Deccan Education Society's

FERGUSSON COLLEGE (AUTONOMOUS), PUNE-4

Department of Computer Science

A

Project Report On

BLOOD BANK MANAGEMENT SYSTEM

By

1. **Sourav Uttam Borgave: - 218557**
2. **Prem Anant Shelar: - 218544**

[2022 – 2023]

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Project Report On

BLOOD BANK MANAGEMENT SYSTEM

In partial fulfillment of requirements of the completion of T.Y.B.Sc (C.S.)

Semester-VI

Bachelor of Science

Computer Science

SUBMITTED BY:

1. **Sourav Uttam Borgave 218557**
2. **Prem Anant Shelar 218544**

Under the Guidance of

Mrs. Rasika Kulkarni

[2022 – 2023]

Deccan Education Society's
Fergusson College (Autonomous), Pune.
Department of Computer Science

(CSC3609) Computer Science Project-II

CERTIFICATE

This is to certify that the project entitled

Blood Bank Management System Completed by

Roll number	Name
1. 218557	Sourav Uttam Borgave
2. 218544	Prem Anant Shelar

in partial fulfillment of the requirement of the completion of B.Sc. (C.S.) Semester-VI, has been carried out by team under my guidance satisfactorily during the academic year 2022-2023.

Place: Pune
Date: / /2023

(Mrs. Rasika Kulkarni)
Project Guide

(Dr. Kavita A. Khobragade)
Head, Computer Science Department

ACKNOWLEDGEMENT

We would like to express our special Thanks of gratitude to our Project Guide **Mrs. Rasika Kulkarni** under her guidance we learned a lot about this project. Her suggestions and directions have helped us in successful completion of this Project: **Blood Bank Management System**.

We would also like to Thank our Head of the Department, **Dr. Kavita A. Khobragade** for this opportunity and her constant support to do this Project.

Finally, we would like to thank our **Friends** who have helped us with their valuable suggestions and have been very helpful in various stages of project completion.

1. **Sourav Uttam Borgave 218557**
2. **Prem Anant Shelar 218544**

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SLOT WISE PERFORMANCE SHEET

Name and roll no of the student	Sourav Uttam Borgave 218557 Prem Anant Shelar 218544
Title of the Project	Blood Bank Management System
Project Guide Name	Mrs. Rasika Kulkarni

Sr. No	**Date**	**Task Done**	**Sign**
1.		Behavioral Modelling	
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5.		Activity (Project Demo)	
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7.		Coding and Implementation of Interlinking Coding and Implementation of Events	
8.		Coding and Implementation of Validation	
9.		Documentation	
10		Activity (Final Project Demo)	

1. INTRODUCTION

This blood bank management system is an online website, so it is easily available to everyone. When a person wants to donate blood, he must register to the system. Donor registration is very easy, to get registered to the system he must fill up a registration form. After submitting the registration form, he can create a username and password. The donor must give information like blood group, contact details etc. The donor can also change his account information when he wants using his username and password.

The main aim of developing this system is to provide blood to the people who need blood. The number of persons who need blood are increasing in large number day by day. Using this system user can search blood group available in the city and he can also get contact number of the donor who has the same blood group he needs. To help people who need blood, this Online Blood Bank management system can be used effectively for getting the details of available blood groups and user can also get contact number of the blood donors having the same blood group and within the same city. So, if the blood group is not available in the blood bank the user can request the donor to donate the blood to him and save someone's life. Using this bank management system people can register themselves who want to donate blood. To register in the system, they must enter their contact information like address, mobile number etc.

1.1 Detailed Problem Definition:

The existing system is handled manually. Existing system needs to maintain almost hundreds of records every day. In the emergency condition, sometimes it becomes very much difficult to look for the exact match of blood group of donor and acceptor. It may lead to delay in
transaction of blood within the specified amount of time and a serious accident may take place.

Problems with Existing system are the following: -

- Manual systems are more time consuming.
- Many ledger books has to be maintained for each donor.
- Data security is very minimal.
- There is a possibility for double entries.
- Since the transaction are mainly viz. paperwork updating of data is very hard.
- Generating the reports in the desired format is a tedious process.
- Reporting to the higher officials is not done through the proper channel.
- Data stored on papers is subject to loss due to physical damage.

1.2 Presently Available Systems for the same:

The operation of the blood bank is still maintained by manual system (i.e., Registers, etc). The operations are tedious, time consuming and space consuming.

It creates room for errors as the data is entered manually by the person. Maintaining the stock of the blood and the daily transactions/ consumptions without computers also poses a challenge for maintaining the huge records.

1.3 Need for the New System:

Blood bank management system in php is planned to collect blood from many donators in short from various sources and distribute that blood to needy people who require blood. To do all this we require high quality software to

manage those jobs. The government spending lot of money to develop high quality “Blood Bank management system project”.

1.4 Project Scope:

The scope of the new project focuses on three basic operations of the blood bank that is donor registration, monitoring the inventory of blood and monitoring the blood bags issuance.

- A person who wants to donate blood can register himself directly on the application.
- No need of filling so many forms just need to login and make an appointment.
- Admin will maintain the record and security so that none of the users can donate more than once a month.
- Donor can now check the new date which has been updated by the Admin.
- The whole process of getting work done will become faster than the conventional method of donating blood to the blood bank.

2.ANALYSIS

2.1 Feasibility Study

1.Technical Feasibility: -

The scope was whether the work for the project is done with current equipment and the existing system technology has to be examined in the feasibility study. This system requires very low system resources and it will
work in almost all configurations. In the existing system all functions are done manually. So, if they get this designed software, the problem can be avoided, and the system will also run smoothly.

In the proposed system, data can be easily stored and managed using database management system.

The minimum requirement to perform our project is: -Code Editor, Any Browser, XAMPP Server.

Technical Requirements: -Monitor, Keyboard, Mouse, at least 4GB RAM, 256GB or 512GB storage, CPU-32 bit or 64-bit; -i3 10^{th} gen, Server to store the client data.

2. Economical Feasibility: -

This study is very essential because the main goal of the proposed system is to have economically better the result along with increased efficiency. Thus, the developed system has well within the budget, and this was achieved because most of the technologies used are freely available.

Installation of new system will reduce administrative and operational cost. The newly developed software/website that doesn't require any existing

manual paperwork and files. Hence the software/website is Economically feasible.

3.Operational Feasibility: -

The aspect of study is to check the level of acceptance of the system by the user. The proposed system is an upgraded version of the current system as the new fields have been implemented according to the user's need, hence it ensures a user-friendly environment in such a way that it ensures all the aspects. The proposed system is very much user friendly and the system is easily understood by simple training and it is operationally feasible to use by any user.

3.DESIGN

3.1 Database Table Designing: -

Sr. No.	Table 1	Relationship	Table 2
1.	Donor	1-M	Blood Bank
2.	Patient	M-1	Blood Bank
3.	Blood bank	M-M	Hospital
4.	Blood bank	M-1	Manager
5.	Registration	1-1	Blood bank
6.	Registration	1-1	Donor
7.	Registration	1-1	Patient

Table Name: Admin			
Sr. No.	**Field Name**	**Field type**	**Description**
1.	Name	varchar	To get the details of the admin
2.	password	varchar	

Table Name: Blood bank			
Sr. No.	**Field Name**	**Field type**	**Description**
1.	BB_username	varchar	In this table the details of Blood bank are taken for login purpose.
2.	BB_name	varchar	
3.	Email	varchar	
4.	passwd	int	

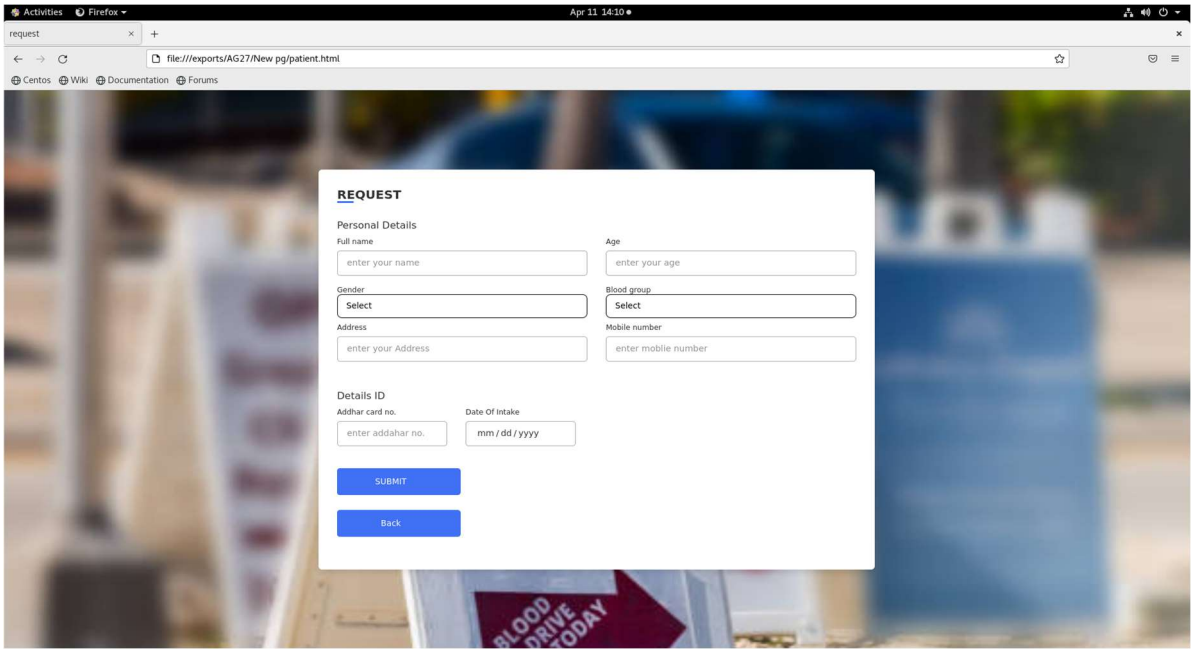
Table Name: Donor			
Sr. No.	**Field Name**	**Field type**	**Description**
1.	D_id	int	To create the Donor account and get user_id and password.
2.	Name	varchar	
3.	Blood Group	varchar	
4.	Gender	varchar	
5.	Age	int	
6.	Address	varchar	
7.	DOD	Date	
8.	Contact	int	
9.	Next date	Date	
10.	passwd	varchar	

