

A Research Paper on Blood Bank and Donor Management System

AjithKumar P

*Department of Computer science and Engineering
Shree Sathyam College of Engineering and Technology, Sankari, Tamil Nadu, India*

SarathKumar K

*Department of Computer science and Engineering
Shree Sathyam College of Engineering and Technology, Sankari, Tamil Nadu, India*

Sasi Kumar C

*Department of Computer science and Engineering
Shree Sathyam College of Engineering and Technology, Sankari, Tamil Nadu, India*

Abstract- Blood Every year, blood transfusions save millions of lives and are an essential part of contemporary healthcare systems. However, the availability of a sufficient and secure blood supply is a major prerequisite for the effectiveness of blood transfusions. A strong Blood Bank and Donor Management System (BBDMS) is essential for ensuring effective management of blood donation operations. The purpose of this research paper is to provide a thorough overview of the design, creation and application of a BBDMS, with a focus on how important it is to optimize the processes involved in blood donation. The first section of the article explains the difficulties with traditional blood bank management, such as ineffective record-keeping, donor recruitment, and inventory management. It then suggests using a BBDMS to address these issues, emphasizing how it can automate and digitize blood donation procedures to make them more efficient.

Keywords— Blood Donation, Transfusion, centralized system, conventional methods, analytical processing.

I. INTRODUCTION

A sufficient and secure blood supply is essential for the lifesaving medical procedure known as blood transfusion. Blood banks are essential parts of contemporary healthcare systems because they guarantee the continuous availability of blood products for transfusion. But there are several obstacles in the way of efficiently managing blood donation procedures, from finding donors and determining their eligibility to managing inventories and preserving inefficient records. Blood banks have historically managed their operations using manual or somewhat automated systems, which has resulted in inefficiencies, errors, and delays in crucial procedures. The complexity of donor eligibility requirements, the growing demand for blood products.

II. PROPOSED ALGORITHM

All the records are computerized and stored in a well maintained database. Anyone can visit the website and easily register themselves for donating blood in need. Hospitals and patients can search for donors in their desired location by typing in a landmark as a keyword. The system we are proposing will be centralized. That means it will be a single system with a lot of people looking out for different purposes though all using the same modules with varying functionalities. The proposed system can be accessed by anybody with an internet connection and a web browser. This system is very User friendly and interactive between the donor and the recipient. The system avoids wasting time for people to visit the hospitals during covid times and register themselves for blood donation. Records for hospitals and recipients are effortlessly available at all times.

III. DATA FLOW DIAGRAM

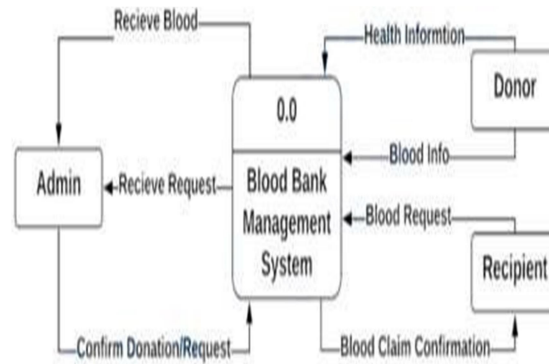


Figure 1. DATA FLOW DIAGRAM

IV. MODULES IN SYSTEM

ADMIN MODULE

- Dashboard: In This Section, Admin Can View All The Details In Brief Like Total Blood Group Listed, Registered Donor List, And Total Enquiries Received.
- Blood Group: In This Section, Admin Can Manage Blood Group (Add/ Delete).
- Donor List: In This Section, Admin Can View A List Of Donors And Have The Right To Delete And Hide The Detail Of Donor.
- Manage Contact Us Query: In This Section, Admin Can Manage Query Which Is Received By Users. Manage Pages: In This Section, Admin Can Website Pages.
- Update Contact Info: In This Section, Admin Can Update The Contact Details Of The Website.
- Request Received By Donor: In This Section, Admin Can View The Request Of Blood That Is Received By The Donor. User Module
- Home: Its Is Welcome Page For Users And Donor. If Any Users Want To Donate The Blood They Must Register With Us.
- About Us: Users Can View The About Us Page.
- Contact Us: Users Can Contact With Admin The Through Contact Us Page.
- Donor List: Users Can View And Contact Donors.
- Search Donor: Users Can Search The Donor According To City And Blood Group.

