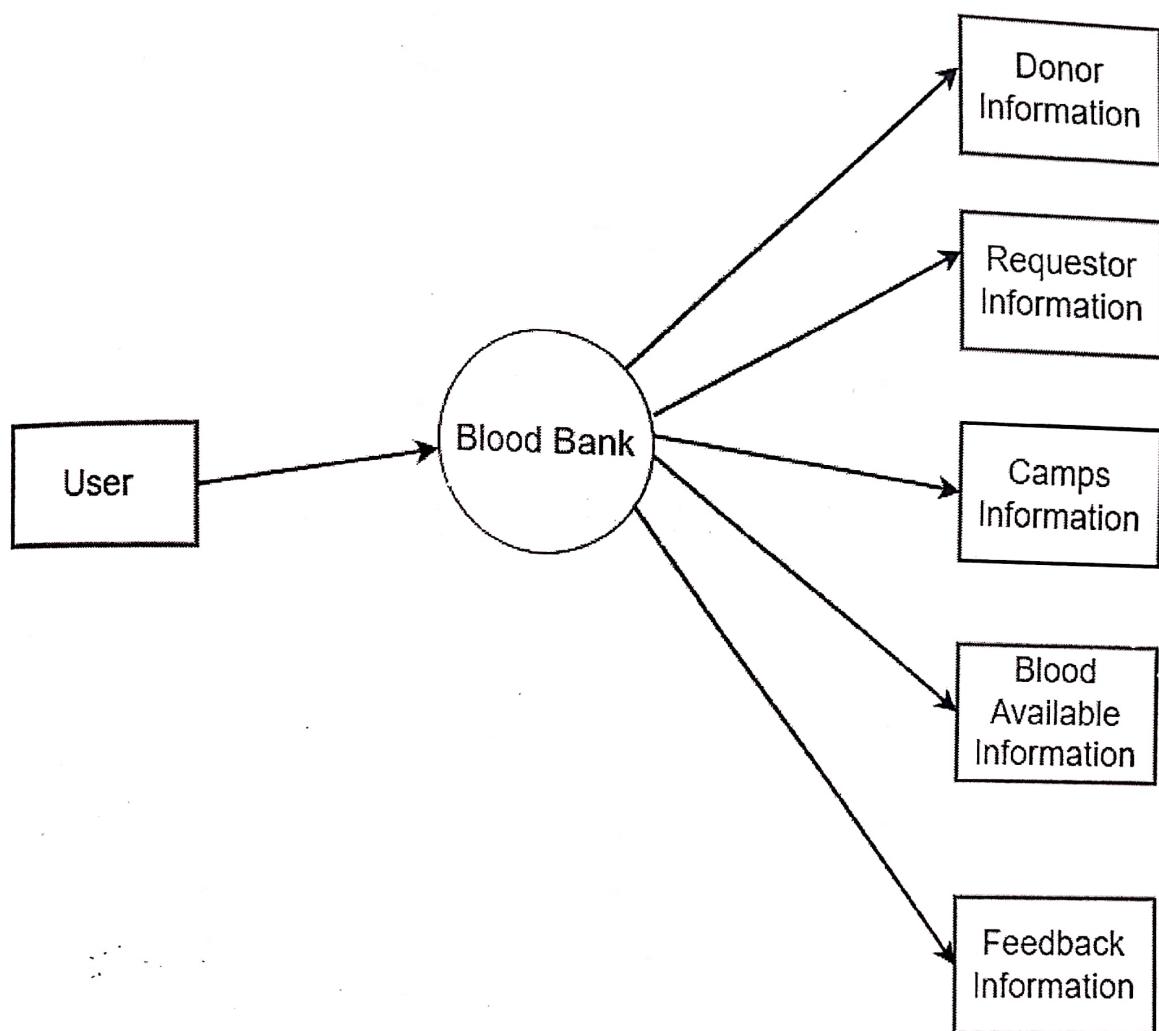
### 2.2.4 Operational Feasibility

The operational feasibility of blood bank relies on some factors, those factors are evaluated. The proper management of the donor data and appointment. The workflow enhances the operational efficiency, reduces the error. On the basis of above-mentioned factors, the project is feasible to implement.

## 2.3 DATA FLOW DIAGRAM (DFD)

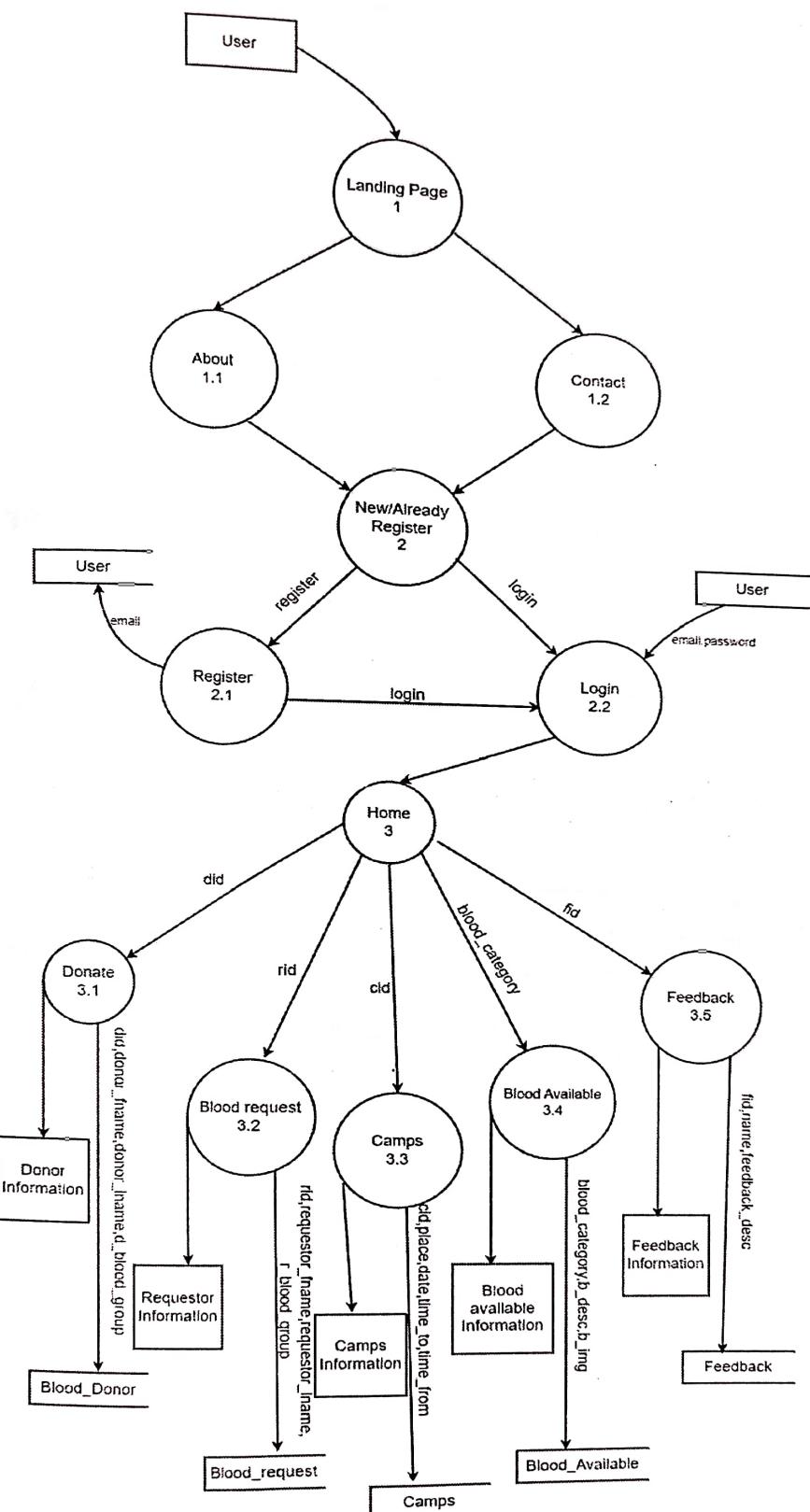
### 2.3.1 DFD (Level 0)