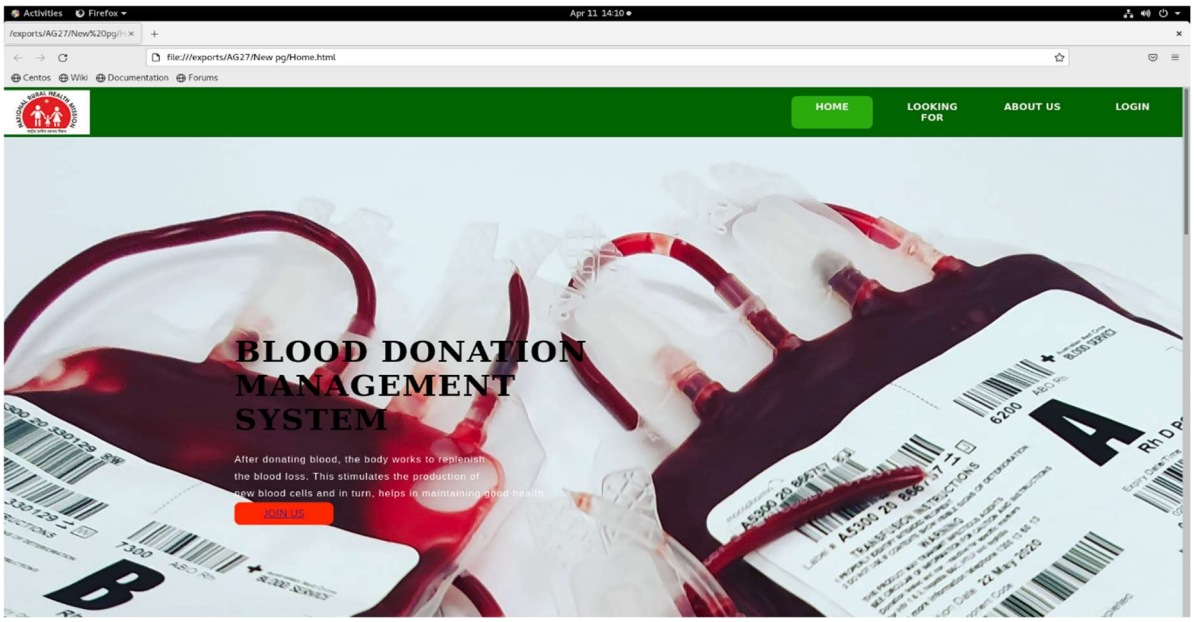
Table Name: Patient			
Sr. No.	**Field Name**	**Field type**	**Description**
1.	P_id	int	To create the Patient account and get user_id and password.
2.	Name	varchar	
3.	Blood Group	varchar	
4.	Gender	varchar	
5.	Age	int	
6.	Address	Varchar	
7.	DOI	Date	
8.	Contact	int	

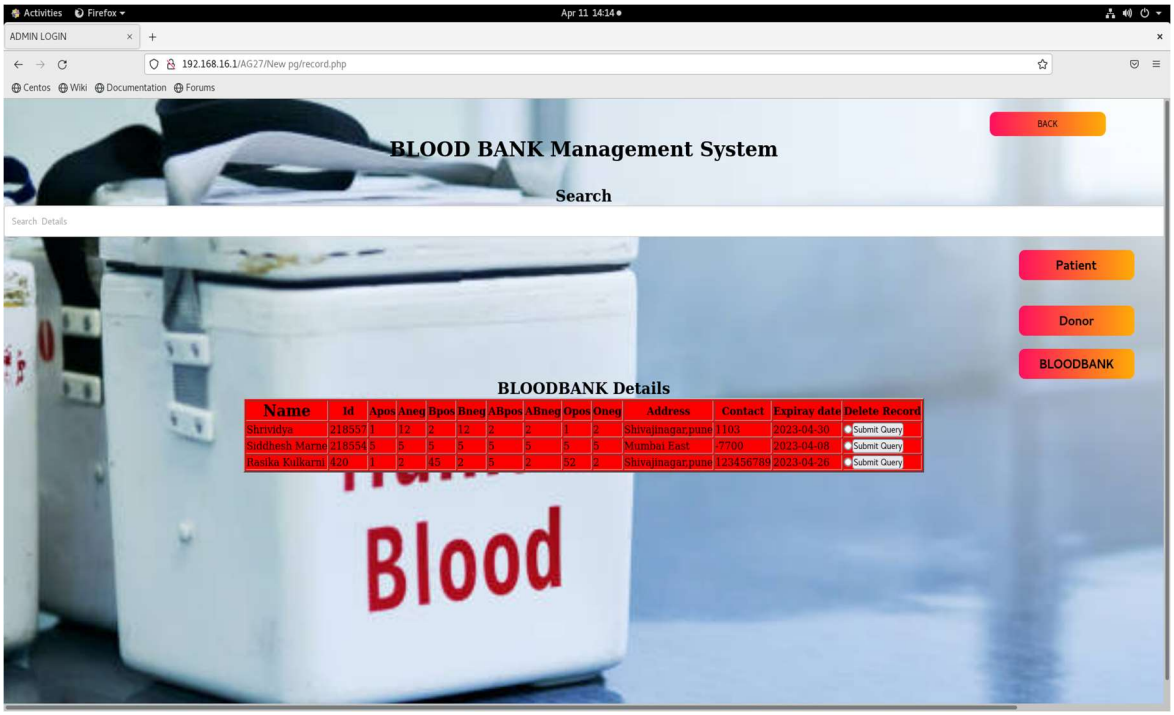
Table Name: Hospital			
Sr. No.	**Field Name**	**Field type**	**Description**
1.	H_id	int	We can get hospitals list where to donate and how much donate the blood.
2.	H_name	varchar	
3.	H_Location	Varchar	
4.	District	varchar	
5.	Contact	int	
6.	Apos	Int	
7.	Aneg	Int	
8.	Bpos	int	
9.	Bneg	int	
10.	ABpos	int	
11.	ABneg	int	
12.	Opos	int	
13.	Oneg	int	

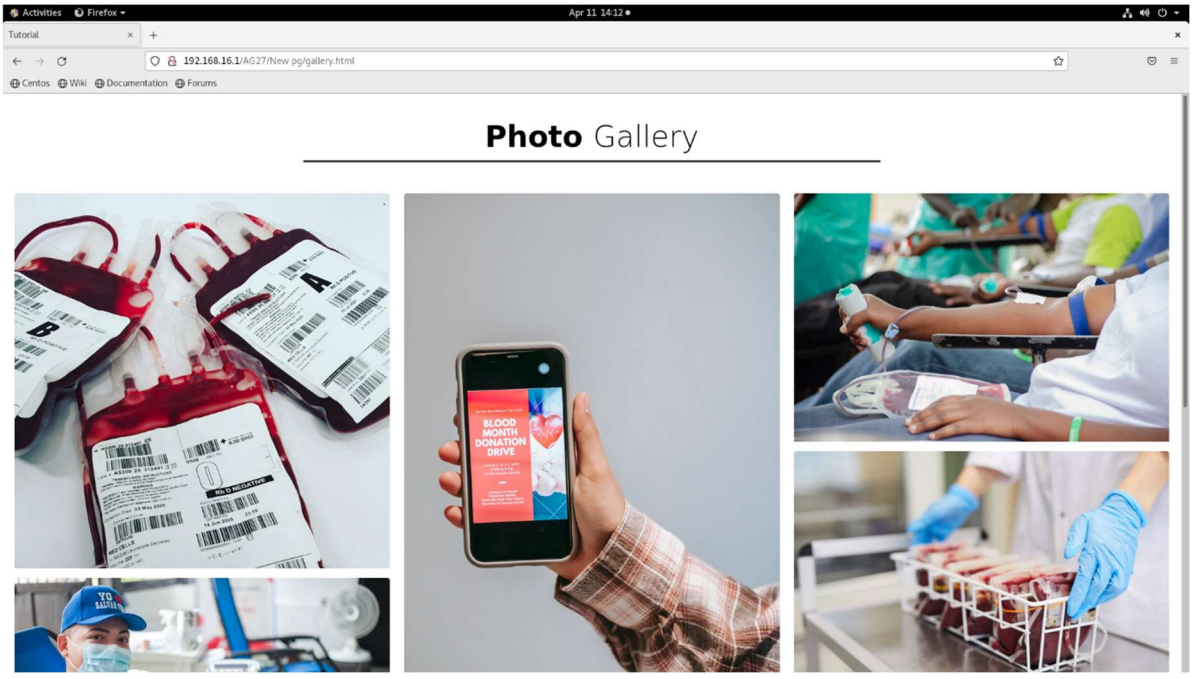
Table Name: Blood_bank			
Sr. No.	**Field Name**	**Field type**	**Description**
1.	BB_name	varchar	We can Blood bank Detail list where to donate and how much donate the blood.
2.	BB_id	int	
3.	Location	Varchar	
4.	Expiry date	date	
5.	Contact	int	
6.	Apos	Int	
7.	Aneg	Int	
8.	Bpos	int	
9.	Bneg	int	
10.	ABpos	int	
11.	ABneg	int	
12.	Opos	int	
13.	Oneg	int	