IV. FUTURE SCOPE

- Automated Blood Group Detection: You can add a feature to detect the blood group of a donor using their phone camera, which will make the donation process more efficient.
- Mobile App Integration: You can integrate the web.
- App with a mobile app to enable donors and volunteers to access the blood bank's services from their smartphones.

V. Area Wise Search

- We have also integrated a search bar for people looking for blood nearby. This we have done considering the fact that a lot of people need blood urgently and have no time to wait for it. With this functionality, they can search and acquire blood near them and save precious time.

VI. ADVANTAGES

- Easy Access: With a blood bank web app, users can easily access the blood bank's services from the comfort of their homes, workplaces, or anywhere else with internet access. This makes it easier for people to find the blood they need when they need it real-time information.
- Provide real-time information about available blood units, making it easier for hospitals, clinics, and other healthcare facilities to find and reserve the blood they need quickly and efficiently. Improved Communication: A web app can facilitate
- Better communication between the blood bank and its customers.
- Users can make inquiries, book appointments, and receive updates about their requests without having to make a phone call or visit the bank in person. Time-Saving: A blood bank web app can save time
- For both the blood bank staff and customers. Users can quickly find the information they need without having to wait in line or on the phone, and the blood bank staff can process requests more efficiently. Secure Storage: A web app can provide secure
- Storage for confidential medical information, making it easier for blood banks to manage and protect their clients' data.

VII. DISADVANTAGES

- Privacy risks Scam
- Needs internet connectivity
- Reliability
- Data Integrity

VIII. CONCLUSION

The goal of the proposed Blood Bank and Donor Management System is to automate every step of the blood donation and administration process, increasing its effectiveness, economy, and error-free nature. The system's strict screening and testing procedures will guarantee the security of the blood supply chain. In addition, the technology will expedite the transfer of blood to hospitals and other healthcare facilities and compile a thorough database of blood donors, including their blood type and medical history. All things considered, by guaranteeing a consistent flow of safe blood to those in need, the suggested approach will help save lives.

REFERENCES

- [1] Sibinga CT. Existing and recommended legislative framework for a national blood transfusion policy. *Global Journal of Transfusion Medicine*. 2017 Jul 1;2(2):89.
- [2] Sinha S, Seth T, Colah RB, Bittles AH. Haemoglobinopathies in India: estimates of blood requirements and treatment costs for the decade 2017–2026. *Journal of community genetics*. 2020 Jan;11(1):39-45.
- [3] Kulshreshtha V, Maheshwari DS. The blood donation centre Management Information System in India Research SSN.:2248-9622.
- [4] Priya P, Saranya V, Shabana S, Subramani K. The optimization of blood donor information and management system by Technopedia. *International Journal of Innovative Research in Science, Engineering and Technology*. 2014 Feb;3(1).
- [5] Kulshreshtha V, Maheshwari S. Benefits of management information system in blood bank. *International Journal of Engineering and Science*. 2012 Dec;1(12):5-7.
- [6] Android Blood Bank” by Prof. Snigdha1, Varsha Anabhavane2, Pratiksha lokhande3, Siddhi Kasar4, Pranita More5 Lecturer, Information Technology, Atharva College of Engineering, Mumbai, India 1 Student, Information Technology, Atharva College of Engineering, Mumbai, India 2,3,4,5
- [7] A Study on Blood Bank Management System” by A. Clemen Teena, K. Sankar and S. Kannan, Department of MCA, Bharath University, Selaiyur, Chennai-73, Tamil Nadu, India .
- [8] Gupta N, Gawande R, Thengadi N. MBB: A Life Saving Application. *International Journal For Research in Emerging Science And Technology*. 2015 Mar;2(1):326-30.