Figure 1



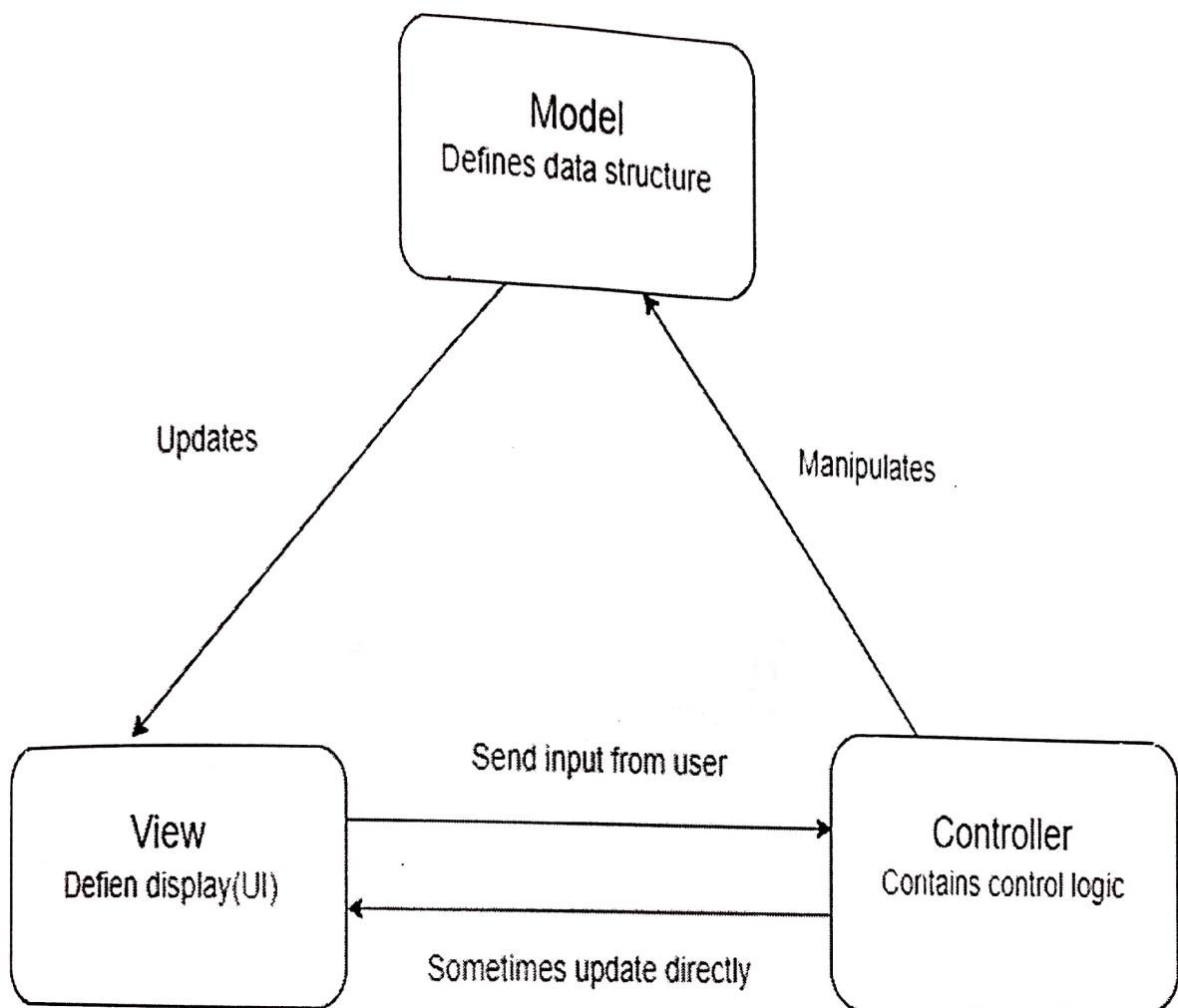
### 2.3.2 DFD (Level 1) User

Figure 2



## 2.4 Model View Controller (MVC)

Figure 3



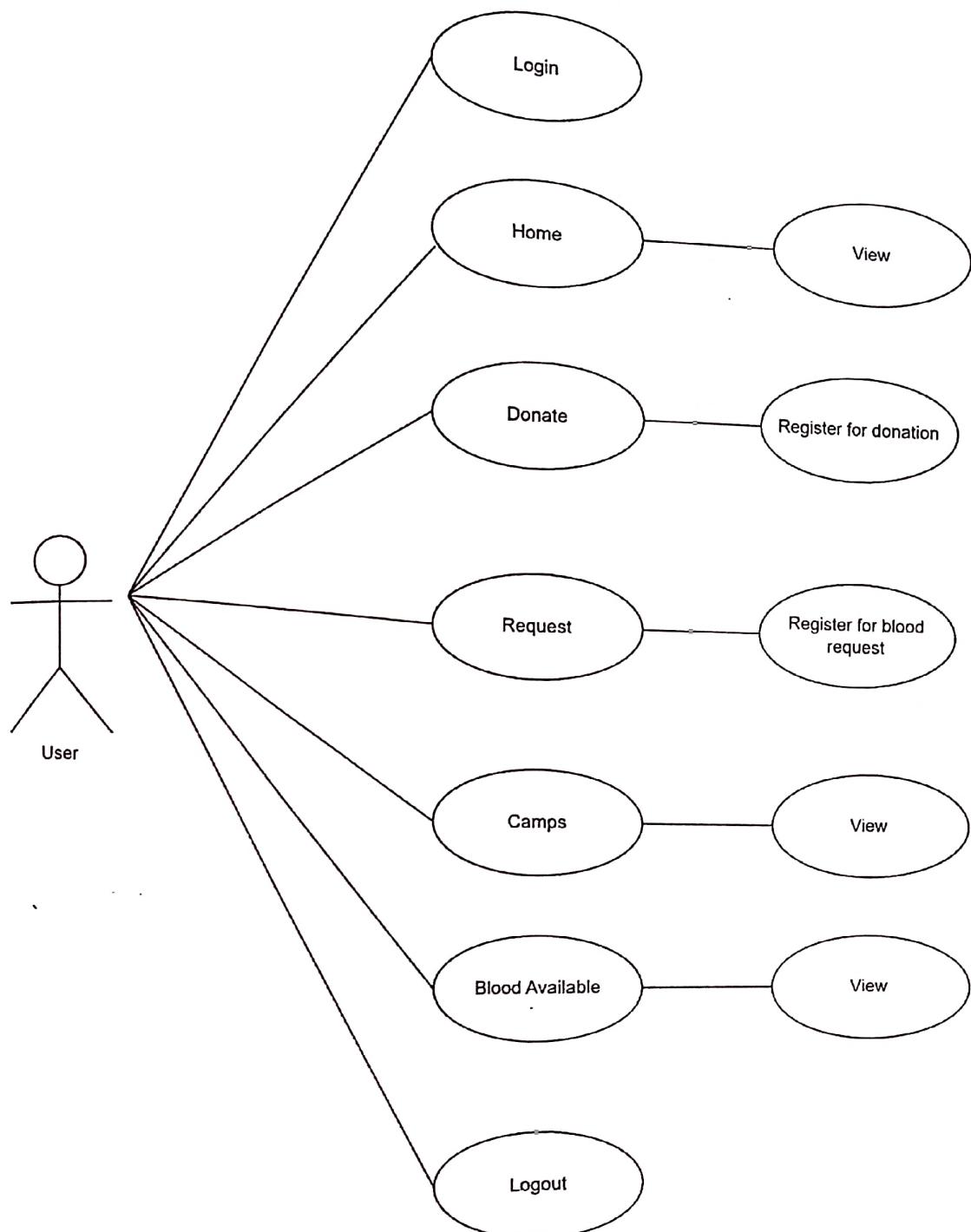
# CHAPTER:3

# SYSTEM DESIGN

## CHAPTER:3 SYSTEM DESIGN

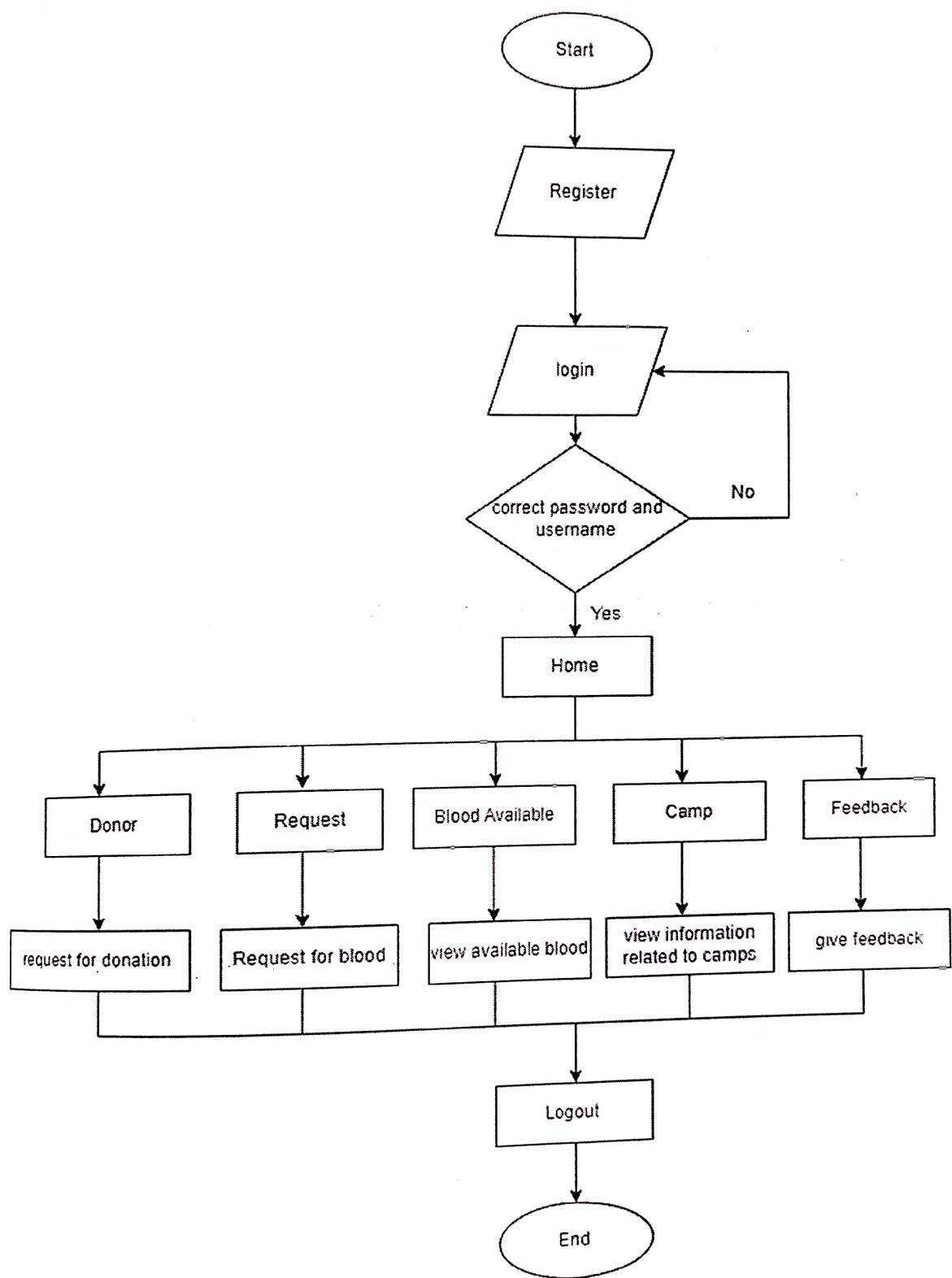
### 3.1 USE CASE DIAGRAM

Figure 4



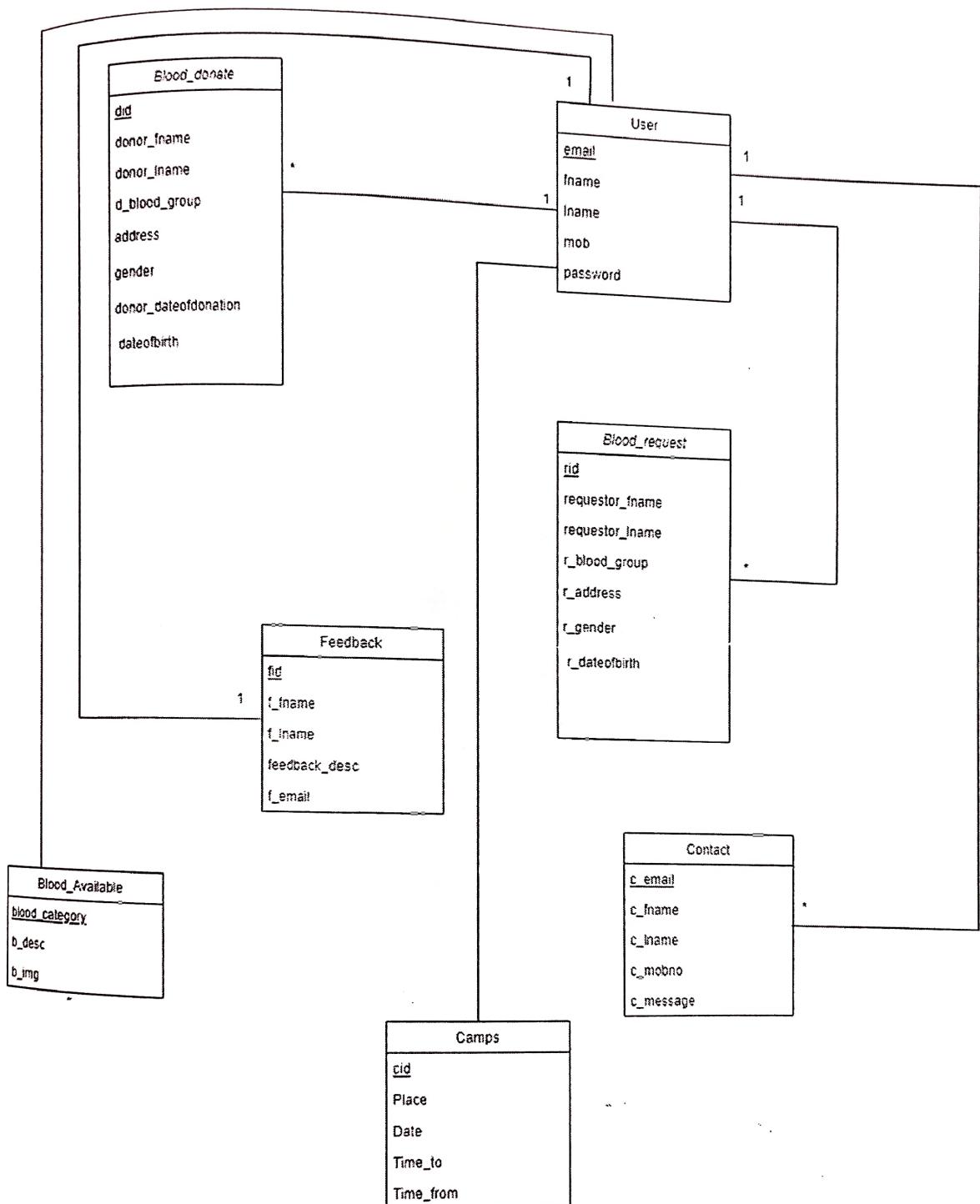
### 3.2 SYSTEM FLOW CHART

Figure 5



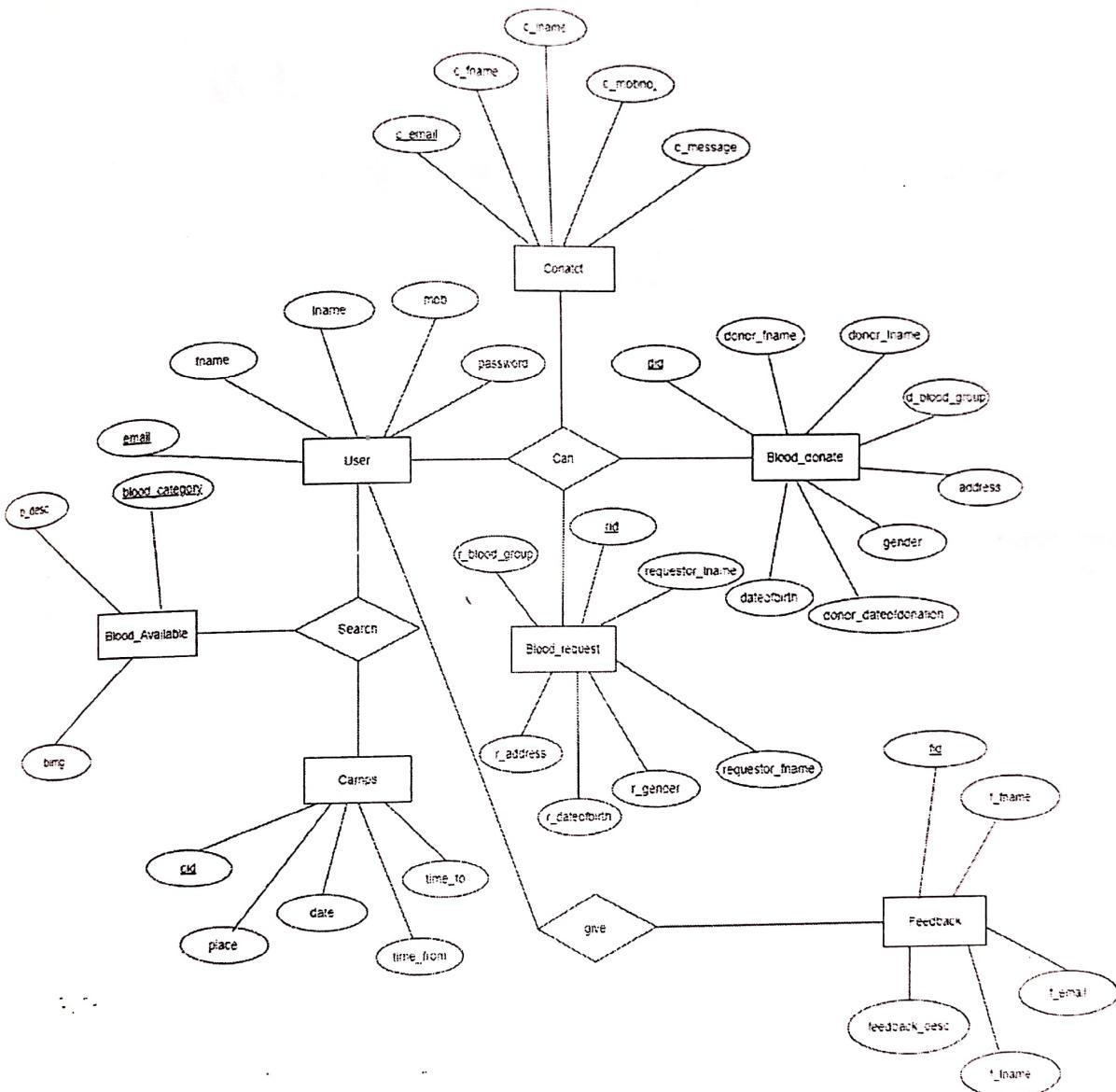
### 3.3 STRUCTURE CHART

Figure 6



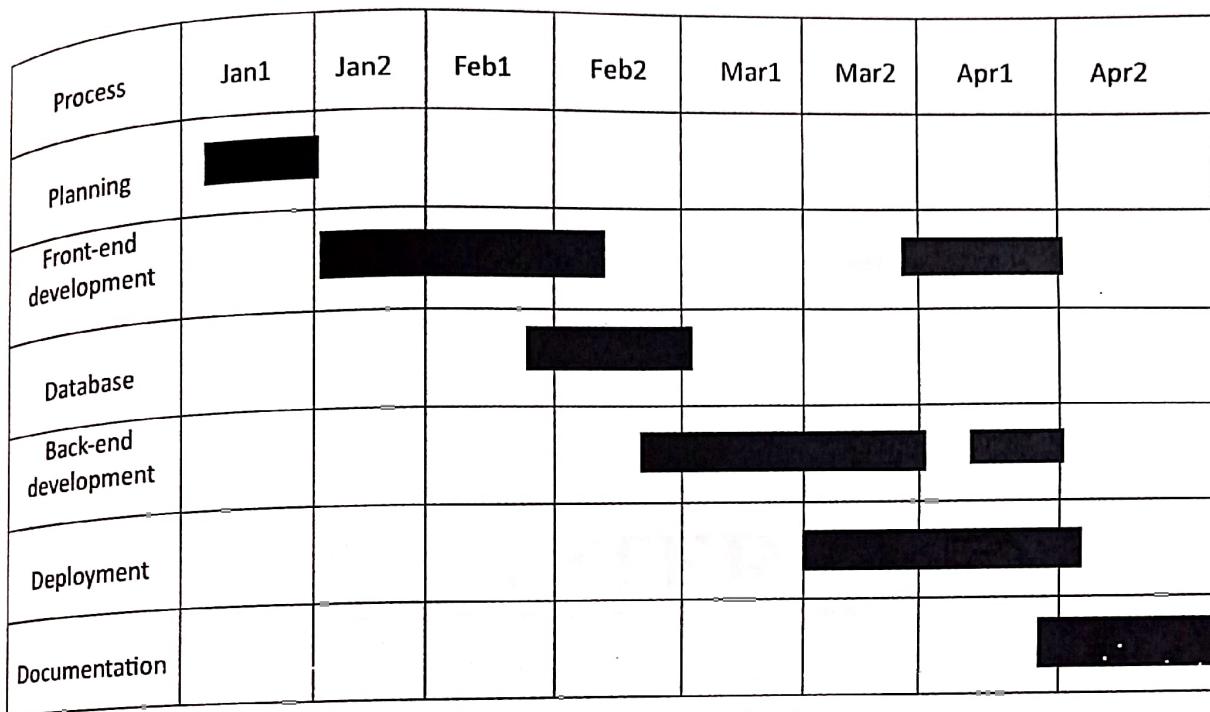
### 3.4 ENTITY RELATIONSHIP DIAGRAM

Figure 7



### 3.5 GANTT CHART

Figure 8



# CHAPTER:4

## TESTING

## CHAPTER 4: TESTING

### 4.1 Unit Testing:

We performed unit testing in each and every smallest unit of the project individually to check it's working. We need different test data to perform the testing. We try each and every type of possible input to check their corresponding outputs and its working.

Test Case ID	Section	Element Name	Test Data	Expected Result	Actual Result
U1	Registration	Useremail, firstname, lastname, mobile_no., password, confirm, password	No data	Please fill out the form	Test case passed