3.2 Input and Output Screen and Reports






Activities
Firefox
Apr 11 14:14
ADMIN LOGIN
192.168.16.1/AG27/New pg/record.php
Centos
Wiki
Documentation
Forums
BACK
BLOOD BANK Management System
Search
Search Details
Patient
Donor
BLOODBANK
BLOODBANK Details
Name
Id
Apos
Aneg
Bpos
Bneg
ABpos
ABneg
Opos
Oneg
Address
Contact
Expiray date
Delete Record
Shrividya 218557 1 12 2 12 2 2 1 2 Shivajinagar,pune 1103 2023-04-30 Submit Query
Siddhesh Marne 218554 5 5 5 5 5 5 5 5 Mumbai East 7700 2023-04-08 Submit Query
Rasika Kulkarni 420 1 2 45 2 5 2 52 2 Shivajinagar,pune 123456789 2023-04-26 Submit Query
Blood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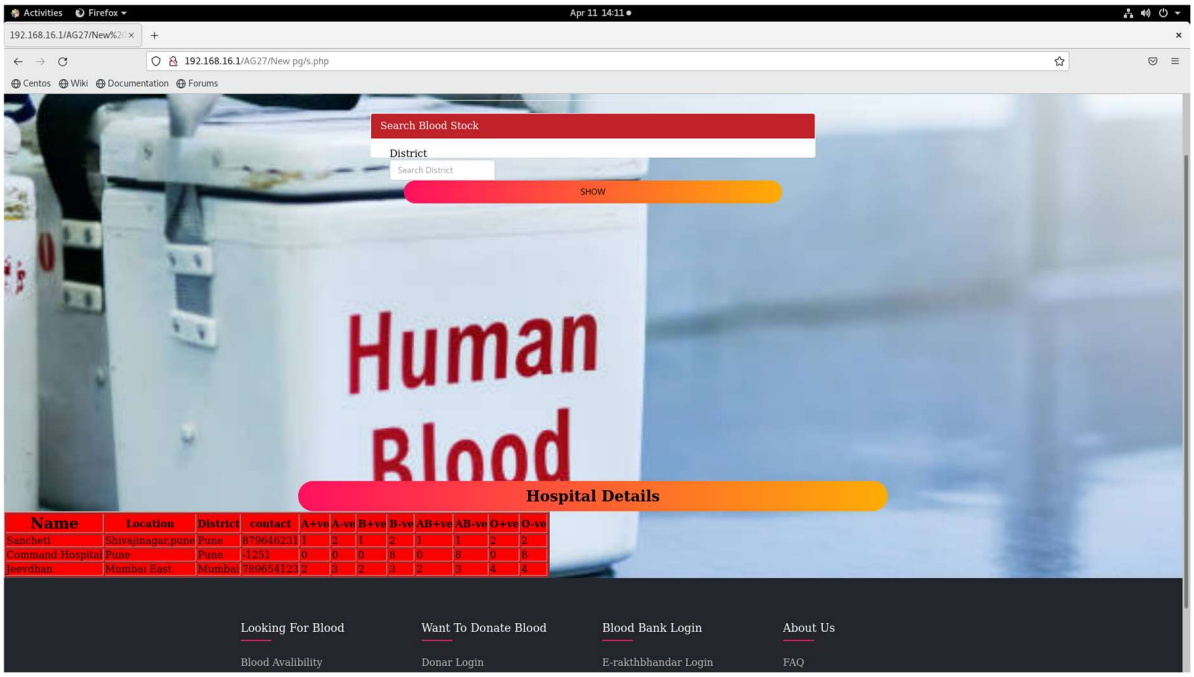
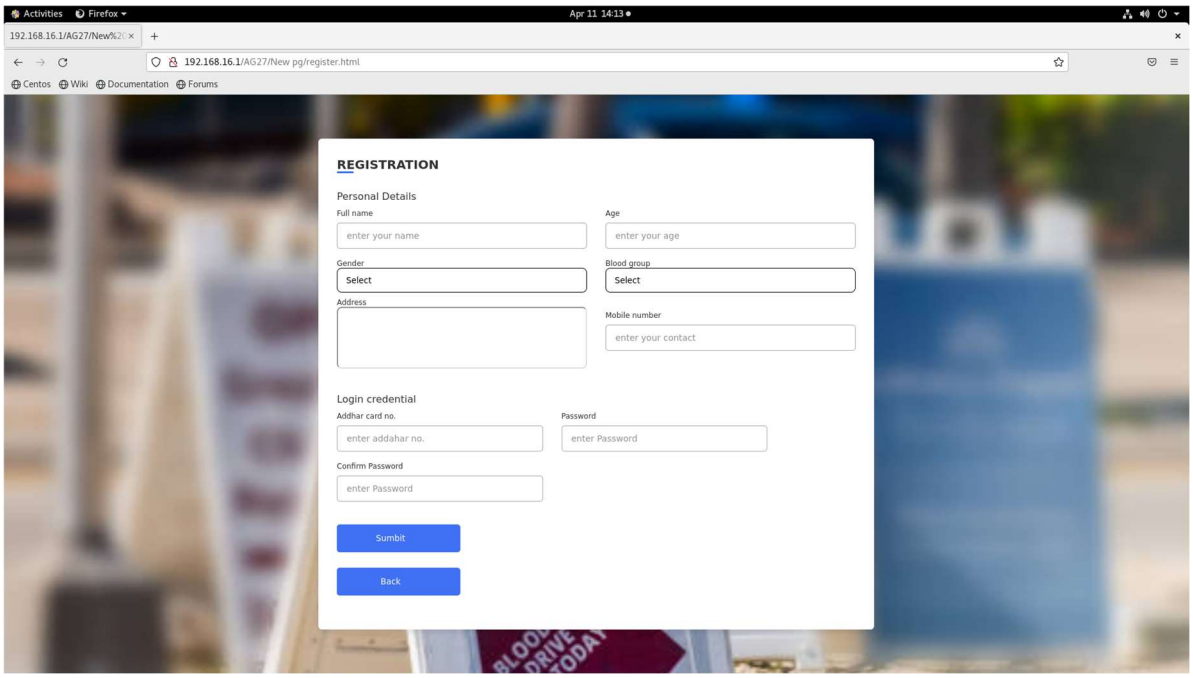
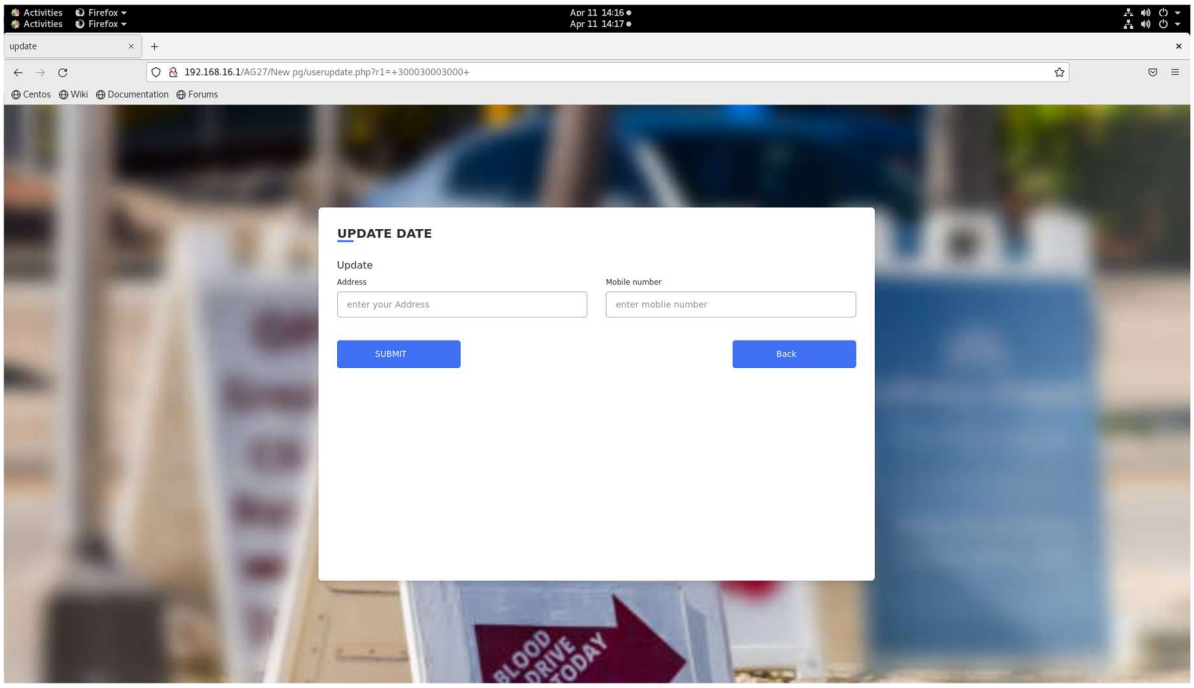
Wiki
Documentation
Forums
Photo Gallery
BLOOD MONTH DONATION DRIVE


