

BLOOD BANK MANAGEMENT SYSTEM

A MINI PROJECT REPORT

Submitted by

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In partial satisfaction of the requirements for the degree of

**BACHELOR OF TECHNOLOGY
in**

ARTIFICIAL INTELLIGENCE



**SCHOOL OF COMPUTING
COLLEGE OF ENGINEERING AND TECHNOLOGY
SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
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BONAFIDE CERTIFICATE

Certified that this Course Project Report titled “**BLOOD BANK MANAGEMENT SYSTEM**” is the bonafide work done by **UDITA KAUSAKHI U [RA2111047010102]**, **CHARVI JAIN[RA2111047010113]** of II Year/ IV Sem B. Tech (AI) who carried out under my supervision for the course 18AIC207J - Database Management Systems for Artificial Intelligence. Certified further, that to the best of my knowledge the work reported herein does not form part of any other work.

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ABSTRACT

The main aim of developing the Online Blood Donation Management System is to establish a link between the blood donors and the organization and generate e-information.

With the help of this application, anyone or any organization who wants to donate blood for a good cause can register themselves. The client should start by adding donor names and generating unique IDs and add their details and relevant information such as blood type, medical report, and contact number.

After the database is created of patients and donors, a new database for the blood bank is created. There the name of the blood bank, its staff details, operating hours, and address is added along with the addition of patient names with unique IDs, details on their medical conditions, and blood types. And, anyone who requires blood can register through this site.

Admin authority is authorized to add, delete, and modify if required. The intention of creating the Online Blood Donation Management System project is to develop an online Blood Donation Information. The entire project has been developed keeping the distributed client-server computing technology in mind.

OBJECTIVE

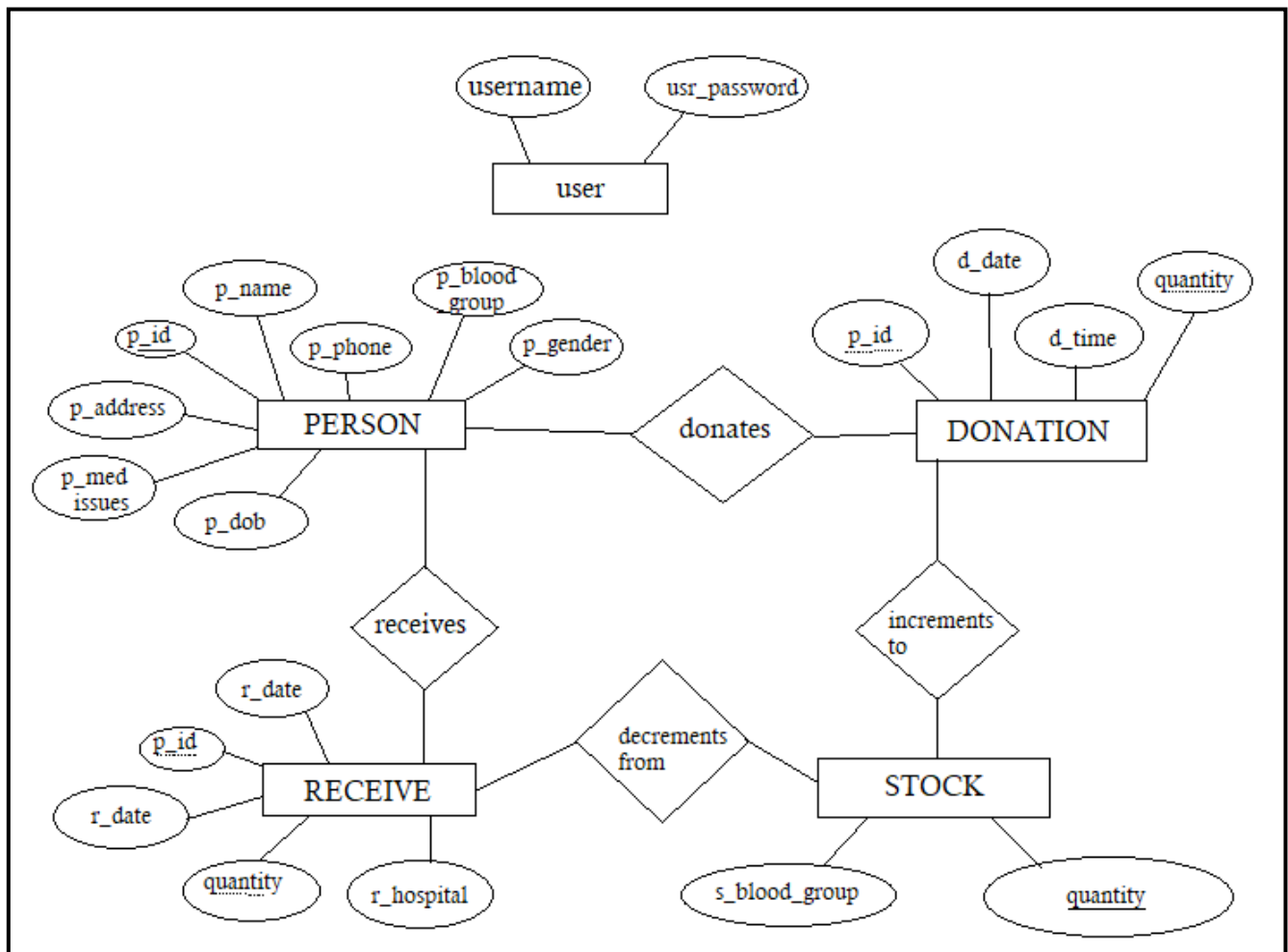
The primary objective of this project is to develop a database management system that allows blood banks to efficiently manage their inventory and blood donation processes. To achieve this, the system will be designed using a relational database management system (RDBMS) and will consist of several tables to store data related to donors, blood inventory, donations, recipients, and blood requests.

