Online Blood Bank System

Jayesh Dehankar [1], Chetan Wagh[1], Santosh Kagne[1], Bhushan Gedam[1]
Shruti Kolte [2]

[1]*Student, Department of Computer Science and Engineering, Government College of Engineering, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, India.*

[2]*Professor, Department of Computer Science and Engineering, Government College of Engineering, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, India.*

Corresponding Author: chetanwagh702@gmail.com

Abstract: - As we know that blood plays a very vital role in living beings as it provides oxygen and nutrients to all tissues in the body and this application fulfills the availability of the blood. "Online Blood Bank System" is a web programme that improves the availability of blood for blood recipients, as well as the opportunities for blood donors to donate blood. It also aids blood banks in properly managing blood data. This application will be made by using modern technologies such as Reacts, machine learning algorithm, Django etc. This application ensures the availability of blood for receivers to their nearby area. Also, the application brings transparency in blood marketing. It will increase the collection of blood. Using the ML algorithm, we will suggest the nearest blood bank to the needy. The application manages various blood bank operations effectively.

Key Words: — ***Blood Bank, Online, blood recipient, blood donors, machine learning.***

I. INTRODUCTION

Blood is important to life. Blood circulates in our body and provides body required substances like oxygen and nutrients to the body's cells. It also moves metabolic waste products away from the cells. There is no substitute for blood. It cannot be made or manufactured. Genuine blood donors are the only source of blood for patients in need of a blood transfusion. Blood banks can store blood and blood components like WBC, RBC AND PLATELETS which is to provide blood for needy people. Most blood comes from blood donors via blood donation, stored and preserved for later use in blood transfusion in the body. In addition to this, the blood type of patients also needs to be determined for compatibility for a blood transfusion. It is possible in some situations that the patient is unable to get the required blood at the right time due to the lack of knowledge of updated records of all blood donors.

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This web application is developed to easily search for blood in nearby areas of emergencies. In this web app one will get clear access to blood in real time and the right place. The purpose of the blood bank system is to simplify and centralize the system; In addition to searching for blood in an emergency, all blood bank operations keep track of blood donors, recipients, and blood stockpiles. This web system can be updated daily by blood bank management for data accuracy and stock of blood in blood banks. Also, hospitals and clients can actually view stock of blood from registered blood banks. The main aim of our proposed system is to maintain a centralized database of blood banks and reduce the manual work. Also, from the donor/user point of view handle the emergency condition whenever they are in need of blood.

II. LITERATURE REVIEW

In the literature survey we are going to discuss some existing techniques for cloud.

(A)Blood Bank Management Information System in India. Blood bank is a collection of blood or blood components like WBC, RBC and PLATELETS gathered as a result of blood essentials for donation, stored and preserved for later use in blood transfusion, stored and preserved for later use in blood transfusion. There are many online web based or online blood

bank systems that exist in our society that can facilitate interaction between hospitals and blood banks to give information about this blood. Manual systems as compared to Computer Based Information Systems are much time consuming, and costly.

(B) We want to build a network of people who can help each other during an emergency. This application automatically updates information on donors, and the administrator has full access to the blood bank management system. Donors will be prompted to enter an individual's details, like Blood is a saver of all existing lives in case of emergency needs. The task of a blood bank is to receive blood from various donors, to monitor the blood groups database and to provide blood during the need to the hospital in case of emergencies. The problem is not insufficient donors, but finding a willing donor at the blood group. In the urgent time of a blood requirement, you can quickly check for blood banks, donors and hospitals.

2.1 Existing System

In the literature survey we have learnt about different methods for storing information of blood type and blood donors. Most of the methods are not convenient for users. To provide the best solution for the cloud-based system we introduce OBBS (ONLINE BLOOD BANK SYSTEM). Creating a user interface which is both easily navigable and effective will be a difficult challenge for us. The basic and primary constraint will be that we are developing an application for a mobile platform. The big issue will be rendering and bounded resolution as the application is for mobile devices. Another limitation in terms of mobile handsets will be processing power and memory. Responsive administration of functions that deal with a lot of data about hospitals, blood banks, donors, patients, and stock management will be developed efficiently.