Search Blood Stock
District
Search District
SHOW
Human
Blood
Hospital Details
Name
Location
District
contact
A+ve
A-ve
B+ve
B-ve
AB+ve
AB-ve
O+ve
O-ve
Sancheti
Shivajinagar,pune
Pune
879646231
1
2
1
2
1
1
2
2
Command Hospital
Pune
Pune
-1251
0
0
0
8
0
8
0
8
Jeevdhan
Mumbai East
Mumbai
789654123
2
3
2
3
2
3
4
4
Looking For Blood
Blood Availibility
Want To Donate Blood
Donar Login
Blood Bank Login
E-rakthbhandar Login
About Us
FAQ


REGISTRATION
Personal Details
Full name
enter your name
Age
enter your age
Gender
Select
Blood group
Select
Address
Mobile number
enter your contact
Login credential
Addhar card no.
enter addahar no.
Password
enter Password
Confirm Password
enter Password
Sumbit
Back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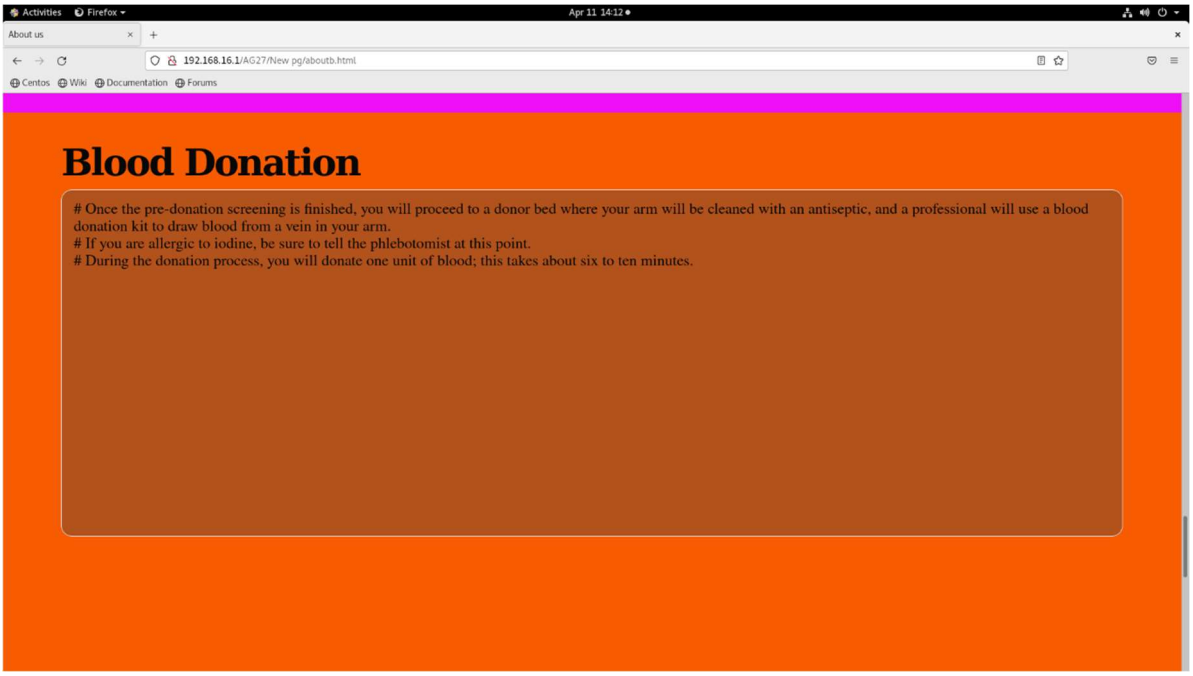
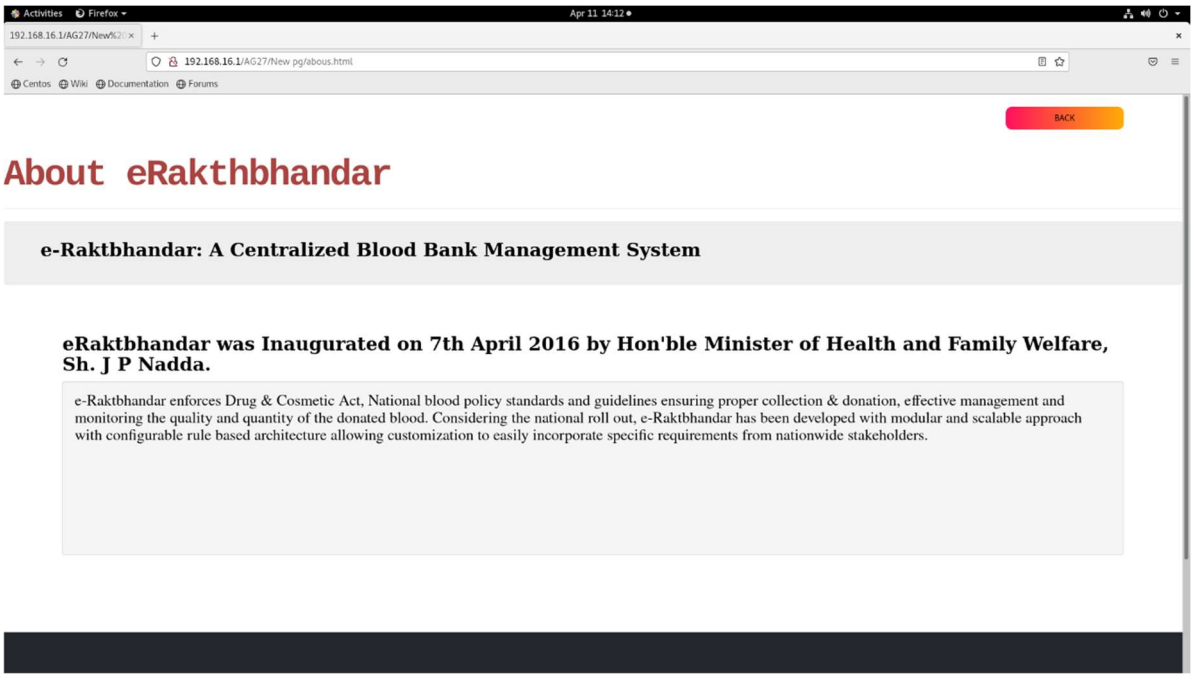
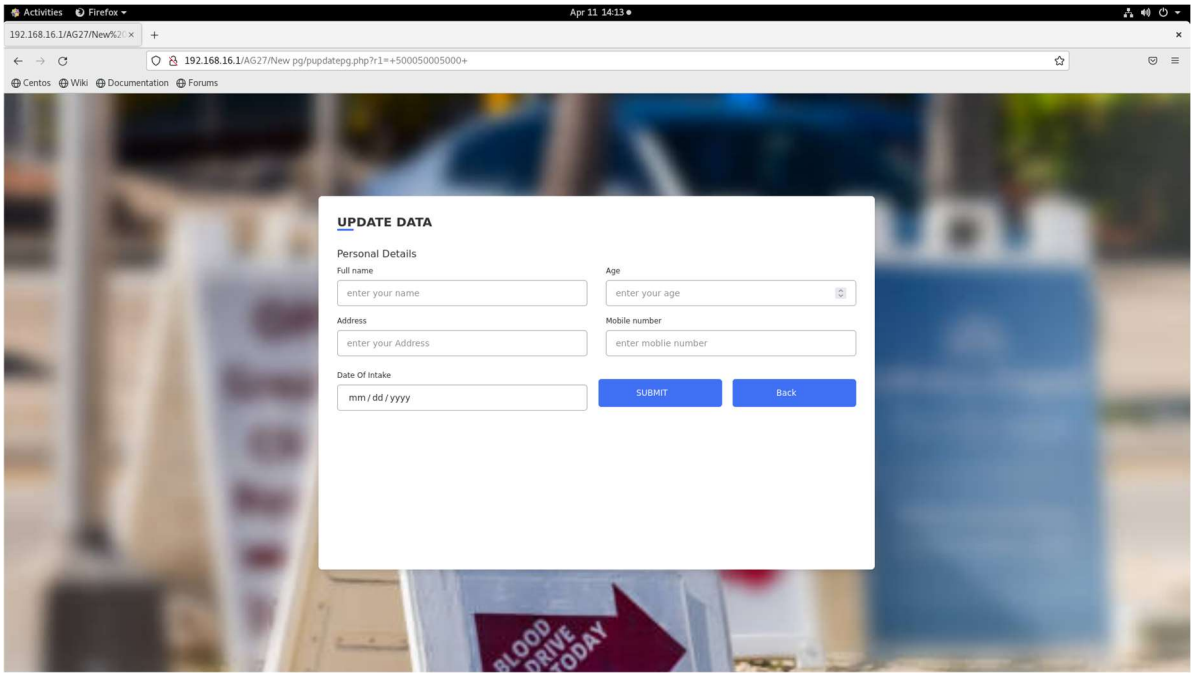
Centos
Wiki
Documentation
Forums
UPDATE DATE
Update
Address
enter your Address
Mobile number
enter mobile number
SUBMIT
Back


Activities
Firefox
Apr 11 14:12
About us
192.168.16.1/AG27/New pg/aboutb.html
Centos
Wiki
Documentation
Forums
Blood Donation
Once the pre-donation screening is finished, you will proceed to a donor bed where your arm will be cleaned with an antiseptic, and a professional will use a blood donation kit to draw blood from a vein in your arm.
If you are allergic to iodine, be sure to tell the phlebotomist at this point.
During the donation process, you will donate one unit of blood; this takes about six to ten minutes.