A key objective is to create a system that allows blood banks to keep track of their blood inventory. This includes tracking the blood group, quantity, and expiry date of each unit of blood in the inventory. By having access to this information, blood banks can plan and manage their inventory to ensure that blood is available when needed.

Another important objective is to provide a platform for blood banks to manage the blood donation process. This includes donor registration, donation records, and blood requests from hospitals or individuals. By having a centralized database to manage all the information related to blood donation, blood banks can easily access and manage the data. This makes it easier to track the movement of blood and ensure that the inventory is up-to-date.

Finally, an objective of this project is to provide a user-friendly interface that makes it easy for blood bank staff to manage their inventory and donation processes. The system will be designed to be intuitive and easy to use, providing a simple interface for blood banks to manage their inventory and donation processes. The system will also provide reports and analytics to help blood banks make better decisions about their inventory management and donation processes.

ER DIAGRAM



ER Diagram Description:

SR. NO.	TABLE NAME	DESCRIPTION
1	person	It stores the person's details including their personal information along with medical history and person id
2	user	It stores username and password
3	donation	It keeps a record about all the donations
4	receive	It stores the recipients' details including name, address, blood type and id
5	stock	It stores the blood details, quantity of blood available in each group

QUERIES UTILIZED

Queries used in SQLite

```
CREATE DATABASE IF NOT EXISTS `blood_bank` DEFAULT
CHARACTER SET utf8mb4 COLLATE utf8mb4_general_ci;
USE `blood_bank`;
```

```
CREATE TABLE `donation` (
  `p_id` int(10) NOT NULL,
  `d_date` date NOT NULL,
  `d_time` time NOT NULL,
