DEPARTMENT OF INFORMATION TECHNOLOGY

A.P.SHAH INSTITUTE OF TECHNOLOGY

G.B. Road, Kasarvadavali, Thane (W), Mumbai-400615

UNIVERSITY OF MUMBAI

Academic year: 2022-23

Blood Bank Management System

S.E. - I.T Engineering

Submitted By

Mayur Parab **21104131**

Ankul Yadav **21104052**

Shubham Yadav **21104091**

Sujal Sharma **21104128**

Under The Guidance Of :

Prof. Mansi Choche

CERTIFICATE

This to certify that the Mini Project report on **Blood Bank Management System** has been submitted by **Mayur Parab (21104131**), **Ankul Yadav (21104052), Shubham Yadav(21104092) and Sujal Sharma (21104128)** who are a Bonafide students of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in **Information Technology**, during the academic year **2022-2023** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

Prof. Mansi Choche
Guide

Dr. Kiran Deshpande
Head Department of Information Technology

Dr. Uttam.D.Kolekar
Principal

External Examiner(s)
1.
2.

Place: A.P. Shah Institute of Technology, Thane
Date:

ACKNOWLEDGEMENT

This project would not have come to fruition without the invaluable help of our guide Prof. Mansi Choche. Expressing gratitude towards our HoD, **Dr. Kiran Deshpande**, and the Department of Information Technology for providing us with the opportunity as well as the support required to pursue this project. We would also like to thank our teacher Ms. Rujata Chaudhari who gave us her valuable suggestions and ideas when we were in need of them. We would also like to thank our peers for their helpful suggestions.

TABLE OF CONTENTS

Chapter 1

Introduction

1.1. Purpose:

A blood bank is a place where blood bag that is collected from blood donation events is stored in one place. The term “blood bank” refers to a division of a hospital laboratory where the storage of blood products occurs and where proper testing is performed to reduce the risk of transfusion-related events. The population of the world is increasing rapidly each year and so are diseases and health issues. With an increase in population, there is a simultaneous increase in the demand for blood for various medical reasons. Even though the global population is so enormous, the number of blood donors is very less, and this makes it difficult to find the required blood donor for the required blood group. Due to the miscommunications between blood donors and recipients, many people do not get the blood and in certain cases often lose their lives. For avoiding this lethal situation, there is a need for the automation of existing manual blood bank management systems. So, to tackle the issue we have made a high-end, efficient, easily available, and scalable system to bridge the gap between the donors and the recipients and to reduce the efforts required to search for blood donors.

1.2. Objectives:

- To bridge the gap between blood banks, hospitals, volunteer donors, and needy people, through this system.
- To facilitate the search process for needy people and make it easier than before.
- To use GPS service for locating the hospitals, blood banks & volunteer donors to know if the seeker is near to or not.
- To provide a dynamic database that is storing donors’ Information and can communicate with them easily.

1.3. Scope:

- To develop a web-based system to manage blood requisition within the blood supply chain
- Improvement in the efficiency of data communication within the supply chain to reduce response time for each blood demand request
- Enhancement in the communication among blood partners within the supply chain network.

Chapter 2

Problem Definition

Problem definition deals with observation, site visits, and discussions to identify, analyze and document project requirements and carry out feasibility studies and technical assessments to determine the best approaches for full system development. The addition of new features is very difficult and creates more overheads. In the existing system, data are not maintained properly which leads to followed ups lack and a lack of reports.

The changes in one module or any part of the system widely affected in other parts. Despite advances in technology, nowadays, most blood bank systems are running in manual system. As such, there is a prevalent problem in the availability of needed blood types. For instance, when a person needs a certain type of blood and this type is not available in the hospital, family members send messages through social media to those who can donate to them and this process takes longer than the life of the patient to the most dangerous. In addition, it seems that there is lack of proper documentation about blood donors and its medical history. This may lead to blood bag contamination and may affect the blood transfusion safety. Generally, this study aims to determine how the use of online bank management system enhance blood transfusion safety.

Keeping the problem definition in mind, the proposed system evolves which is user-friendly, easy to update with the new in features, data is maintained, and reports generated will be more useful for assessment to the management to take quick and optimized decisions.