Drawbacks of existing system:

- Availability of valid information is very low.
- They have a distributed system so security of personal information is at risk.
- There are many chances to misplace data using manual data entry and security to manual data entry is less.

2.2 Proposed System

The system that is going to be developed is the Online Blood Bank System. This is a Web-based application system that can be used by both blood banks as well as donors. This system overcomes the drawbacks of existing systems available. Some features of the proposed system are as follows:

- Here we are going to use a centralized system for interconnection between blood banks, donors and hospitals.
- Registered users/donors locate nearest blood banks.
- It provides security for users using unique id and passwords.
- GPS systems are used to track the nearest location of blood banks or donors.

2.3 Proposed Project

The main purpose of this project is to connect various ends of the blood donation/searching process. While easing the efforts taken for the blood searching/donating process the website is also expected to make the process faster, easier, and more reliable than normal traditional methods. The website provides a very easy user interface with various features that are the need of the hour. Some of which include locating blood banks near your location, requesting multiple blood banks for required blood, providing you with directions to the desired blood bank with an integrated map in the website. Real-time updating of units of blood available in the selected blood bank is one of the most prime features.

III. METHODOLOGIES

3.1 Blood bank Web Application

This Module consists of detailed information of how the application works. The blood bank management system is a web-based online programme featuring SMS and email alert functions, as well as social media sharing options and a blood bank locator. that is implemented using HTML, CSS, Django and Postgresql for databases. This module handles requests for the required blood group from receptors. The Blood donor can register on the system and it will provide a donor id on the completion of registration via E-mail service. if the false request is sent to the blood donation center The admin as well as the blood bank have complete control over the request's deletion. If a user sends a request to a blood bank for a specific blood group and his registration id is issued, but the user does not show up, the system cancels his registration id and updates blood bank data utilizing real-time updating. With the request, the system will notify all relevant contributors. A donor can be added or removed from the system by the blood bank. He can also donate blood to the appropriate blood bank. The

Blood Bank Management system has a separate Admin panel. Admin has complete control over adding and removing blood banks. Admin can also check whether the blood bank is active or not. The system has a separate blood bank panel where blood banks may access a user-friendly dashboard where they can manage blood, request blood, and issue blood.

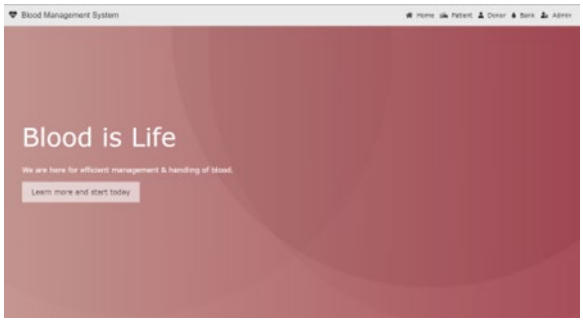

Fig.1. Landing Page

3.2 Database

In this system, a database is used to record and manage the transactions of blood donations and blood issues. The main purpose of this system is to keep an organized records management of blood. Information such as Donor Details, Blood Collection, Screening, Component preparation, Blood storage, Blood request, Compatibility, Blood issue, Monthly statistics records are stored using a database. It provides great help in the proper monitoring of blood available in the blood bank and for easy processing of blood requests.