  `d_quantity` int(1) NOT NULL)
```

```
CREATE TABLE `person` (
  `p_id` int(10) NOT NULL,
  `p_name` varchar(25) NOT NULL,
  `p_phone` char(10) NOT NULL,
  `p_dob` date NOT NULL,
  `p_address` varchar(100) DEFAULT NULL,
  `p_gender` char(1) NOT NULL,
  `p_blood_group` varchar(3) NOT NULL,
  `p_med_issues` varchar(100) DEFAULT NULL)
```

```
CREATE TABLE `receive` (
  `p_id` int(10) NOT NULL,
  `r_date` date NOT NULL,
  `r_time` time NOT NULL,
  `r_quantity` int(1) NOT NULL,
  `r_hospital` varchar(50) NOT NULL)
```

```
CREATE TABLE `stock` (
  `s_blood_group` varchar(3) NOT NULL,
  `s_quantity` int(5) NOT NULL DEFAULT 0)
```

```
INSERT INTO `stock` (`s_blood_group`, `s_quantity`) VALUES
('A+', 0),
('A-', 0),
('AB+', 0),
('AB-', 0),
('B+', 0),
('B-', 0),
```

```
('O+', 0),  
('O-', 0);
```

```
CREATE TABLE `user` (  
  `username` varchar(10) NOT NULL,  
  `password` varchar(16) NOT NULL)
```

```
INSERT INTO `user` (`username`, `password`) VALUES  
('SuperAdmin', '12345678'),  
('test_user', 'qwertyuiop');
```

```
ALTER TABLE `donation`  
  ADD PRIMARY KEY (`p_id`, `d_date`, `d_time`);
```

```
ALTER TABLE `person`  
  ADD PRIMARY KEY (`p_id`);
```

```
ALTER TABLE `receive`  
  ADD PRIMARY KEY (`p_id`, `r_date`, `r_time`);
```

```
ALTER TABLE `stock`  
  ADD PRIMARY KEY (`s_blood_group`);
```

```
ALTER TABLE `user`  
  ADD PRIMARY KEY (`username`);
```

```
ALTER TABLE `person`  
  MODIFY `p_id` int(10) NOT NULL AUTO_INCREMENT;
```

```
ALTER TABLE `donation`  
  ADD CONSTRAINT `Donation_ibfk_1` FOREIGN KEY (`p_id`)  
  REFERENCES `person` (`p_id`);
```

```
ALTER TABLE `receive`  
  ADD CONSTRAINT `Receive_ibfk_1` FOREIGN KEY (`p_id`)  
  REFERENCES `person` (`p_id`);  
COMMIT;
```


FRONT END DESIGN

Front-End is created using front end design tools such as Sublime Text Editor along with front end language PHP.

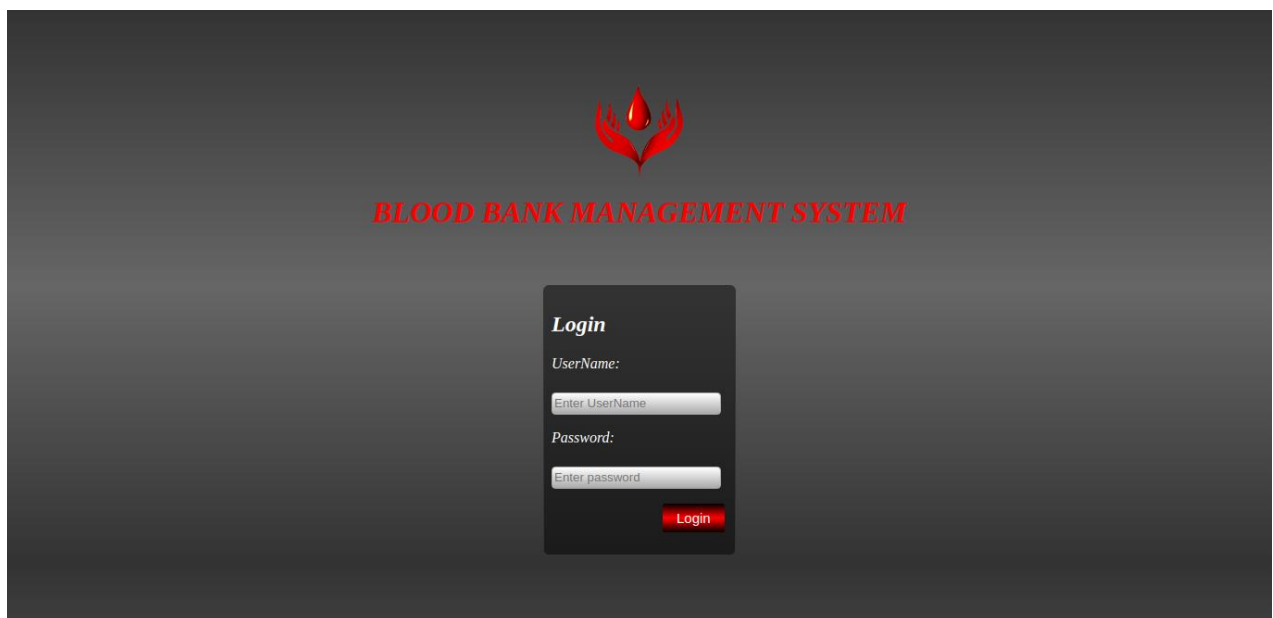
Pseudo-Code

Login page:

Step1: Enter the USERNAME in the given field.

