THE BLOOD ALLIANCE

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Abstract

Technological advancements dramatically change the way how every industry and institution operates. Almost every sector has transitioned to the use of different technologies in operating business and rendering their service to the public. The usage of technology helps different sectors further improve their operations and transactions.

- A Blood bank is a center where supplies of blood used for blood transfusions are stored and preserved.
- Blood banks manage supplies of blood, blood requests from patients, and records of blood donors and recipients.
- Blood bank centers need an effective system to help them manage daily operations and transactions in the center.

Blood Bank Management System is designed to simplify and automate the process of searching for blood in case of emergency, maintain the records of blood requests, blood donors, recipients, blood donation programs, and blood stocks in the bank.

The blood bank centers can utilize the system to digitally transform their operations. The blood bank can manage records of blood stocks, blood requests, blood donations, blood donors, and recipients all in one place. Blood recipients or patients and blood donors can also utilize the system to process blood requests and blood donations, respectively.

Introduction

The capstone project, entitled “Blood Bank Management System” is intended for blood bank centers. The said project will simplify and automate the process of searching for blood in case of emergency, maintain the records of blood requests, blood donors, recipients, blood donation programs, and blood stocks in the bank.

A Blood Bank is a center where supplies of blood used for blood transfusions are stored and preserved. Blood banks deal with the volume of paper works and records every day concerning blood-related transactions. Blood banks record blood stocks, blood requests, blood donations, blood donors, and recipients which is when done manually requires them rigorous work and consumes valuable time.

Proposed Solution

In conjunction with the above-mentioned concerns, the researchers proposed the Blood Bank Management System. The said project is designed to ease up and simplify management processes and operations of blood bank centers. The system will allow blood banks to digitally transform their operations. The blood bank can manage records of blood stocks, blood requests, blood donations, blood donors, and recipients all in one place. Blood recipients or patients can also electronically search for blood and send blood requests to the blood banks. Blood donors also can electronically process their blood donation requirements and papers. The system is an all-in-one platform that will simplify and ease up the overall operations and management processes of the blood bank.

Objectives of the Study

General Objective- The researchers generally aim to implement a Blood Bank Management System to automate the management and daily operations of blood banks.

Specifically, the researchers aim the following objectives:

1. To electronically streamline operations and transactions in blood banks.
2. To simplify and automate the process of searching blood in case of emergency.
3. To allow blood banks to electronically maintain records of blood donors, recipients, and blood donations.
4. To develop a centralized platform where blood donors and patients can transact with blood banks.
5. To evaluate the system in terms of user acceptability, effectiveness, quality, productivity, and reliability.

Significance of the Study

Blood Banks: The success of the project will increase their operational efficiency and services rendered to the people. By having the system, they can deliver timely service and respond to emergency cases efficiently

Blood Donors: The system will allow them to easily and conveniently process their blood donation details and remotely wait for the result. If approved, they can proceed to actual blood donation.

Patients/Blood Recipients: They can easily and efficiently search for blood during emergency cases. By using the system, they can receive an immediate response for blood availabilities in blood banks.

Researchers: The project will harness their skills and knowledge as researchers.

Future Researchers: This paper will serve as their reference for their future pursuit of the project.

Scope of the Study

This study focus on the development of the Blood Bank Management System. The researchers mainly focus on designing and developing a system that will electronically streamline searching for blood and blood requests, recording blood information and blood units availability, recording and managing blood donors and recipients. This project is intended for blood banks management and blood requests and donation transactions. Blood banks, staff, blood donors, and patients will participate as respondents to the study.