Activities
Firefox
Apr 11 14:12
192.168.16.1/AG27/New pg/abous.html
Centos
Wiki
Documentation
Forums
BACK
About eRakthbhandar
e-Raktbhandar: A Centralized Blood Bank Management System
eRaktbhandar was Inaugurated on 7th April 2016 by Hon'ble Minister of Health and Family Welfare, Sh. J P Nadda.
e-Raktbhandar enforces Drug & Cosmetic Act, National blood policy standards and guidelines ensuring proper collection & donation, effective management and monitoring the quality and quantity of the donated blood. Considering the national roll out, e-Raktbhandar has been developed with modular and scalable approach with configurable rule based architecture allowing customization to easily incorporate specific requirements from nationwide stakeholders.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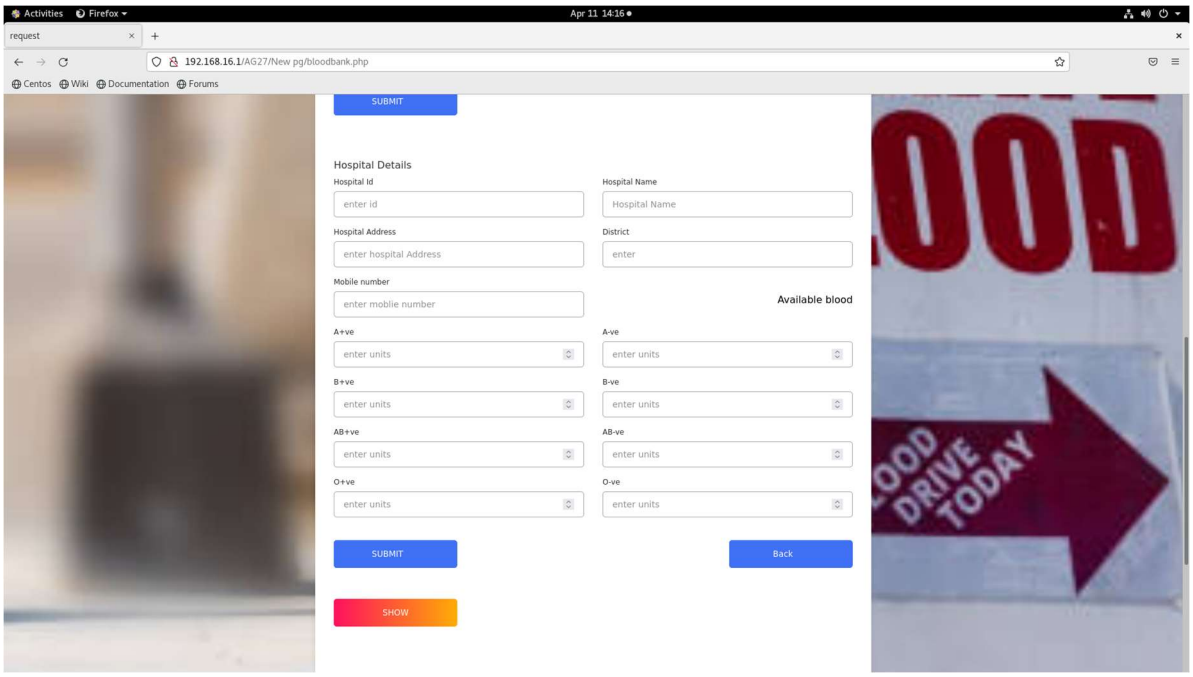
Centos
Wiki
Documentation
Forums
UPDATE DATA
Personal Details
Full name
enter your name
Age
enter your age
Address
enter your Address
Mobile number
enter mobile number
Date Of Intake
mm / dd / yyyy
SUBMIT
Back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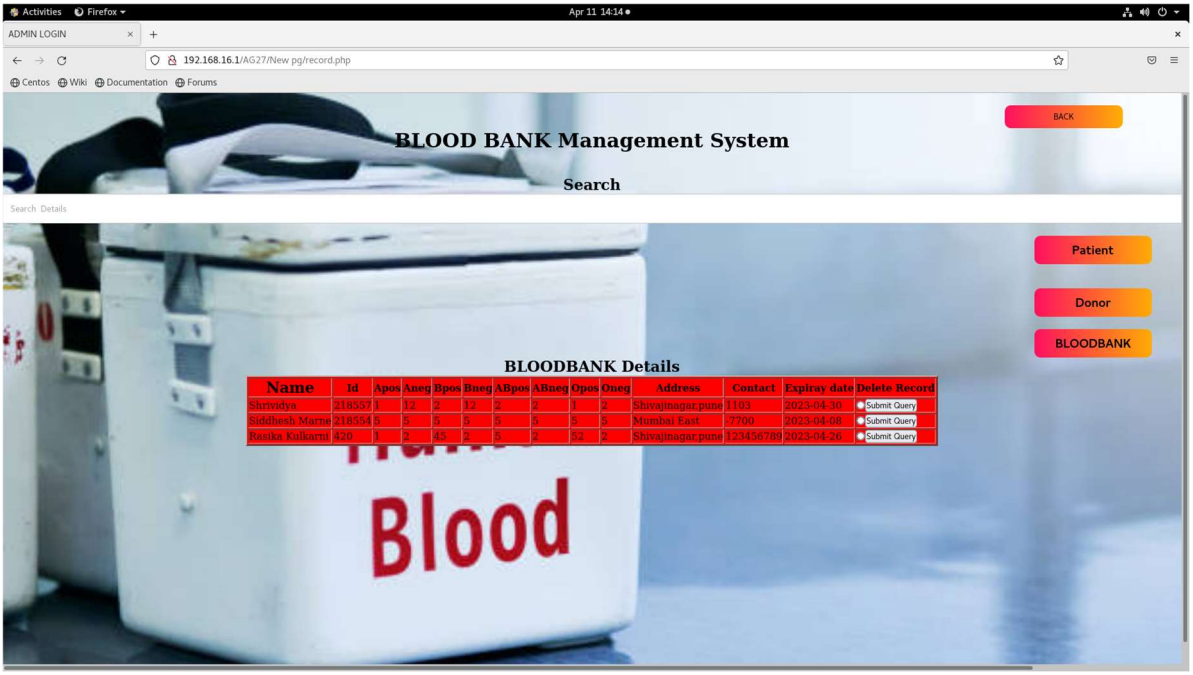
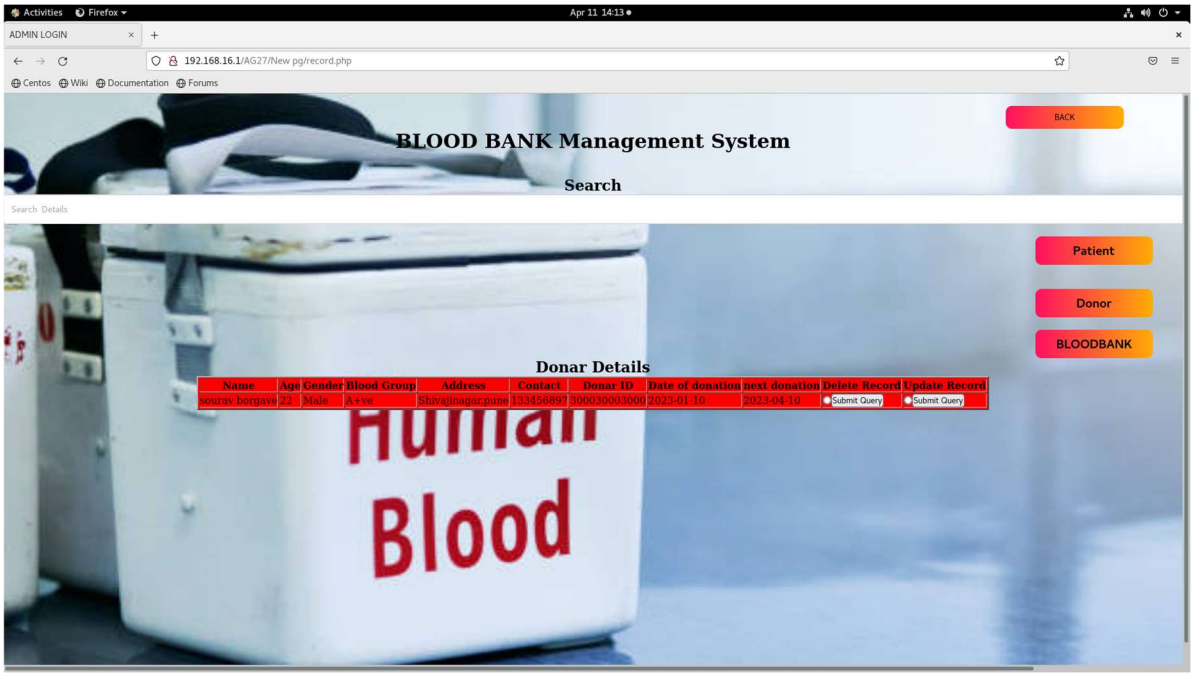
Centos
Wiki
Documentation
Forums
SUBMIT
Hospital Details
Hospital Id
enter id
Hospital Name
Hospital Name
Hospital Address
enter hospital Address
District
enter
Mobile number
enter moblie number
Available blood
A+ve
enter units
A-ve
enter units
B+ve
enter units
B-ve
enter units
AB+ve
enter units
AB-ve
enter units
O+ve
enter units
O-ve
enter units
SUBMIT
Back
SHOW
DRIVE
TODAY