Step2: Enter the valid PASSWORD.

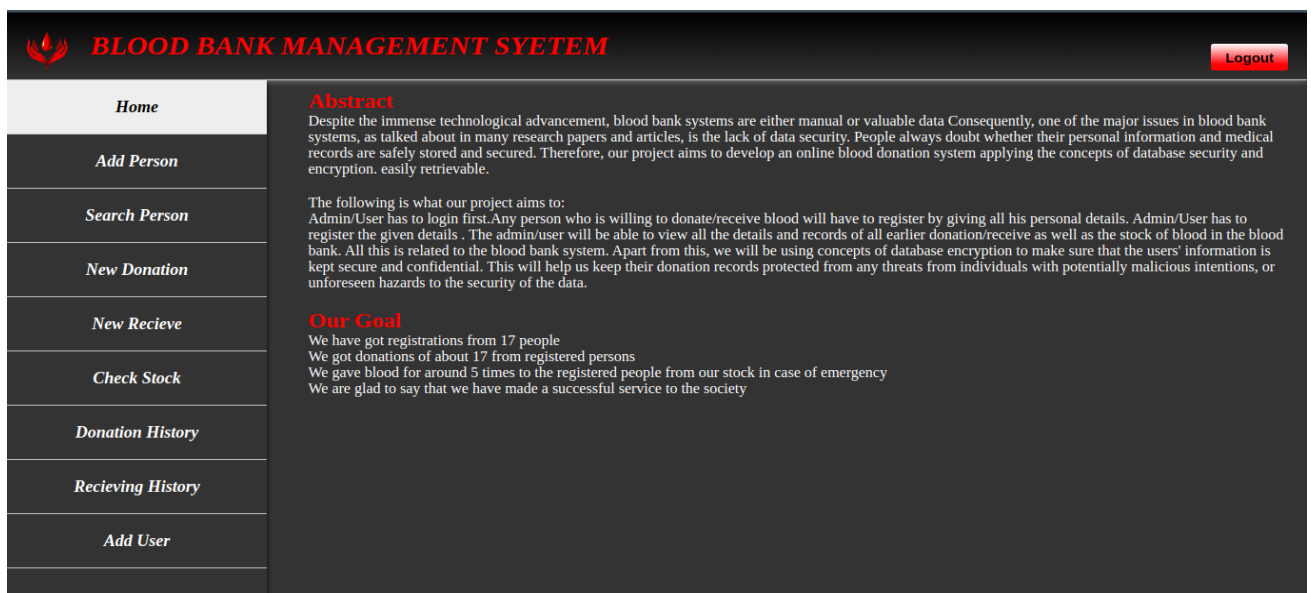
Step3: Click on LOGIN button



Home page:

This page contains the goal of the database.

It also gives the brief information about number of registrations, donations and receives taken place in the blood management.



Person page:

The user must enter the personal details of the new donor/receiver.

Step1: Open the ADD PERSON page.

Step2: The PERSON ID is auto incremented because its unique for all.

Step3: Enter the PERSON NAME.

Step 4: Enter the PHONE NUMBER.

Step5: Enter the GENDER.

Step6: Select the DATE OF BIRTH.

Step7: Select the BLOOD GROUP.

Step 8: Enter the ADDRESS.

Step9: Enter the MEDICAL ISSUES if any.

Step10: Click on REGISTER button.

The screenshot shows the 'New Registration' form in the Blood Bank Management System. The form is located on the right side of the page, and the left sidebar contains a menu with options: Home, Add Person, Search Person, New Donation, New Recieve, Check Stock, Donation History, Recieving History, and Add User. The form fields are: Name (text input), Phone Number (text input), Gender (radio buttons for Male, Female, Other), Date of birth (calendar icon), Blood Group (dropdown menu showing A+), Address (text input), and Medical Issues(if any) (text input). A Logout button is visible in the top right corner.