Chapter 3

Proposed System:

All the drawbacks In the proposed the existing system are overcome, and the manual work is now computerized, thus providing better efficiency and making the work easier like storage details, consent-giving details, etc. All these kinds of work are automatically done by the system itself thus, increasing productivity. The use of manually written is eliminated which also ensures that there is no mistake. So, by making use of this system, we can reduce the errors caused by the use of traditional system.

3.1. Features and Functionality:

- Provides search facilities based on various factors. Such as Blood, Blood Group, Blood Bank, Stock
- Manage the information of Donor
- Shows the information and description of the Blood, Blood Group
- Provide filter reports on Blood Group, Blood Bank, Stock
- You can easily export PDF for the Blood, Blood Cell, Blood Bank
- Application also provides excel export for Donor, Blood Group Stock
- To increase efficiency of managing the blood donor
- Editing, adding and updating of Records is improved which results in proper resource management of Blood.
- Integration of all records of Stock.

Chapter 4

Project Outcomes:

- The people in need of blood can search for the donors by giving their blood group and city name.
- It saves time as he can search donors online without going anywhere.
- Using this system user can get blood in time and can save his relative or friend life.
- Our website work 24x7 so user can get information of blood donor any time. Blood donor can also get registered and save life of another person.
- Improved blood safety: A blood bank management system can help ensure that blood donations are properly tested and screened for infectious diseases, reducing the risk of transfusion-transmitted infections.
- Increased efficiency: With a blood bank management system, blood banks can automate many of their processes, including donor registration, blood testing, and inventory management, which can save time and reduce errors.
- Better inventory management: A blood bank management system can help blood banks track their inventory levels and expiration dates, ensuring that they have an adequate supply of blood for transfusion when needed.
- Enhanced data management: A blood bank management system can help blood banks maintain accurate records of donor information, blood testing results, and inventory levels, which can help with regulatory compliance and auditing.
- Improved donor experience: A blood bank management system can make the donor registration process more efficient and convenient, which can lead to increased donor satisfaction and potentially more repeat donors.
- Overall, the outcomes of a blood bank management system project should aim to improve the safety, efficiency, and effectiveness of blood donation and transfusion processes.