	Registration	Useremail, firstname, lastname, mobile_no., password, confirm, password	Insert wrong data	Error showed	Test case passed
	Registration	Useremail, firstname, lastname, mobile_no., password, confirm, password	Insert correct data	Registered successfully	Test case passed
U2	Login	Useremail, password	No data	Please fill out the details	Test case passed
	Login	Useremail, password	Insert wrong email or password	Error showed	Test case passed

	Login	Useremail, password	Insert correct email and password	Login successfully	Test case passed
U3	Request for blood donation	Firstname, lastname, email, gender, blood type, address	No data	Please fill out the details	Test case passed
	Request for blood donation	Firstname, lastname, email, gender, blood type, address	Insert wrong data	Error showed	Test case passed
	Request for blood donation	Firstname, lastname, email, gender, blood type, address	Insert correct data	Successfully requested for blood donation	Test case passed
U4	Request for blood	Firstname, lastname, email, gender, blood type, address	No data	Please fill out the details	Test case passed
	Request for blood	Firstname, lastname, email, gender, blood type, address	Insert wrong data	Error showed	Test case passed
	Request for blood	Firstname, lastname, email, gender, blood type, address	Insert correct data	Successfully requested for blood.	Test case passed

## 4.2 Compatibility Testing:

The crucial stage of our testing procedure that ensures our project will function flawlessly on a variety of hardware, operating systems, and web browsers is compatibility testing. The purpose of this critical testing phase is to find and fix compatibility problems by carefully analyzing the software's behaviour and functionality under numerous scenarios. It is recognised that users of today access apps using a variety of gadgets such as laptops, tablets, smart phones and desktops, all of which run distinct operating systems, including Windows, iOS, Android, and more. They also use a different range of web browsers, including Edge, Firefox, Safari, Chrome, and more. It's critical that our project functions properly on each of these configurations. During compatibility testing, the blood bank system is tested across various combination of operating systems, web browsers and devices. With this testing the system performance is accessed, user interface responsive and functionality across these different configurations to identify any compatibility issues or inconsistency and overcome it. By conducting compatibility testing, organization can ensure that the blood bank system is accessible to wide range of users and can effectively support their workflow regardless of their preferred platform and devices.

Test Scenario	Element Name	Element Type	Input	Expected Result	Actual Result	Test Result
C1	Device Compatibility	Responsiveness on different devices	Checking Responsiveness on devices for e.g. Laptops, tablets, Smartphones	Website will adapt different screen sizes on different devices without any disbalancing	As expected, the website is full responsive and working perfectly	Passed
C2	Operating System Compatibility	Checking website behaviour on different	Working on different Operating Systems e.g., Android	There shouldn't be any changes in website Designing,	As Expected, The Website is working all same even on different	Passed