The screenshot shows the 'Add Person' page in the Blood Bank Management System. The page displays the successful registration of a new person named 'raju'. The left sidebar contains the same menu as the previous screenshot. The main content area shows the following information: Your registration is succesful., Personal Id : 20, Name : raju, Phone Number: 7406661785, DOB : 1999-01-20, Blood Group : B+, Gender : Male, Address : kasaragod, Medical Issues : None, and NB:Please keep your Personal Id for future reference!!!. A Logout button is visible in the top right corner.

Search Person Page:

In this page one can retrieve the details of the person using PERSON ID.

Step1: Open the SEARCH PERSON page

Step2: Enter the PERSON ID.

Step3: Click on SUBMIT button.

The screenshot shows the 'Search Person' page of the 'BLOOD BANK MANAGEMENT SYTEM'. The left sidebar contains a menu with options: Home, Add Person, Search Person (highlighted), New Donation, New Recieve, Check Stock, Donation History, Recieving History, and Add User. The main content area displays the details for 'Sarin Alexander' with the following information:

- Personal Id : 1
- Name : Sarin Alexander
- Phone Number: 7406661512
- DOB : 2021-01-06
- Blood Group : B+
- Gender : Male
- Address : kandathil (h), parappa, kuttaparamba(po), kerala
- Medical Issues : None

Below the details, there is a section titled 'Donation History' which contains a table:

Date of Donation	Time of Donation	Units of blood
2021-01-07	09:33:00	2

At the bottom, there is a section titled 'Recieving History' which states 'No Recieves Yet'.

Donation page:

If any person is willing to donate the blood.

Step1: Open the NEW DONATION page.

Step2: Enter the unique PERSON ID of the person.

Step3: Enter the Units of blood donated.

Step4: Click on SUBMIT button.

The screenshot shows the 'New Donation' page of the 'BLOOD BANK MANAGEMENT SYTEM'. The left sidebar contains a menu with options: Home, Add Person, Search Person, New Donation (highlighted), New Recieve, Check Stock, Donation History, Recieving History, and Add User. The main content area displays the 'New Donation' form with the following fields:

- Personal Id:
- Units of blood donated:
- Submit button

Receive page:

If any person require blood for emergency purpose.

Step1: Open the NEW RECEIVE page.

Step2: Enter the unique PERSON ID of person.

Step3: Enter the Units of blood received by a person.

Step4: Enter the Hospital Name in which the person is being treated.

Step5: Click on SUBMIT button.

(Note: Person details are accessed using the PERSON ID, date and time is automatically accessed using computers default time.)

The screenshot shows the 'New Recieve' page of the 'BLOOD BANK MANAGEMENT SYETEM'. The page has a dark theme with a sidebar on the left containing navigation links: Home, Add Person, Search Person, New Donation, New Recieve (highlighted), Check Stock, Donation History, Recieving History, and Add User. The main content area is titled 'New Recieve' and contains three input fields: 'Personal Id:', 'Units of blood recieved:', and 'Admitted Hospital:'. Below these fields is a red 'Submit' button. A 'Logout' button is located in the top right corner.

Stock Page:

If the user forgets password, then they can recover it.

Step1: Go to HOME page

Step2: Press MOVIE button

Step3: select FORGOT PASSWORD

Step4: Enter the following fields

The screenshot shows the 'Stock' page of the 'BLOOD BANK MANAGEMENT SYETEM'. The page has a dark theme with a sidebar on the left containing navigation links: Home, Add Person, Search Person, New Donation, New Recieve, Check Stock (highlighted), Donation History, Recieving History, and Add User. The main content area is titled 'Stock' and contains a table with two columns: 'Blood Group' and 'Units of blood'. The table lists the following data:

Blood Group	Units of blood
A+	1
A-	0
AB+	4
AB-	2
B+	4
B-	2
O+	1
O-	3

A 'Logout' button is located in the top right corner.