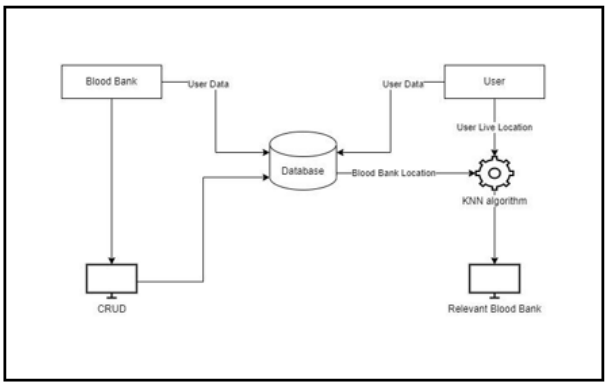

Fig.2. Work Flow

IV. MODULES IN SYSTEM

4.1 Donor

The website is beneficial not only to recipients, but also to donors. Rather than physically going to the blood bank to register and complete the necessary formalities, the donor can register online to find the local blood bank and set up a time to donate blood voluntarily. This will not only save time in the event of an emergency, but will also provide the user with peace of mind. Because the donor has registered with the blood bank, the blood bank could contact the donor immediately in the event of an urgent emergency. The donor's personal information will not be made public and will not be accessible to the recipient directly; instead, it will be retained in that specific blood bank database, ensuring that his or her privacy is protected.

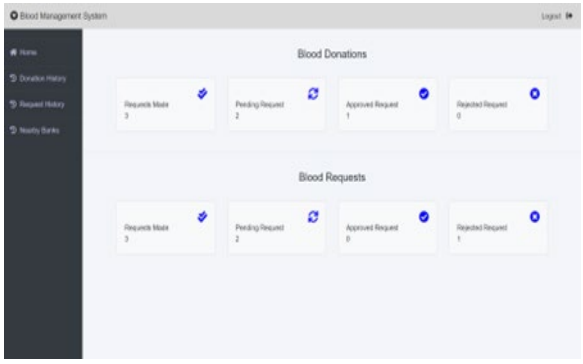

Fig.3. Donor Home Page

4.2 Blood Bank

The blood bank section contains features like blood management at the bank, management of blood requests by patients and management of donation requests by donors. It can also see registered donor and receiver details. Banks can see blood transaction history and they can also update blood stocks in the database as well.

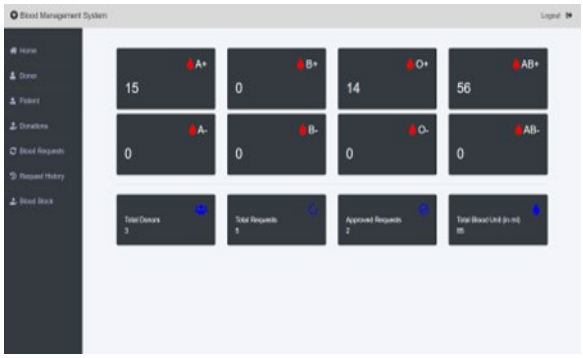

Fig.4. Blood Bank Home Page

4.3 Receiver

The receiver module helps users to find blood groups. When the user (receiver) clicks on find a blood group system, ask him to enter the blood group he wants to search. After entering the blood group, the system searches for the availability of the blood group and gives him the list of the blood banks where

the blood is available. The user will pick and issue blood from a suitable blood bank.

- Find a donor
- Find a blood group
- Logout

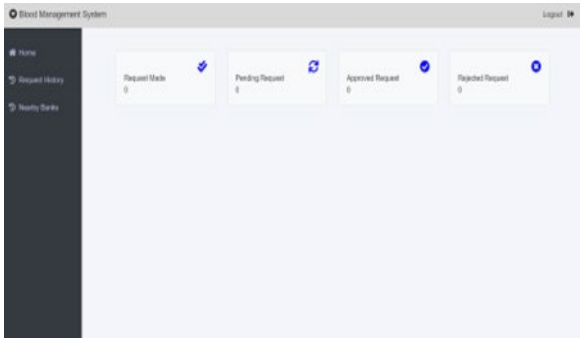

Fig.5. Receiver Home Page

4.4 Admin

The admin is the one who can verify newly registered blood banks. Admin checks the bank details and based on that it either verifies it or declines it. Without verification blood banks are not allowed to login into the system.

V. CONCLUSION

As the paper suggests, mobile or computer system communication is much faster than manual communication. The contributions of this system towards this cause: Using our app, users can read information about blood and the basic requirements for a donor. The donor can find blood banks in his nearest area via maps or call a blood bank in his area by the numbers provided in an emergency situation. This will decrease manual work of blood banks and manage blood bank databases more efficiently.

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