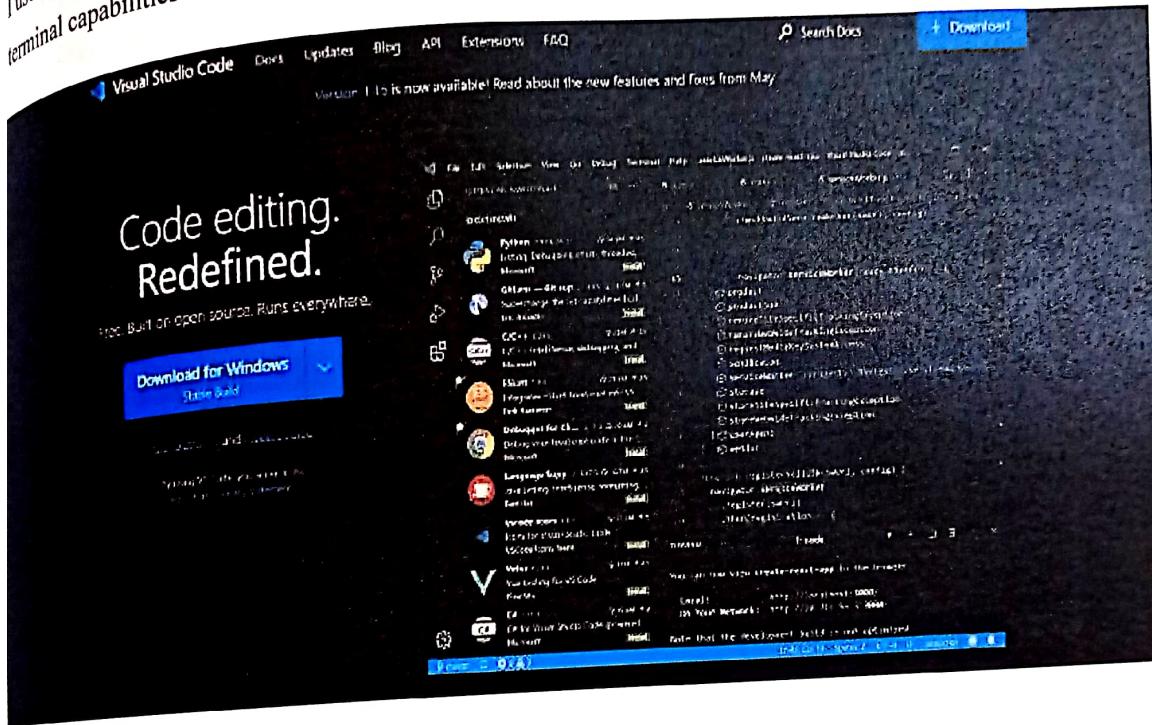
	operating systems	systems, macOS, iOS, Windows etc.	Working, Accessibility and Performance speed, while switching the Operating System	Operating System expect Linux operating system	
C3	User Security	Data Security	Testing security measures of admin	The logged in user will be able to donate and request for blood and search for blood available.	As Expected, the user can see only their details.

## CHAPTER:5 IMPLEMENTATION

## CHAPTER 5: IMPLEMENTATION

### Step: 1 Getting a text Editor

I use Microsoft's visual studio code as the text editor because it comes with the number of built-in terminal capabilities and plugins.



### Step: 2 Installing Node in the local machine

Implementing Node.js involves setting up a development environment and writing JavaScript code to create server-side applications. Here are some of the outlines:

- i. **Install Nodejs:** First I install the Nodejs on the system by following the instruction given on official website.
- ii. **Setup the project directory:** Using your terminal or command prompt, create a new directory for your Node.js project and navigate inside it.
- iii. **Launch a new Nodejs project:** Initiate a package.json file in your project directory by running 'npm init'. This file will contain metadata about your project and any dependencies you use.

- iv. **Install the necessary packages:** Depending on my project requirement I install the various additional packages using 'npm install' command following the package name. For example, 'npm install Express' this command installs the express.js framework.
- v. **Write your Node.js code:** Create a JavaScript file (e.g. App.js) in project directory and start writing Node.js code.
- vi. **Launch Nodejs application:** Save app.js file and then use the Node.js application using the node app.js command to launch your Node.js application. After running the command, the terminal should display the message "Server is running on port 3000" on Node.js server.
- vii. **Test your application:** After opening a web browser, browse <http://localhost:3000>. You should see the "Hello world"

### Step:3 Installing Express and React:

As we have first installed nodejs. The nodejs contains npm Node package manager which already contains various open-source libraries. The expressjs is one of the libraries included in it.

Use the command in the terminal to install expressjs.

Command to install express: -

Command: -

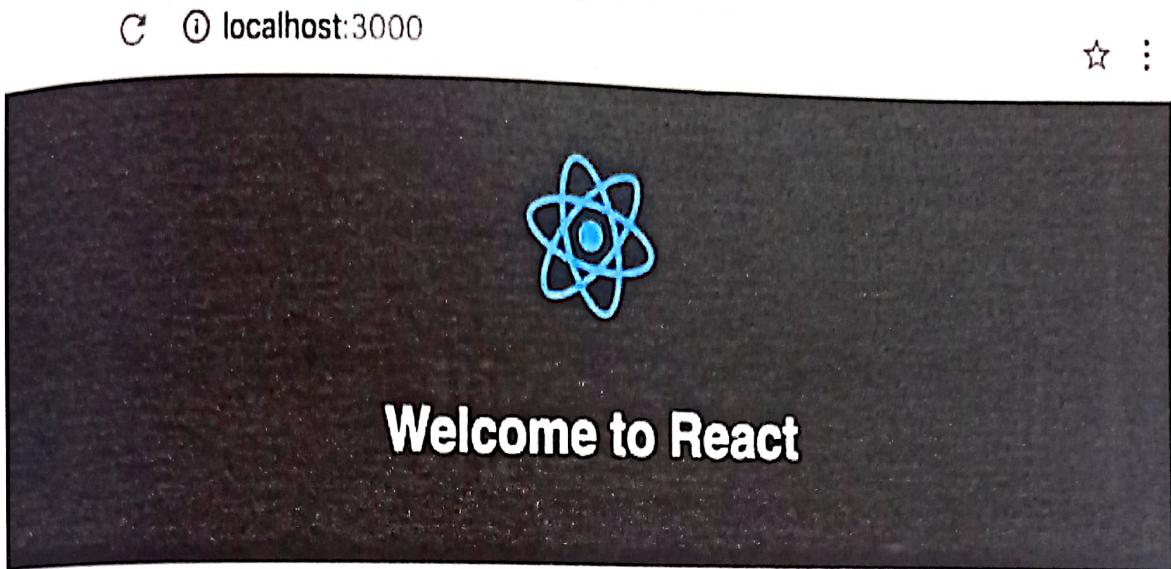
npm install express

Command to create react app with all dependencies: -

Command: -

`npx create react-app <folder name>`

This command will react app and some dependencies with it.



To get started, edit `src/App.js` and save to reload.

#### Step 4: Setting up MongoDB: -

Setting up MongoDB and connecting to it involves a few steps. First, you need to install MongoDB, then start the MongoDB server (MongoDB), and finally connect to it using the MongoDB shell MongoDB driver in your preferred programming language. A detailed guide is provided here: -

- i. **Install MongoDB:** Visit the MongoDB website and follow the installation instruction for your operating system.
- ii. **Start the MongoDB server:** After installing MongoDB, you need to start the MongoDB server. Open the terminal and run the following command:

#### Command:

**mongod**

The above command will start the MongoDB server at default port. If you want to specify the port, you can use '--dbpath' or '--port'. For example:

**mongod --dbpath/path/to/data/directory --port5000**

iii. **Connect to MongoDB:** After starting the MongoDB, connect to the MongoDB server by using MongoDB shell or MongoDB drive and preferred programming language. I used MongoDB drive in Nodejs to connect to the MongoDB