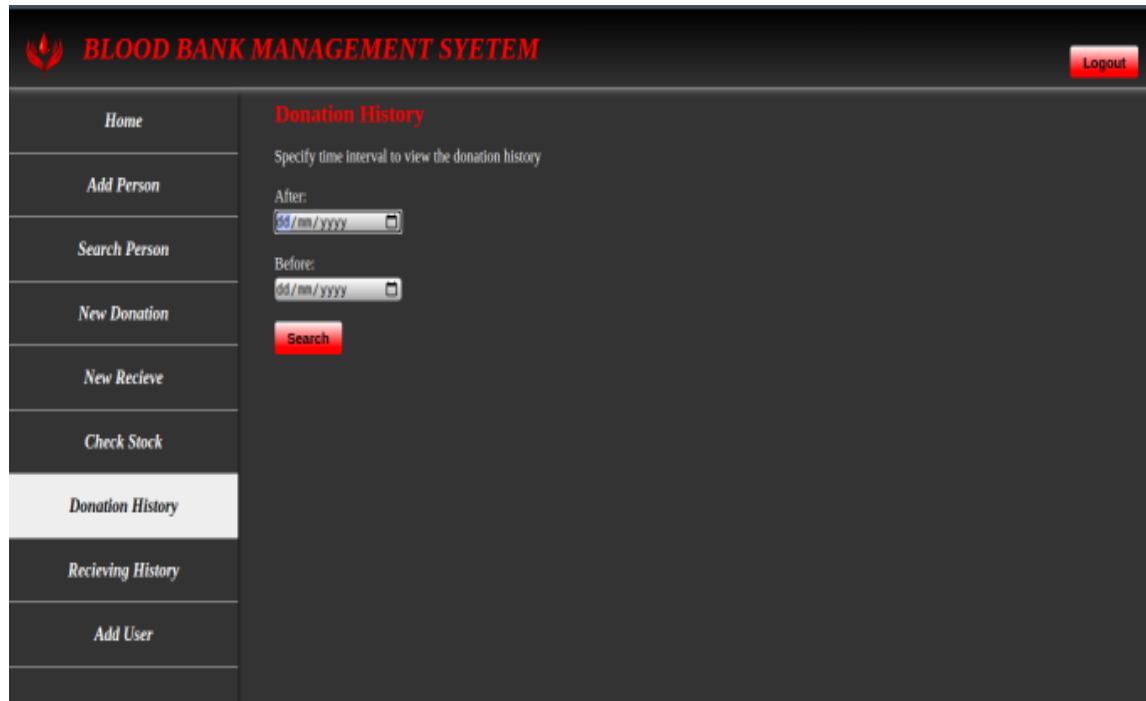
Donation History Page:

Step1: Enter the time interval in after and before date.

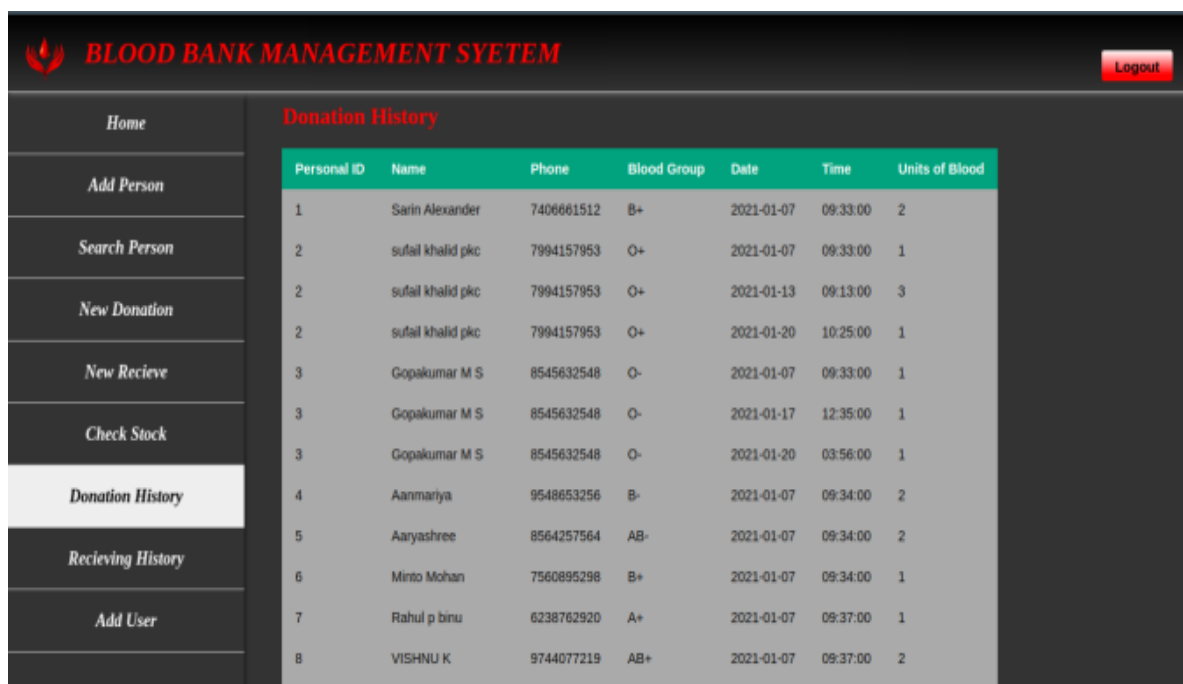
Step2: Click on SEARCH button.