Activities
Firefox
Apr 11 14:14
ADMIN LOGIN
192.168.16.1/AG27/New pg/record.php
Centos
Wiki
Documentation
Forums
BACK
BLOOD BANK Management System
Search
Search Details
Patient
Donor
BLOODBANK
BLOODBANK Details
Name
Id
Apos
Aneg
Bpos
Bneg
ABpos
ABneg
Opos
Oneg
Address
Contact
Expiray date
Delete Record
Shrividya 218557 1 12 2 12 2 2 1 2 Shivajinagar,pune 1103 2023-04-30 Submit Query
Siddhesh Marne 218554 5 5 5 5 5 5 5 5 Mumbai East -7700 2023-04-08 Submit Query
Rasika Kulkarni 420 1 2 45 2 3 2 52 2 Shivajinagar,pune 123456789 2023-04-26 Submit Query
Blood


Activities
Firefox
Apr 11 14:13
ADMIN LOGIN
192.168.16.1/AG27/New pg/record.php
Centos
Wiki
Documentation
Forums
BACK
BLOOD BANK Management System
Search
Search Details
Patient
Donor
BLOODBANK
Donar Details
Name
Age
Gender
Blood Group
Address
Contact
Donar ID
Date of donation
next donation
Delete Record
Update Record
sourav borgave
22
Male
A+ve
Shivajinagar,pune
13345689
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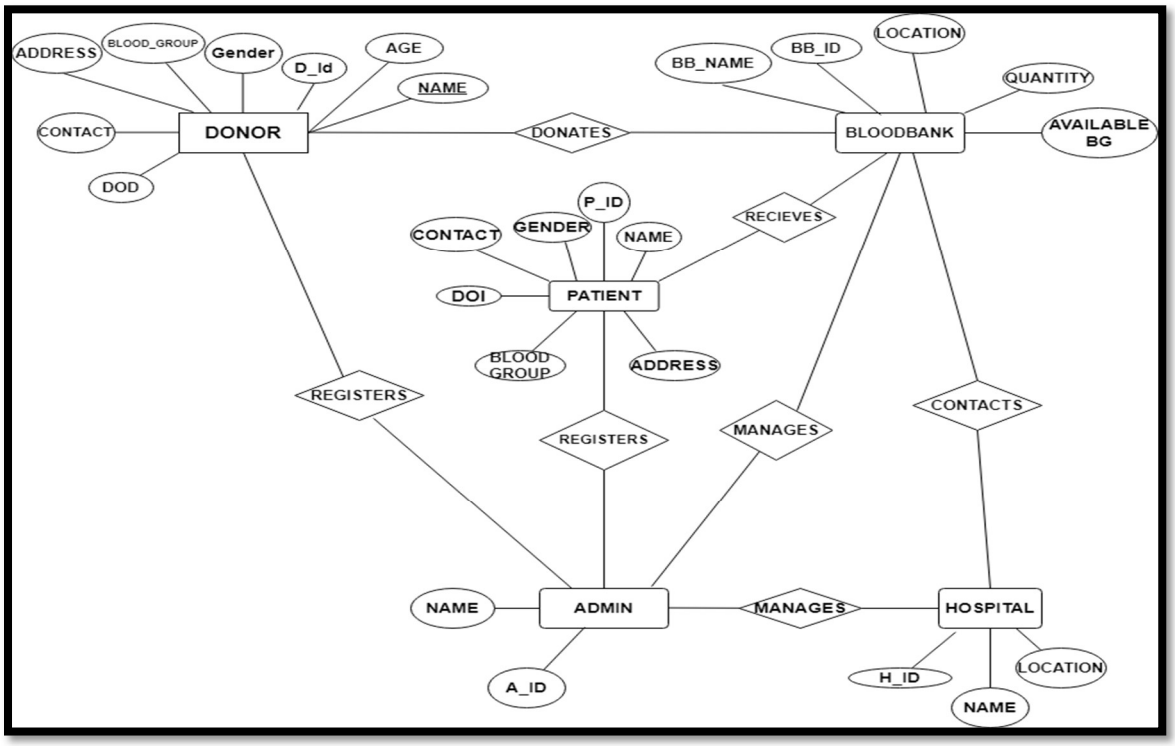
Submit Query
Submit Query
Human
Blood