**CHAPTER: 6**  
**SAMPLE FORMS AND**  
**REPORTS**

## CHAPTER 6: SAMPLE FORMS

### 6.1 Home Page

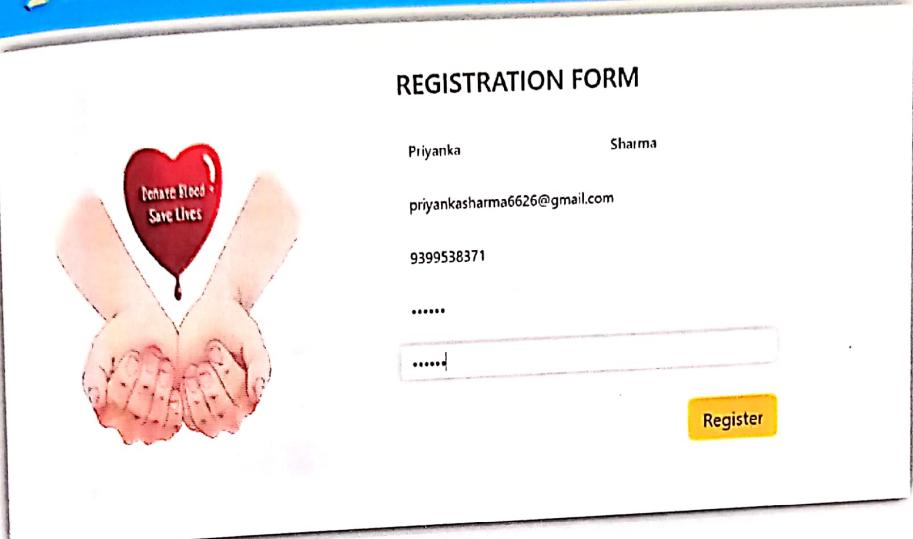
The screenshot shows a website for a blood bank. The header "BLOOD BANK" is on the left, and the navigation menu includes "Home", "About", "Contact", and "Signup". The main banner features a heart inside a blood bag with the text "Every drop saves lives... DONATE BLOOD". Below the banner, a section titled "About Donation" contains a small illustration of a donor and a recipient. To the right is a table titled "Compatible blood type donor" showing the compatibility matrix for different blood types.

Compatible blood type donor		
Blood Type	Donate Blood To	Receive Blood From
A+	A+ AB+	A+ A- O+ O-
O+	O+ A+ B+ AB+	O+ O-
B+	B+ AB+	B+ B- O+ O-
AB+	AB+	Everyone
A-	A+ A- AB+ AB-	A- O-

### 6.2 About

The screenshot shows a website about page. The header "BLOOD BANK" is on the left, and the navigation menu includes "Home", "About", "Contact", and "Signup". The main content features a large image of a person's arm with a blood donation needle. The word "About" is overlaid on the image. Below the image is a text box stating "The average human body contains about five liters of blood." and a yellow "Next" button.

### 6.3 Registration Form



The registration form is titled "REGISTRATION FORM" and features a logo of two hands holding a heart with the text "Donate Blood Save Lives". The form includes fields for Name (Priyanka Sharma), Email (priyankasharma6626@gmail.com), and Contact Number (9399538371). There are also password fields and a "Register" button.

REGISTRATION FORM

Priyanka Sharma

priyankasharma6626@gmail.com

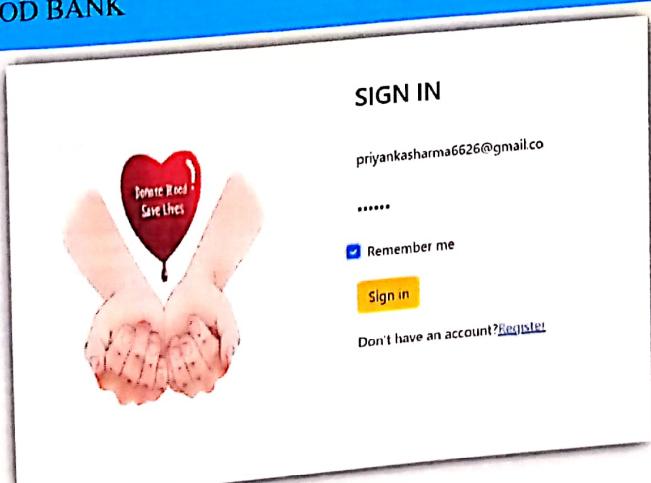
9399538371

.....

.....

Register

### 6.4 Login Form



The login form is titled "SIGN IN" and features a logo of two hands holding a heart with the text "Donate Blood Save Lives". It includes fields for Email (priyankasharma6626@gmail.co) and Password (.....), a "Remember me" checkbox, and a "Sign in" button. Below the button is a link for users who don't have an account: "Don't have an account? [Register](#)".

SIGN IN

priyankasharma6626@gmail.co

.....

Remember me

Sign in

Don't have an account? [Register](#)

## 6.5 Donate Form

BLOOD BANK

Home Blood Available Donate Request Camps Feedback Logout

**Donate Blood**

Your blood donation: B+

Date of Donation: 04/29/2024

**Donor Details**

Shalu Sharma

Gender:  Female    Male    Other

08/29/2001

RJ Puram

**Donate Now**

## 6.6 Request Form

BLOOD BANK

Home Blood Available Donate Request Camps Feedback Logout

**Request for Blood**

Priyanka Sharma

Harishankar Puram

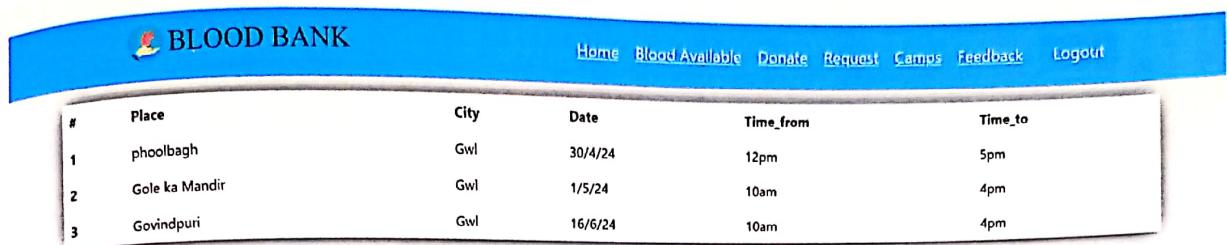
Gender:  Female    Male    Other

03/06/2001

AB+

**Request**

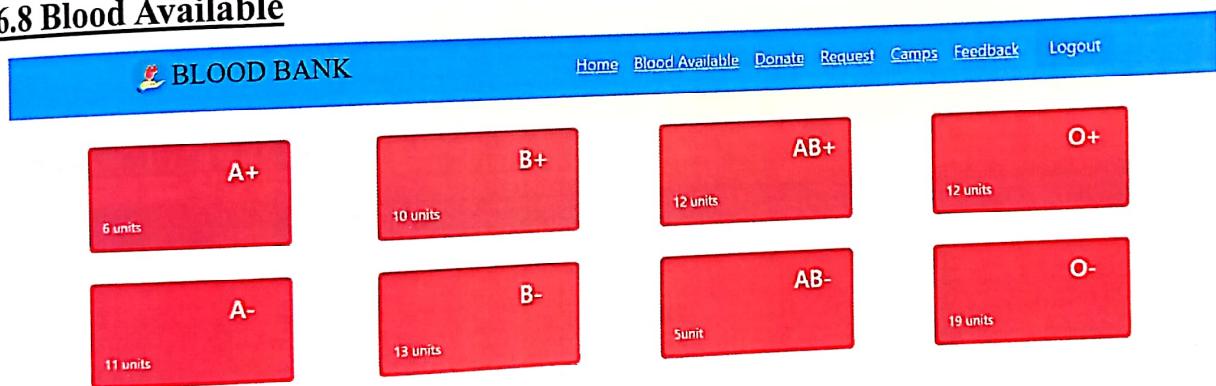
## 6.7 Camps Display



A screenshot of a blood bank website showing a table of upcoming blood camps. The table has columns for # (Index), Place, City, Date, Time\_from, and Time\_to. The data shows three camps in Gwalior (Gwl) on different dates with specific times.