It displays all the donation history of that time interval.

If no donation history is present then it responds with “No record found on this time interval.”



The screenshot shows the 'Donation History' page of the 'BLOOD BANK MANAGEMENT SYTEM'. The page has a dark theme with a sidebar on the left containing navigation links: Home, Add Person, Search Person, New Donation, New Recieve, Check Stock, Donation History (highlighted), Recieving History, and Add User. The main content area is titled 'Donation History' and contains the instruction 'Specify time interval to view the donation history'. Below this, there are two date pickers labeled 'After:' and 'Before:', both showing 'dd/mm/yyyy'. A red 'Search' button is positioned below the date pickers. A 'Logout' button is located in the top right corner of the page.



The screenshot shows the 'Donation History' page with a list of donation records. The table has the following columns: Personal ID, Name, Phone, Blood Group, Date, Time, and Units of Blood. The records are as follows:

Personal ID	Name	Phone	Blood Group	Date	Time	Units of Blood
1	Sarin Alexander	7406661512	B+	2021-01-07	09:33:00	2
2	sufail khalid pkc	7994157953	O+	2021-01-07	09:33:00	1
2	sufail khalid pkc	7994157953	O+	2021-01-13	09:13:00	3
2	sufail khalid pkc	7994157953	O+	2021-01-20	10:25:00	1
3	Gopakumar M S	8545632548	O-	2021-01-07	09:33:00	1
3	Gopakumar M S	8545632548	O-	2021-01-17	12:35:00	1
3	Gopakumar M S	8545632548	O-	2021-01-20	03:56:00	1
4	Aanmariya	9548653256	B-	2021-01-07	09:34:00	2
5	Aaryashree	8564257564	AB-	2021-01-07	09:34:00	2
6	Minto Mohan	7560895298	B+	2021-01-07	09:34:00	1
7	Rahul p binu	6238762920	A+	2021-01-07	09:37:00	1
8	VISHNU K	9744077219	AB+	2021-01-07	09:37:00	2

Receive History Page:


Specify the time interval so that you can get details from that time interval only.

Step1: Enter the time interval in after and before date.

Step2: Click on SEARCH button.

It displays all the receive history of that time interval.

If no receive history is present then it responds with “No record found on this time interval.”

 **BLOOD BANK MANAGEMENT SYTEM** Logout


[Home](#)[Add Person](#)[Search Person](#)[New Donation](#)[New Recieve](#)[Check Stock](#)[Donation History](#)[Receiving History](#)[Add User](#)

Receiving History

Specify time interval to view the receiving history

After:

Before:

 **BLOOD BANK MANAGEMENT SYTEM** Logout

[Home](#)[Add Person](#)[Search Person](#)[New Donation](#)[New Recieve](#)[Check Stock](#)[Donation History](#)[Receiving History](#)[Add User](#)

Receiving History

Personal ID	Name	Phone	Blood Group	Date	Time	Units of Blood	Hospital
1	Sarin Alexander	7406661512	B+	2021-01-20	10:26:00	1	Alvas Hospital, Moodbidri
2	sufail khaid pkc	7994157953	O+	2021-01-10	03:38:00	3	Alvas Hospital, Moodbidri
2	sufail khaid pkc	7994157953	O+	2021-01-13	09:22:00	2	Yenepoya medical college, Mangalore
10	Amal N K	9072514472	O+	2021-01-14	01:59:00	3	Alvas Hospital, Moodbidri
10	Amal N K	9072514472	O+	2021-01-17	12:41:00	1	Alvas Hospital, Moodbidri

Add User Page:

Adding new user.