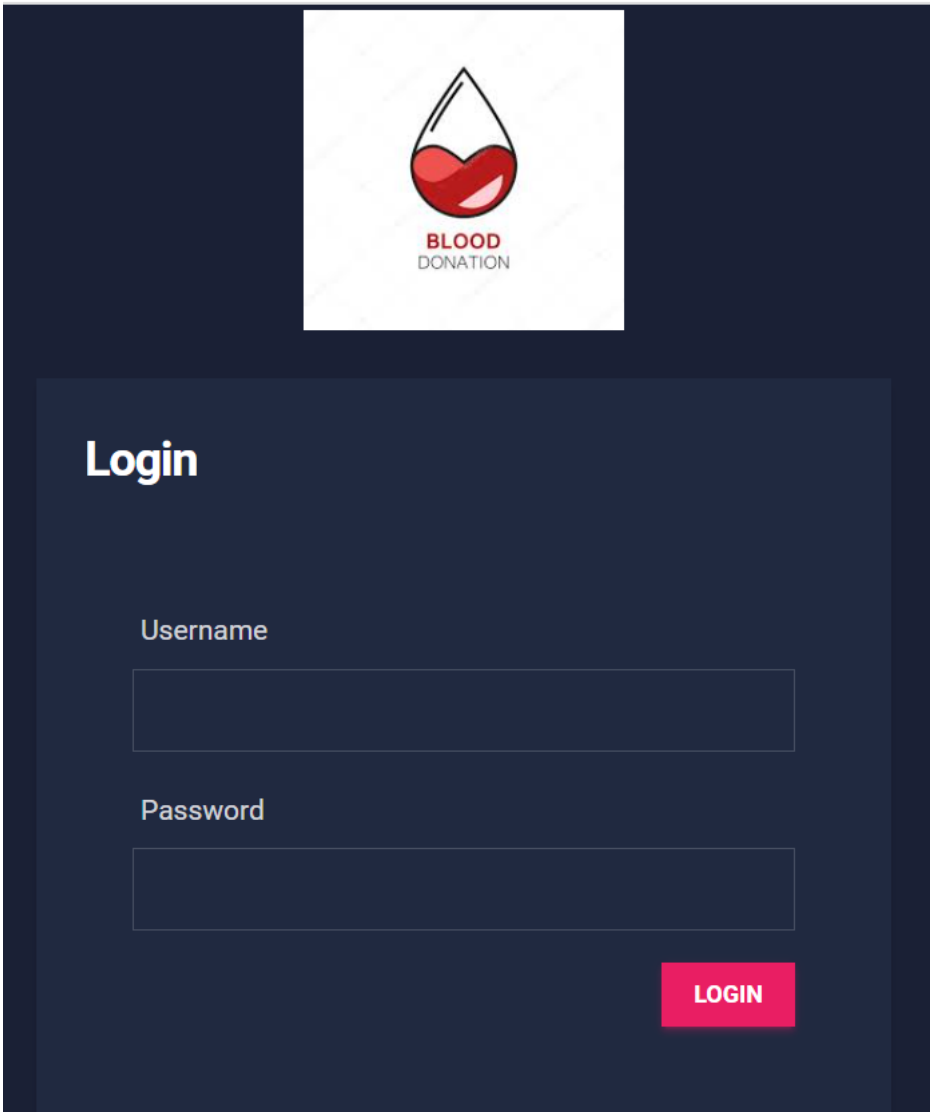
Chapter 5

Software Requirements:

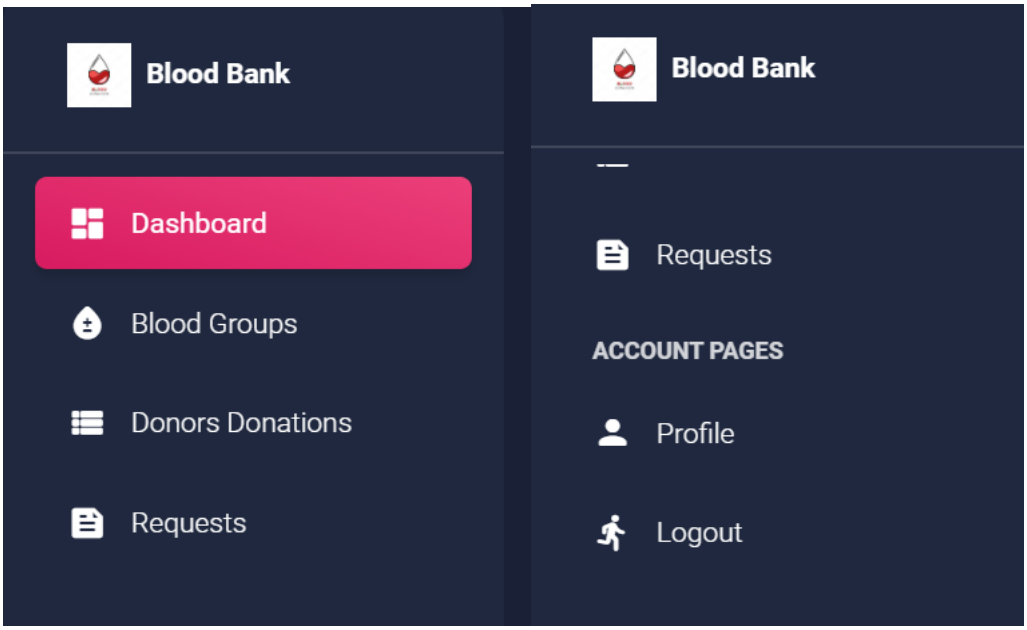
- **Python**
- **HTML**
- **CSS**
- **JavaScript**
- **Djano Framework**
- **MySQL Database**