#	Place	City	Date	Time_from	Time_to
1	phoolbagh	Gwl	30/4/24	12pm	5pm
2	Gole ka Mandir	Gwl	1/5/24	10am	4pm
3	Govindpuri	Gwl	16/6/24	10am	4pm

## 6.8 Blood Available



## 6.9 Feedback Form

The screenshot shows a feedback form on a website. The header is blue with the text "BLOOD BANK" and navigation links: Home, Blood Available, Donate, Request, Camps, Feedback, and Logout. The main content area has a white background with a title "Feedback". It displays the user's information: Priyanka Sharma, email priyankasharma6626@gmail.com, and a text input field containing "nice experience". A yellow "Submit" button is at the bottom.

## 6.10 Contact Form

The screenshot shows a contact form on a website. The header is blue with the text "BLOOD BANK" and navigation links: Home, About, Contact, and Signup. The main content area has a white background with a title "Contact". It displays the user's information: Priyanka Sharma, email priyankasharma6626@gmail.com, and a phone number 9399538378. A text input field contains "Query related to .....". A yellow "Submit" button is at the bottom.

**CHAPTER:7**  
**CONCLUSION AND**  
**FUTURE SCOPE**

## **CHAPTER 7: CONCLUSION AND FUTURE SCOPE**

### **CONCLUSION**

Blood Bank play a essential role to maintaining a consistent supply of healthy blood products for medical procedures, emergencies, and transfusion needs. They do this through careful planning, effective management, and ongoing public engagement. Throughout this project we have discussed the features which are implemented in the blood bank and its advantage. Blood bank is the efficient and user-friendly system. We have discussed the blood banking and its operational procedures, problem. The user prefers online blood bank management system because of its advantages and effectiveness. And efficiency. Online Blood Bank management system saves times and provides the information related to blood easily also, it provides better way of managing various processes of blood bank and also increase the safety of blood transfusion. This also increase the confidence of users. In conclusion Blood bank is the essential part of global healthcare systems. Blood bank is able to maintain their mission of preventing deaths and promoting public health by adapting changing conditions

### **Future Scope**

In future as the need of blood is increasing due to the number of emergencies is increasing day by day. So, in the online blood bank management, the efficiency and features needed to add. The matching of the blood can be one of the features which can be added in the future. The management of blood can be improved as the demand is increasing. In conclusion blood bank is essential system which is needed as demand of blood is increasing day by day the need of proper blood bank management is also needed.

## BIBLIOGRAPHY

1. <https://www.w3school.com/>
2. <https://www.wikipedia.com/>
3. <http://www.stackowerflow.com/>
4. <https://www.javapoint.com/>
5. <http://getbootstrap.com/>
6. <http://www.tutorialspoint.com/>
7. <http://reactjs.org/tutorial/tutorail.html>
8. <http://nodejs.dev/learn>
9. <http://www.mongodb.com/docs/manual/tutorial/>

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Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation				✓	
Performance/Quality of work			✓		
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work			✓		
Comment on nature of work done/Area/Topic	Learn HTML, CSS and Javascript				
OVERALL GRADE (Any one)	POOR/AVERAGE/GOOD/EXCELLENT				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor					

Receiving Date	16/4/24	Name of Faculty Mentor	Dr. Justice Chaturvedi	Sign	
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FORMAT

FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY  
MENTOR

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Department	MCA				
Industry/Organization	Pravenco Global Research Pvt. Ltd.				
Date/Duration	16/01/24-31/01/24				
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation			✓		
Performance/Quality of work				✓	
Behaviour/Discipline/Team work			✓		
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Learn Bootstrap, Advance JavaScript (ES6), Introduction of React				
OVERALL GRADE (Any one)	POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor	 Dipti				
Receiving Date	16/01/24	Name of Faculty Mentor	Dr. Anil Chavhan	Sign	PD

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Industry/Organization	Praedico Global Research Pvt. Ltd.		Date/Duration	01/02/24 - 15/02/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation				✓	
Performance/Quality of work			✓		
Behaviour/Discipline/Team work			✓		
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	React setup, components, Hooks, Props and React Bootstrap Integration				
<u>OVERALL GRADE</u> (Any one)	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
Name of Industry Mentor	Sneety Gupta				
Signature of Industry Mentor					

Receiving Date	16/02/24	Name of Faculty Mentor	Dr. Anil Chaturvedi	Sign	
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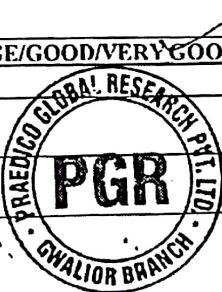
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Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation				✓	
Performance/Quality of work			✓		
Behaviour/Discipline/Team work			✓		
Sincerity/Hard work			✓		
Comment on nature of work done/Area/Topic	Working on Frontend Development using React and Bootstrap				
OVERALL GRADE (Any one)	POOR/AVERAGE/GOOD/EXCELLENT				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor	 PGR Prudico Global Research Pvt. Ltd. Chennai Branch				
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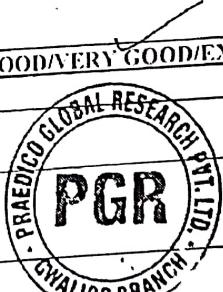
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Industry/Organization	Praedico Global Research Pvt. Ltd.		Date/Duration	01/03/24 - 15/03/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation			✓		
Performance/Quality of work			✓		
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Worked on Node JS, Express JS, MongoDB for Backend of DataBase				
<u>OVERALL GRADE</u> (Any one)	POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT				
Name of Industry Mentor	Sweety Gupta				
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Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation			✓		
Performance/Quality of work			✓		
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work			✓	✓	
Comment on nature of work done Area/Topic	Worked on project using MERN Technology				
OVERALL GRADE (Any one)	POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor	 				
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Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					
Learning capacity/Knowledge up gradation				✓	
Performance/Quality of work				✓	
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Worked on Project				
<u>OVERALL GRADE</u> (Any one)	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
<u>Name of Industry Mentor</u>	Sweety Gupta				
<u>Signature of Industry Mentor</u>					

Receiving Date	16/4/24	Name of Faculty Mentor	Dr. Anshu Chaturvedi	Sign	
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