Step1: Enter the SUPER ADMIN PASSWORD.

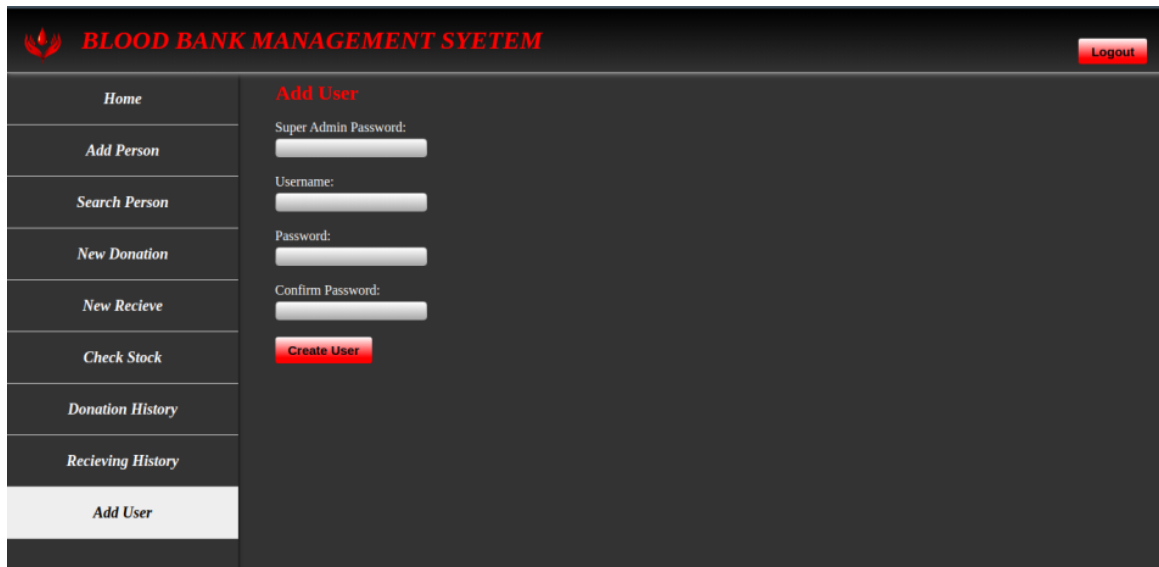
Step2: Enter the new USERNAME.

Step3: Enter the PASSWORD.

Step4: CONFIRM PASSWORD.

Step5: Click on CREATE USER button.

New user is created.



The screenshot displays the 'Add User' page of the 'BLOOD BANK MANAGEMENT SYTEM'. The page has a dark grey background with red text and buttons. At the top, there is a header bar with a red flame icon on the left, the title 'BLOOD BANK MANAGEMENT SYTEM' in red, and a 'Logout' button on the right. A vertical sidebar on the left contains a list of menu items: 'Home', 'Add Person', 'Search Person', 'New Donation', 'New Recieve', 'Check Stock', 'Donation History', 'Recieving History', and 'Add User' (which is highlighted). The main content area is titled 'Add User' in red. It contains four input fields with labels: 'Super Admin Password:', 'Username:', 'Password:', and 'Confirm Password:'. Below these fields is a red 'Create User' button.

Logout:

Once you are done with the work. You can logout using “LOGOUT” button.

CONCLUSION

The main purpose of our blood management system is to provide blood bank with easier way to store and retrieve data and keep record of the availability of blood in blood bank.

After inserting the data to database, staff need not register of the same person again. They can simply search for recorded data and retrieve them for future blood donation or receiving purpose of that person.

REFERENCES

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- [2] R. K. Chavan and D. P. Gaikwad, "A Full-Stack Web-Based Blood Management System using PHP," in Proceedings of the 2019 3rd International Conference on Computing Methodologies and Communication (ICCMC), Erode, India, 2019, pp. 37-42, doi: 10.1109/ICCMC.2019.8728665.
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