Development Tools

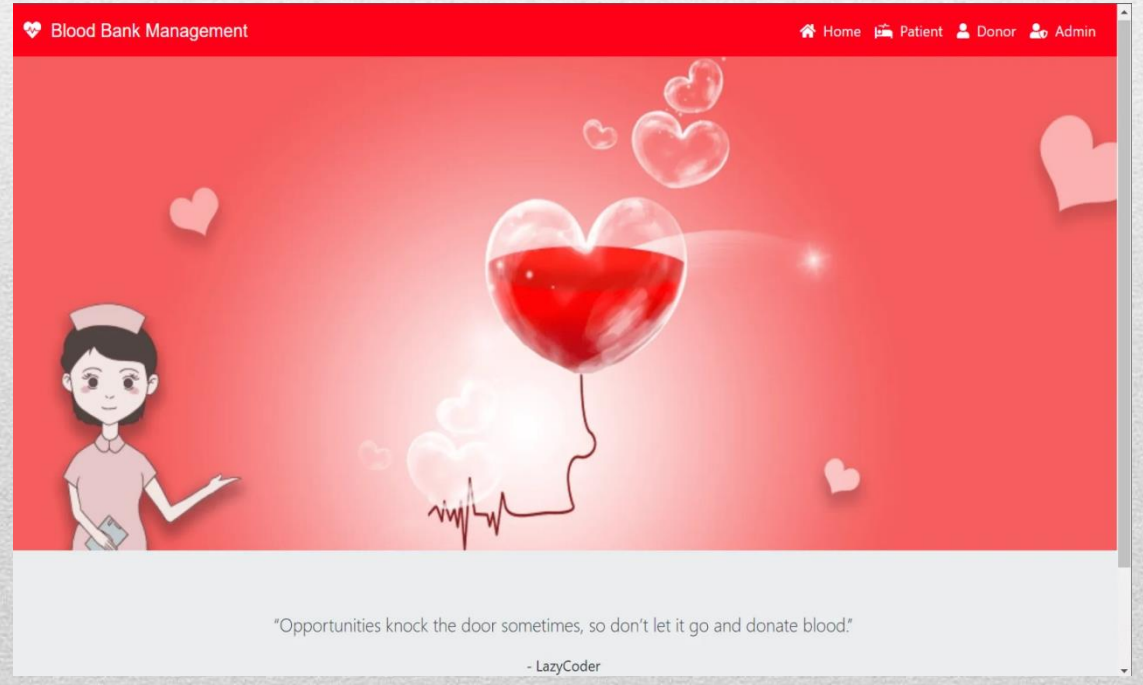
The Blood Bank Management System is software that will electronically transform blood bank management processes, operations, and transactions. The system can be utilized by blood banks, blood recipients, and donors in processing transactions.

This section of the paper will provide you with an idea on what are the forms to be included in a Blood Bank Management System. Django is used for the development of the project.

How the System Works

This paper will discuss the forms, modules, and user interface of the Blood Bank Management System.