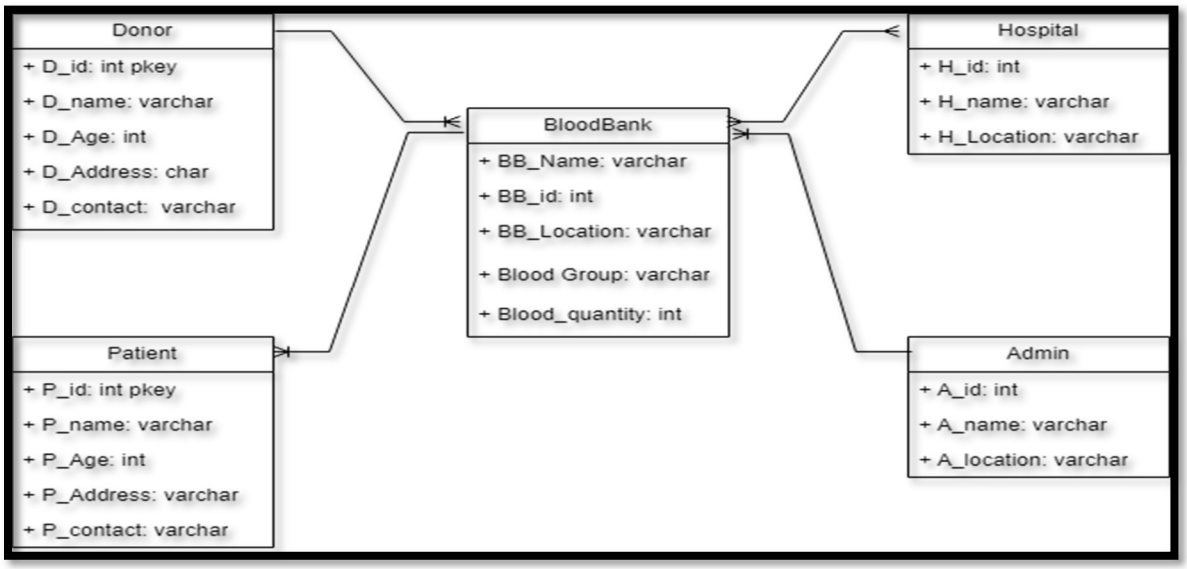
4. UML

4.1



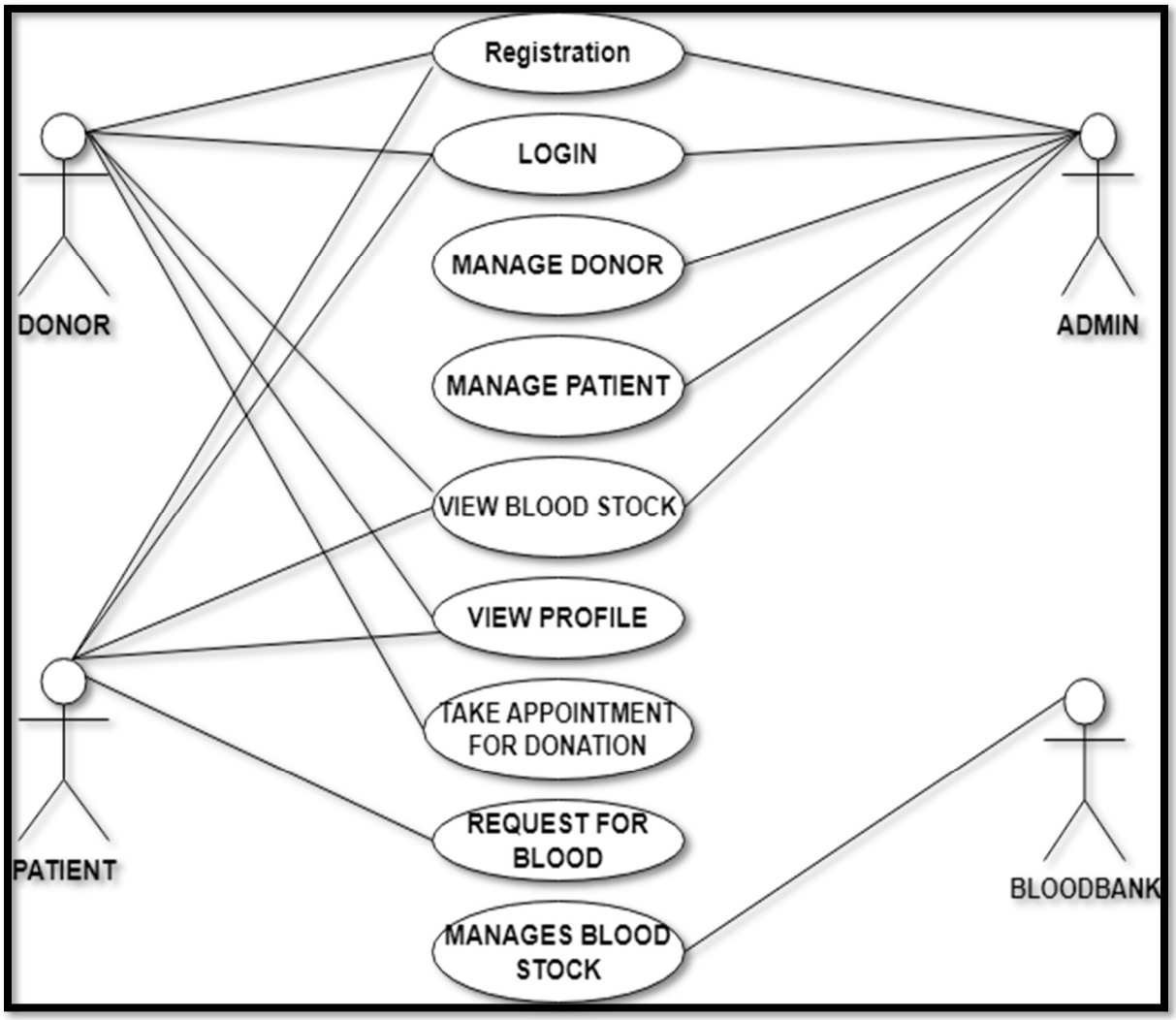
ER Diagram

4.2



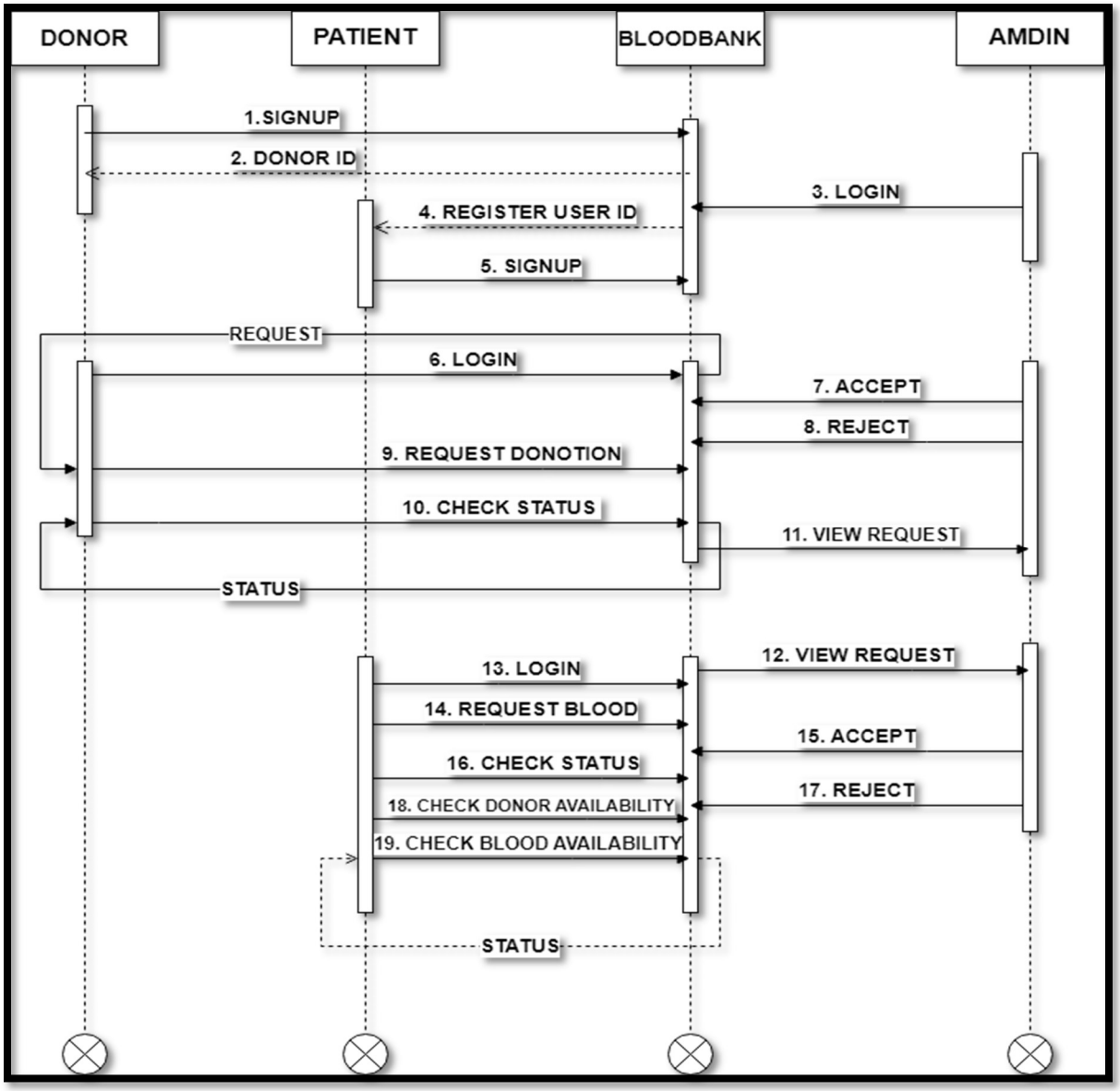
Class Diagram

4.3



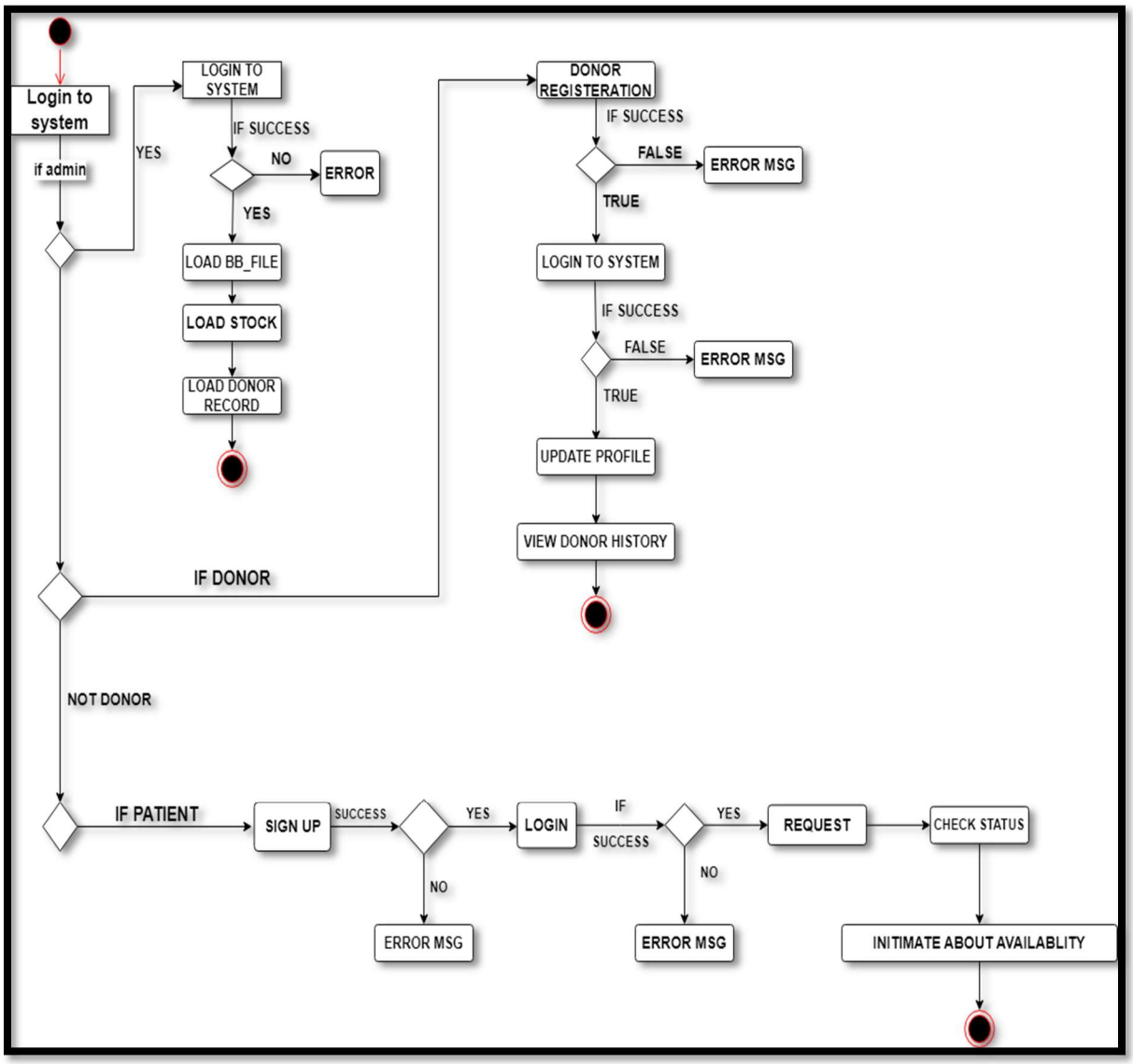
Use Case Diagram

4.4



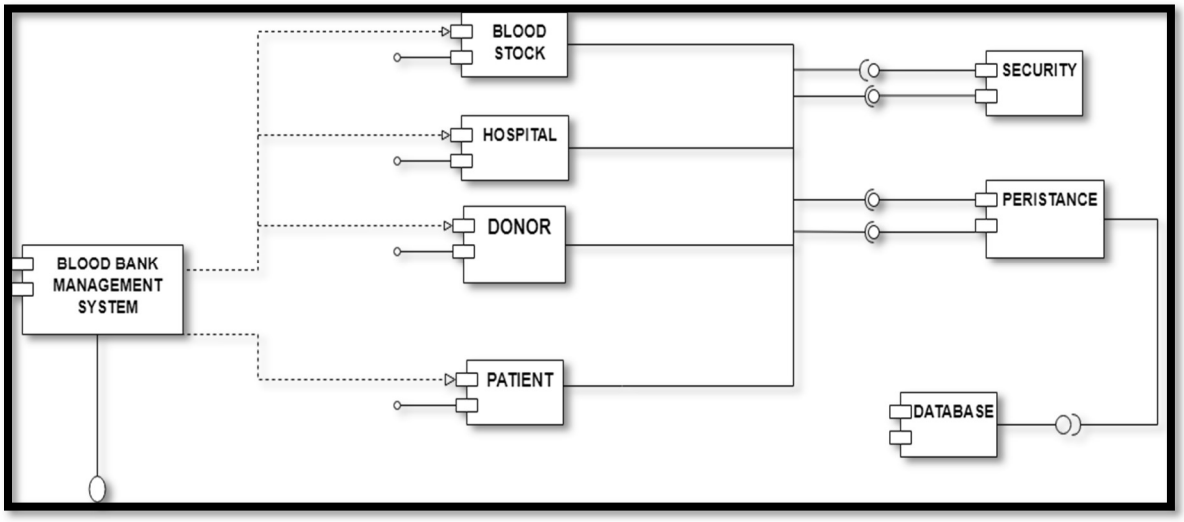
Sequence Diagram

4.5



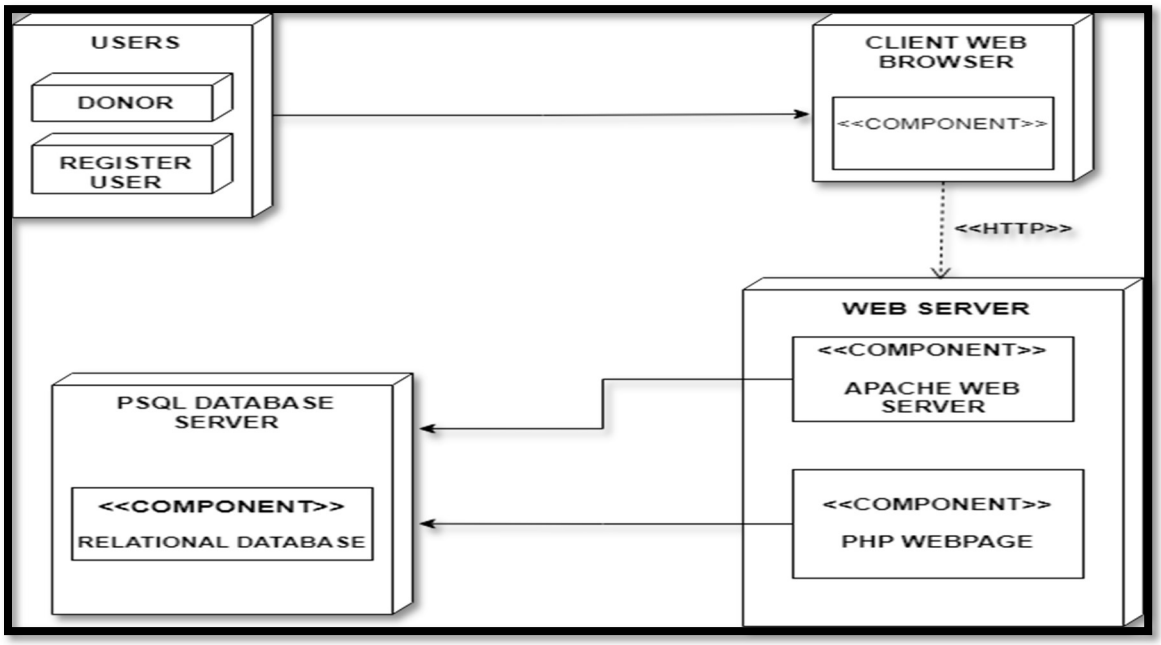
Activity Diagram

4.6



Component Diagram

4.7



Deployment Diagram

5.Coding

5.1 Hardware Specification

RAM: 4GB

Processor: i3

5.2 Platform

OS: Linux, Windows

Browser: Mozilla Firefox, Google Chrome

Editor: Vi Editor, Visual Studio Code

5.3 Programming Languages Used

HTML, CSS, PHP

5.4 Coding Style Followed

HTML, CSS, PHP

6.Testing

6.1 Test cases and Test Results

Sr. No.	Test Case	Test Step	Expected Output	Actual Output	Error Output
1)	Admin Page	Checks whether Admin is working properly or not.	Admin successfully login or an error message occurred	Admin will successfully login & values will be stored in database	
2)	Donor Registration	Checks whether all the required fields are correctly filled or not.	Donor will successfully registered or an error message occurred	Registration will be successfull & account will be accepted	
3)	Blood bank Login	Checks all the details of user that is taken from Admin	Blood bank will successfully login or an error message is displayed	Login will be successful & account will be accepted and inserts hospital details.	
4)	Admin Manages	Admin will manage the system	Admin will successfully manage the system	All records will be successfully managed by Admin	
5)	Add, Update, Delete Person	Admin will manage persons	Admin will successfully manage the persons	All persons will be successfully updated by Admin	

7.Limitations & Future Enhancements

7.1 Limitations

Limitation of blood donation management website and future enhancements

- There are several limitations of a blood donation management website, including:

- Limited reach: The website may not reach all potential blood donors due to limited internet access and awareness of the website's existence.

- Lack of real-time updates: The website may not have real-time updates on blood donation needs and availability, which can lead to confusion and delays in getting the necessary blood to patients.

- Inadequate data security: The website may be vulnerable to cyberattacks and data breaches, compromising the confidentiality of donor and patient information.

- Limited integration with other healthcare systems: The website may not be integrated with other healthcare systems, making it challenging to coordinate blood donation efforts with other healthcare providers.