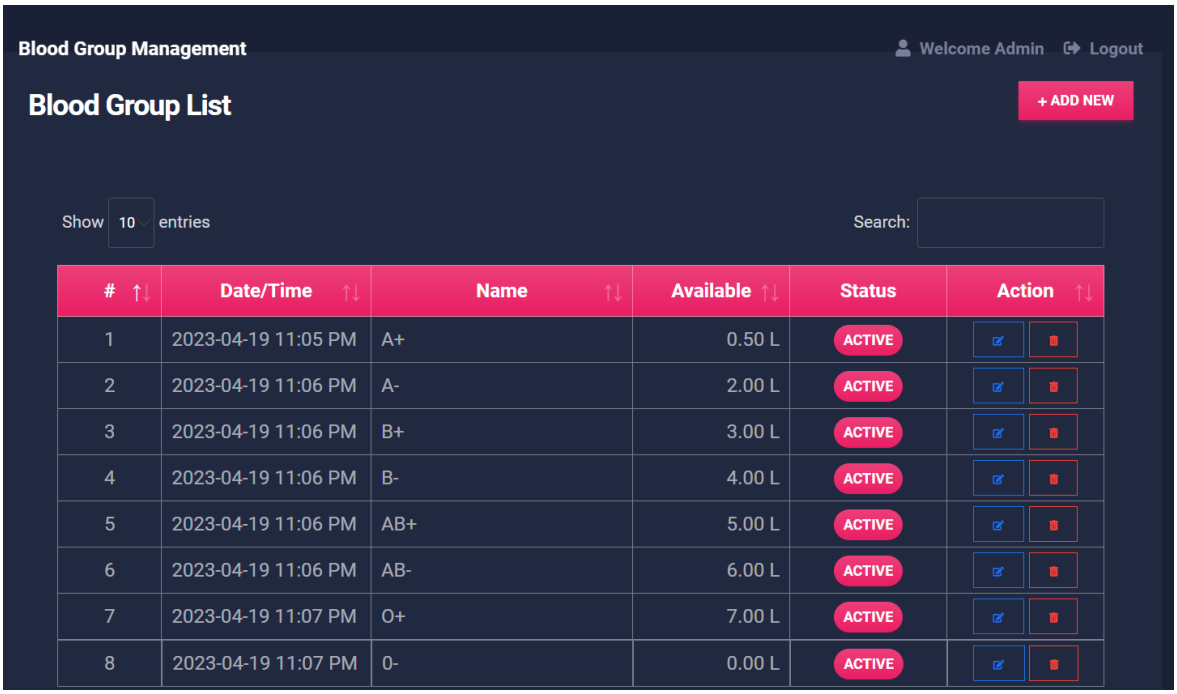
Chapter 6

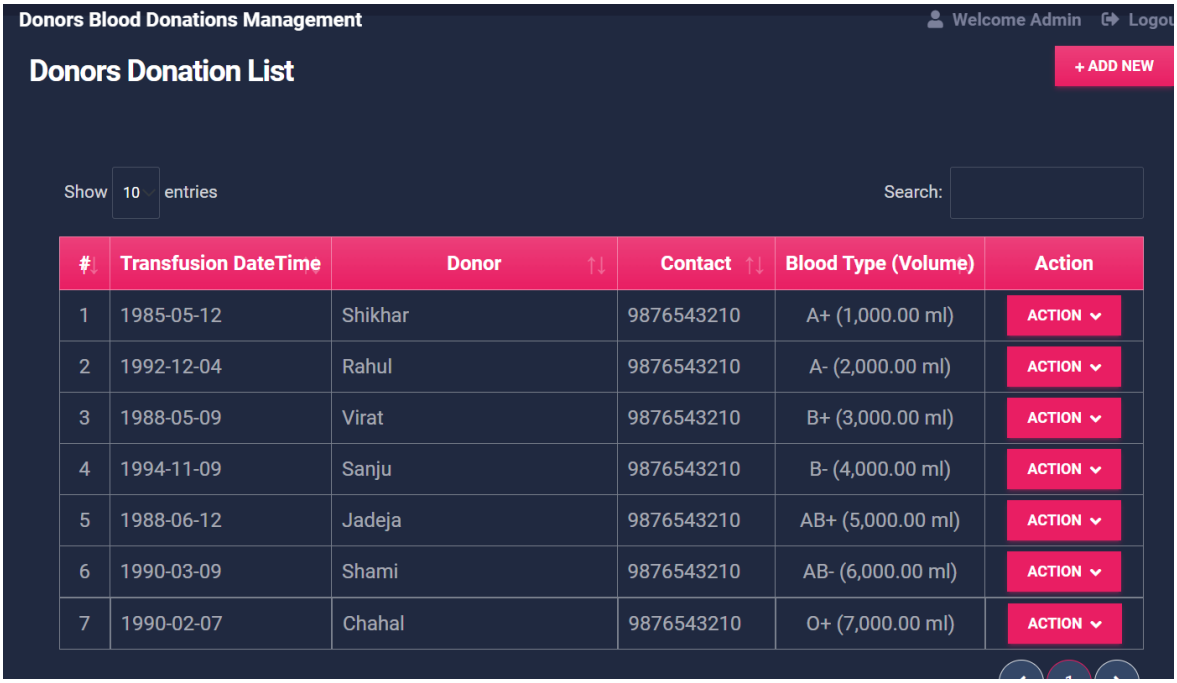
Project Design:



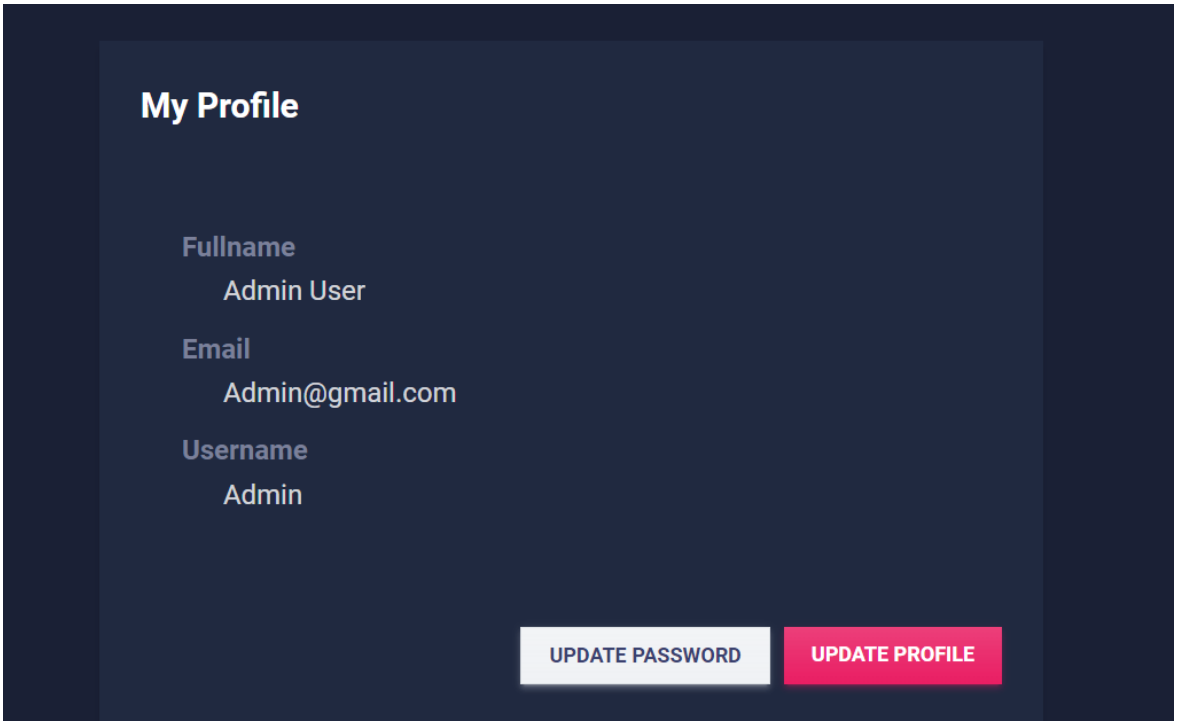

Dashboard
Welcome Admin
Logout
Available For (A+) Blood Group
0.50 L
Available For (A-) Blood Group
2.00 L
Available For (B+) Blood Group
3.00 L
Available For (B-) Blood Group
4.00 L
Available For (AB+) Blood Group
5.00 L
Available For (AB-) Blood Group
6.00 L
Available For (O+) Blood Group
7.00 L
Available For (O-) Blood Group
0.00 L


Blood Bank
Dashboard
Blood Groups
Donors Donations
Requests
Blood Bank
Requests
ACCOUNT PAGES
Profile
Logout


