

# BLOOD BANK MANAGEMENT SYSTEM

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**Abstract** - An efficient management system for the blood banks is a necessity as their functioning involves a lot of complexity. All major blood banks have fine working management systems which contain their entire databases and other useful information. This J2SE based Blood Bank Management System prototype is proposed to provide a management functional to the minor blood banks (because this software is cheaper) in order to handle their donors, buyers and staff. The technology platform in implementing this system uses J2SE programming environment in Java. The entire prototype has been developed keeping in view of distributed client-server computing technology in mind.

**Key Words:** J2SE (Java Standard Edition), Program debugging, Program Compilation, Platform - Independent Programming Language, IDE (Integrated Development Environment)

## 1. INTRODUCTION

The main aim of developing this software is to manage the working of blood banks efficiently and effortlessly. Using this system, needy people can search for blood availability of their respective blood groups. If they want, they can also get the contact details of the donors who has the same blood group they need. In order to help people who are in need of blood, this Blood Bank management system software can be used effectively for getting the details of available blood groups. So, if the blood group is not available in the blood bank, needy ones can request the donors to donate the blood and save a life. Using this blood bank management system, interested donors can get themselves registered in the software database. Donor registration is very easy, to get registered to the system they have to fill up registration form and enter their contact information like address, mobile number etc. After submitting the registration form, he can create username and password. Donors can also update their account information whenever required. If in case of emergency when a person cannot find any donor, then he is given the contact numbers and addresses of the Life Saving Contact Persons for big cities.

## 2. Modules OF BLOOD BANK MANAGEMENT SYSTEM

**2.1 Admin** (Admin can manage both donors & acceptors. He can add or remove any user from the system. Each member in a donor & acceptor is given a user id and password, which identifies him

uniquely. From admin module use can change donor details, delete donor or change the password.)

**2.2 Donor** (From this module users can create their accounts to get a user id and password, which is unique. From this module user can search donor for blood and can also refer his friend to become a donor. Donor can also get information like when he donated blood or when he will be able to donate blood.)

**2.3 Customer** (This module helps user to find blood group. When user clicks on "Find a blood group" system asks him to enter blood group he want to search. After entering the blood group, system search for the availability of the blood group and give him the list of the donors who has the same blood group.)

Context Level - DFD:

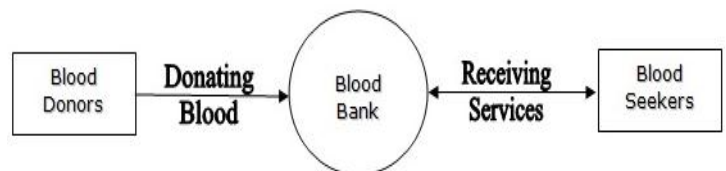


Fig -1: Data Flow Diagram

## 3. PROBLEM STATEMENT

The following problem arises when using a typical blood bank's existing system

**3.1 Personal profile accessibility (P1)** - The donor's information can only be updated by the administrators of the blood bank. A donor can update their information by calling, faxing, e-mailing, but not by themselves. This is a waste of time just for updating a piece of information and it may be troublesome for some donors.

**3.2 Donation record accessibility (P2)** - The donor ID card is the only tangible evidence that contains the donor's recent donation records, if the card gets lost, donors may find it difficult to schedule their next appointment since they are not able to see the last time they had donated blood.

**3.3 Blood stock management (P3)** - Blood banks are required to maintain account of blood bags in the inventory. This increases with each blood donation

recorded in our system and decreases as they are checked out upon hospital requests. Our system will need to keep the information up-to-date to ensure correctness of the inventory.

**3.4 Mailing by postal system (P4)** - Blood banks will only mail donors when the donated blood is disqualified, however, this mail is sent through the postal system to the donor's given address. If the donor's address is recorded incorrectly, the mail will be sent to the wrong address and the donor will never be notified that their blood is rejected and given the reason for that.

## 4. METHODOLOGY

### 4.1 Project Identification and selection

In this project, we aim to develop an online blood bank system which will focus mainly on managing the donor's blood information. Anyone who is interested in blood donation can donate the blood at the hospital or blood donation centres.

### 4.2 Project Initiation and Planning

To begin the project, we have gathered user requirement of this system and prepare the scope of the objective. The results from this phase are scope and limitation, objective, cost and benefits, feature of the proposed system user interface design.

### 4.3 Development of the Proposed System

In this phase, we are going to convert the design of the proposed system to computer software, which includes computer programming using Apache NetBeans 11.3 as a software tool written in Java.

### 4.4 Testing the Proposed System

This step is process of testing whether the programming code will work correctly with the conditions in our system or not. In this phase, we will fix the bugs order to produce a system with maximum performance.

## 5. CONCLUSIONS

NetBeans is an integrated development tool for JAVA application & projects. It includes all classes, functions, package etc. which are useful in designing a project in JAVA.

In this project we tried to develop an application which efficiently manages the donation & purchase of blood from the Blood Bank. This is just a prototype of the functioning of such a software the real versions include graphics & other utilities.

Our project has basically four functions which are: -

- 1) Donate Blood - In this feature if a person is interested in donating blood then he/she will be asked about their age and the other features and the software will itself decide whether the person is eligible or not. If yes then we can do the blood group related inquiry.
- 2) Purchase Blood - If a person wants to purchase blood, they have to provide same details regarding which blood group they want, then the software will display the bill accordingly.
- 3) To print all records - This feature is about printing information regarding donor and purchaser. It prints a small list of previously registered people of both donor and purchasers list. We can extract information from there.
- 4) Print Blood group list - It displays the list of all blood groups.

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