7.2 Future Enhancements

- To enhance the effectiveness of a blood donation management website, several future enhancements can be considered, including:

- Mobile app: Developing a mobile app can expand the website's reach and increase donor engagement by providing real-time updates and alerts on blood donation needs and opportunities.

- Integration with electronic health records (EHRs): Integrating the website with EHRs can improve the coordination between blood donation efforts and patient care by providing real-time data on patient blood needs.

- Improved data security measures: Implementing robust data security measures can help protect donor and patient information from cyberattacks and data breaches.

- Personalized messaging: Providing personalized messaging and incentives can encourage repeat donors and increase donor engagement.

- Social media integration: Integrating the website with social media platforms can expand the website's reach and increase donor engagement by leveraging social media's viral nature.

8.Conclusion

Overall, implementing these enhancements can help overcome the limitations of a blood donation management website and improve the efficiency and effectiveness of blood donation efforts.

For both donors and acceptors, the proposed Blood Bank Management System provides a dependable platform. A web-based program called the BBMS

helps to reduce difficulties with data redundancy and human mistakes. It is a quick and effective way to communicate without any security risks because the data for both donors and acceptors, the proposed Blood Bank Management System provides a dependable platform. A web-based program called the BBMS. It helps to reduce difficulties with data redundancy and human mistakes. It is a quick and effective way to communicate without any security risks because the data entered will be regularly updated and validated, increasing the likelihood that someone will be saved from death. Furthermore, it is made more accessible by the availability of a location-based system that allows one to find the closest blood bank using Google Maps. Entered will be regularly updated and validated, increasing the likelihood that someone will be saved from death. Furthermore, it is made more accessible by the availability of a location-based system that allows one to find the closest blood bank using Google Maps**.**

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