Blood Group Management
Welcome Admin
Logout
Blood Group List
+ ADD NEW
Show 10 entries
Search:
Date/Time Name Available Status Action
1 2023-04-19 11:05 PM A+ 0.50 L ACTIVE
2 2023-04-19 11:06 PM A- 2.00 L ACTIVE
3 2023-04-19 11:06 PM B+ 3.00 L ACTIVE
4 2023-04-19 11:06 PM B- 4.00 L ACTIVE
5 2023-04-19 11:06 PM AB+ 5.00 L ACTIVE
6 2023-04-19 11:06 PM AB- 6.00 L ACTIVE
7 2023-04-19 11:07 PM O+ 7.00 L ACTIVE
8 2023-04-19 11:07 PM 0- 0.00 L ACTIVE


Donors Blood Donations Management
Welcome Admin
Logou
Donors Donation List
+ ADD NEW
Show 10 entries
Search:
Transfusion DateTime Donor Contact Blood Type (Volume) Action
1 1985-05-12 Shikhar 9876543210 A+ (1,000.00 ml) ACTION
2 1992-12-04 Rahul 9876543210 A- (2,000.00 ml) ACTION
3 1988-05-09 Virat 9876543210 B+ (3,000.00 ml) ACTION
4 1994-11-09 Sanju 9876543210 B- (4,000.00 ml) ACTION
5 1988-06-12 Jadeja 9876543210 AB+ (5,000.00 ml) ACTION
6 1990-03-09 Shami 9876543210 AB- (6,000.00 ml) ACTION
7 1990-02-07 Chahal 9876543210 O+ (7,000.00 ml) ACTION


Blood Requests Management
Welcome Admin
Requests List
+ ADD
Show 10 entries
Search:
DateTime Patient Physician Blood Type (Volume) Action
1 2023-04-25 Ashwin Dr Sharma A+ (500.00 ml) ACTION
2 2023-05-01 Raju jack B- (3,000.00 ml) ACTION
Showing 1 to 2 of 2 entries
1


My Profile
Fullname
Admin User
Email
Admin@gmail.com
Username
Admin
UPDATE PASSWORD
UPDATE PROFILE

Chapter 7

Project Scheduling:

Sr. No	Group Member	Time duration	Work to be done
1.	1) Mayur Parab :- 21104131 2) Ankul Yadav :- 21104052 3) Shubham Yadav :- 21104091 4) Sujal Sharma :- 21104128	In the month of January.	Creating GUI using Tkinter design of Blood Bank, Dashboard, login page.
2.		In the month of February.	Adding more features like Blood request, Donation, Profile etc.
3.		In the month of March and April.	Adding data sets and connecting database and completing the work.

Chapter 8

Conclusion:

This proposed Blood Bank Management System gives a reliable platform for both donors and acceptors. The BMMS is a web-based application that helps to minimize human errors and problems pertaining to data redundancy. It is a fast-paced and efficient way to communicate without any security threats as the data entered will be verified and frequently updated thereby increasing the probability of saving one's life. Moreover, the availability of a location-based system where the nearest blood bank can be located through Google maps makes it more accessible.

A blood bank management system is an essential tool for managing blood donations, inventory, and distribution effectively. It allows blood banks to track the entire process of blood donation, from donor registration to blood testing, processing, and distribution to hospitals.

Overall, a well-designed blood bank management system can help reduce errors, improve blood safety, increase efficiency, and save lives by ensuring the timely availability of blood for transfusion. It can also help blood banks maintain accurate records and comply with regulatory requirements.

However, implementing a blood bank management system requires careful planning, investment, and ongoing maintenance. Blood banks must ensure that the system meets their specific needs, integrates with other software, and provides adequate training and support to staff.

In conclusion, a blood bank management system is a crucial tool for managing blood donations effectively and ensuring the safety and availability of blood for patients in need.

References

Here are some references for blood bank management system:

1. "Design and Development of Blood Bank Management System," by G. Gaurav, K. Khanna, S. Singh, and S. K. Singh.

2. "Implementation of a web-based blood bank management system," by S. S. Y. Yang, J. H. Lin, and K. T. Yeh. Journal of Medical Systems.

3. "Blood Bank Management System: A Comprehensive Approach," by A. Garg and R. Kumar.

4. "A review of blood bank management system," by S. S. S. Rathod and S. R. Deshpande.

These references provide information on the design, implementation, and evaluation of blood bank management systems, as well as their potential benefits and challenges.