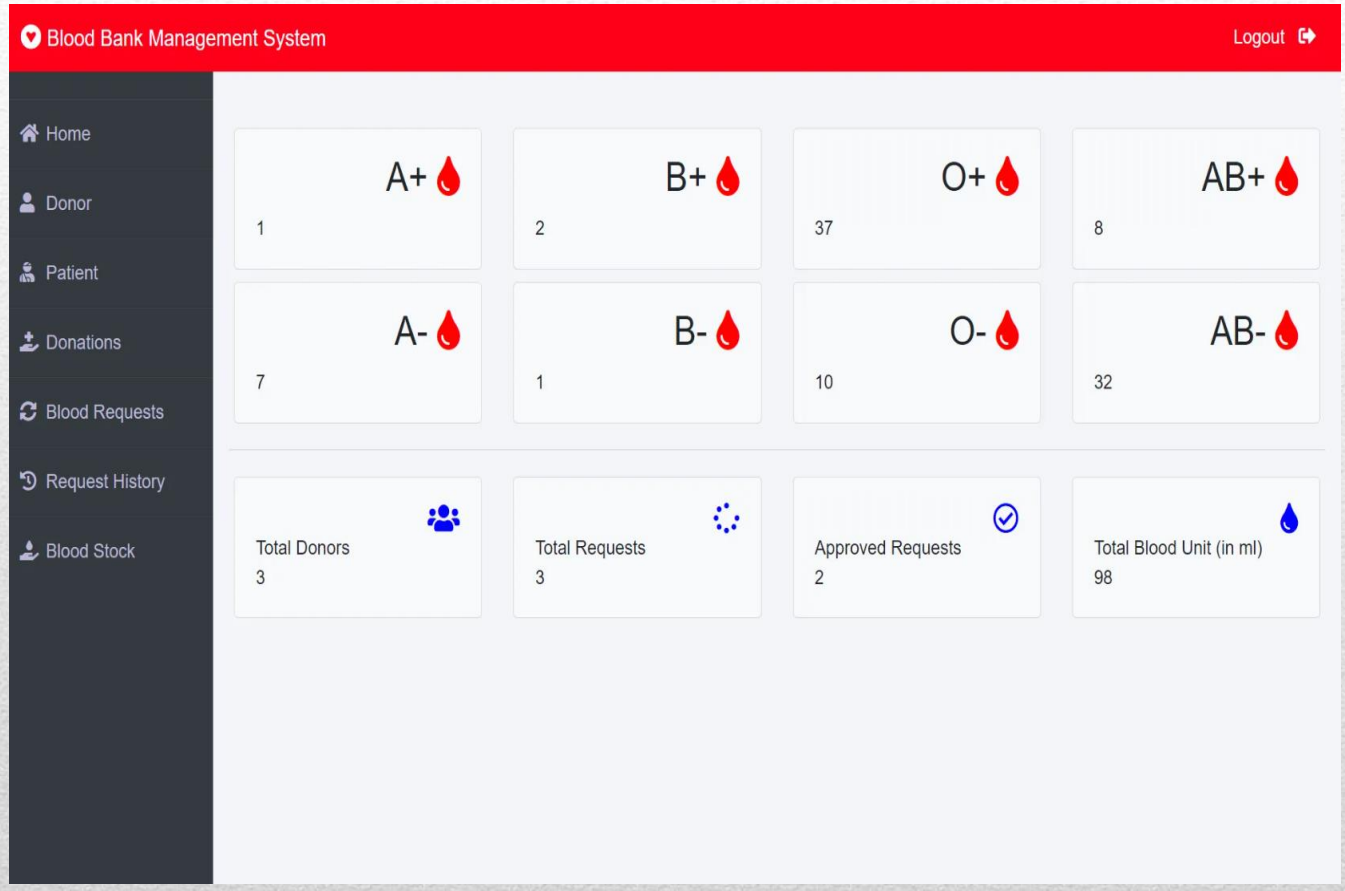
Blood Bank Management System Homepage – this page will first be displayed when the user utilizes the system.



Dashboard – This dashboard displays essential records of the blood bank that the admin can manage.

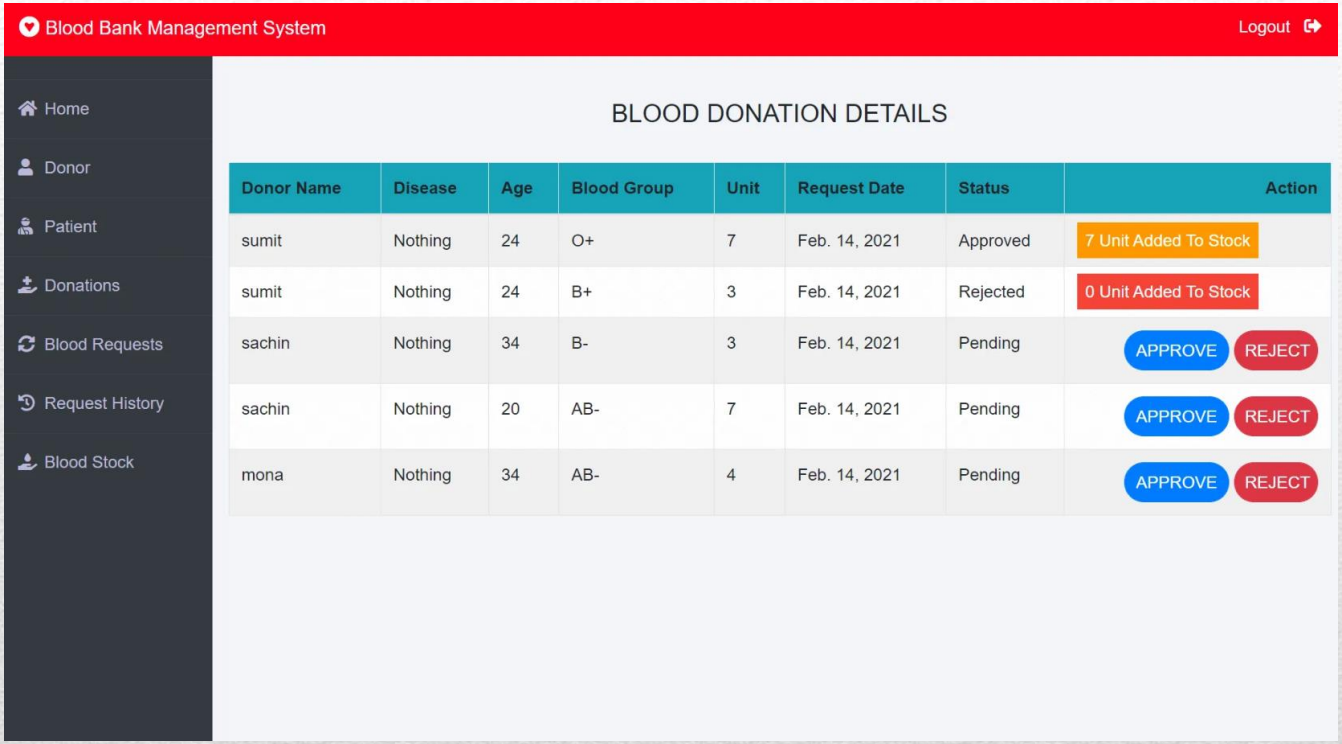
The dashboard mainly displays the following information:

- Of Available Unit of Blood Type – (every blood type)
- Total Donors
- Total Requests
- Approved Requests
- Total Blood Unit (in ml)


Blood Bank Management System
Logout
Home
Donor
Patient
Donations
Blood Requests
Request History
Blood Stock
A+
1
B+
2
O+
37
AB+
8
A-
7
B-
1
O-
10
AB-
32
Total Donors
3
Total Requests
3
Approved Requests
2
Total Blood Unit (in ml)
98

Blood Donation Details – this form will allow the admin to manage records of the Blood Donations in the system.
The admin will encode and manage the following information:

- Donor Name
- Disease
- Age
- Blood Group
- Unit
- Request Date
- Status – (approved, rejected, pending)
- Action


Blood Bank Management System
Logout
Home
Donor
Patient
Donations
Blood Requests
Request History
Blood Stock
BLOOD DONATION DETAILS
Donor Name
Disease
Age
Blood Group
Unit
Request Date
Status
Action
sumit
Nothing
24
O+
7
Feb. 14, 2021
Approved
7 Unit Added To Stock
sumit
Nothing
24
B+
3
Feb. 14, 2021
Rejected
0 Unit Added To Stock
sachin
Nothing
34
B-
3
Feb. 14, 2021
Pending
APPROVE
REJECT
sachin
Nothing
20
AB-
7
Feb. 14, 2021
Pending
APPROVE
REJECT
mona
Nothing
34
AB-
4
Feb. 14, 2021
Pending
APPROVE
REJECT

Blood Requests – this form will allow the admin to manage the blood requests of patients. The admin can either approve or reject blood requests of patients depending on the availability of the Blood type unit.
The admin will encode and manage the records of the blood requests:

- Patient Name
- Age
- Reason for Blood Request
- Blood Group -(ex. AB+, B-)
- Unit (in ml)
- Date
- Status – (approved, rejected, pending)
- Action – (approve or reject)


Blood Bank Management System
Logout
Home
Donor
Patient
Donations
Blood Requests
Request History
Blood Stock
Blood Requested
Stock Doest Not Have Enough Blood To Approve This Request, Only 1 Unit Available
Patient Name
Age
Reason
Blood Group
Unit (in ml)
Date
Status
Action
sachin
30
fever
B-
2
Feb. 14, 2021
Pending
Approve
Reject
mona
26
dengu
AB+
2
Feb. 14, 2021
Pending
Approve
Reject

Conclusion

A Blood bank is a center where supplies of blood used for blood transfusions are stored and preserved. This study was conducted to introduce a platform that will advance the system used in managing blood banks. The researchers developed a Blood Bank Management System. The result of the study showed that the Blood Bank Management System met the predefined project requirements. The majority of the respondents and the intended users have seen the potential of the system to equip blood bank centers to efficiently render their services. The researchers of the study concluded that the project is effective to ease up management of blood banks. The system will streamline the transaction between the blood banks, blood recipients, and donors. The result of the study showed that the developed system is efficient and reliable to use.