

# Tracking of Blood Donor and Organ Donor Application

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**Abstract-** This paper gives detailed report on the application available for tracking blood donor and organ donors which helps to assist between blood donors and necessitous people. It facilitates the search process for necessitous people and it will be effortless before. With development in healthcare services Organ transplantation is increasing in demand so blood donation has become important. It is important all this information to be available as when required by hospital and patients. There is a need of uniform tool to maintain much medical related information like organ transplantation requirement of organs in different hospital. Information about blood donors across the globe. The recent trends in technology has helped in healthcare field to facilitate the blood and organ donors for the necessitous people & provides complete health solutions that supplies blood for the required patients in time, it is safest & through trustable means. For blood samples that are uncommon or the software can search in the MIS & displays the information to the user.

**Index terms—** Blood Bank, Donors, transportation, technologies, report

## I. INTRODUCTION

The noblest service one can make is to donate blood or organ. Usually blood can be allowed to donate after 18 years of age & for those who are donating blood should be free from all ailments or any disease they should be healthy. It is good service that one can give for society. There are many applications that offers feature for the users that it can search the donor location based on the latitude & longitude position value of the user with the help of GPS. If the donor and the required user location are near proximity then needier will be intimated through message. The message includes type of blood group, platelets counts etc. GPS will detect the accurate location of the donors & locate the donors who available in the nearest location. Many queries will be raised by during organ transplantations like single organ or multiple organ. Main aspects to be considered during organ transplantation like ethics to be followed, procurement of body parts, procedure & rules to be followed while during surgery.

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Normally donation of organ will be done after the death of the person. But there may be scenario that there required live donation of an organ. Live donation means donation of an organ when person is alive. & it is not possible to donate of all organ only certain organ that is liver and kidney.

With so much advancement in medical field the risk of live donation of an organ is very minimal. Without major adverse effect the live donors can donate one kidney or a part of their liver but they have to undergo major surgery.

The blood donation management system is an application that maintains information of donors and needier who are going to register. Normally the live donors are allowed to donate for the close relative and friend and are banned in many European countries like US, Europe and Germany to accept payment for organ donation. Organ donation should come with the self interest of the people. Usually when blood donation is required there comes search within close relatives then donors will be searched outside.

There are many existing applications promoting organ and blood donation system. In recent advancement in surgery field allowed patient to implant themselves with the organ and blood donation easily and transplant each of the organs into a person who needs a new organ. It is one of the noblest service one can do before their death. Cloud based service no need depends on system or system crash or hardware crash can locate central and intermediate donors. The tracking of donors is also easy with cloud-based application. Due to shortage of organ or blood donors many people are losing their lives during emergency situation in blood bank banks. With help of GPS we can track nearest location of donor & can request for blood donation or organ donation

Nowadays mobile phone users are more & people are accessible easily with the help of cloud-based application we can track them and contact them for blood donation

The death rates can be reduced whenever there is an emergency of blood or organ donors can be contacted and can perform the surgery and can be implanted for needier. With the help of this cloud-based web application or mobile application we can easily track and locate people. But no assurance will be given for this kind of surgery. Donors database are maintained with unique id and help to locate now easily.

Many countries do not accept the blood just like that. There are many conditions that has to be satisfied by the donors before donating blood. If donors do not satisfy all the criteria, they are not allowed to donate the blood. There many parameters are checked before donation like weight, hemoglobin level, platelet counts etc. Even HIV is an important test that has to be performed before performing blood transfusion to other patients. Another precondition that is to be met before donating blood is the last blood donation should be more than 3 months if it is earlier then it is not allowed to donate blood to the patients.

Under following circumstances user will not be allowed to donate blood

- (i).If donor should not have any chronic disease.
- (iii) Under treatment with antibiotics or any other medication.
- (iv) Cardiac problems, hypertension, epilepsy, diabetes (on insulin therapy), history of cancer, chronic kidney or liver disease, bleeding tendencies, venereal disease etc.
- (v) Patients should not be undergone any major surgery in the last 6 months.
- (vi) Vaccination should not take in the last 24 hours.
- (vii) Had a miscarriage in the last 6 months or have been pregnant / lactating in the last one year.
- (viii) Shared a needle to inject drugs/ have history of drug addiction. (viii) Have regularly received treatment with blood products. (ix) Had sexual relations with different partners or with a high-risk individual.

**II. METHODS**

Traditional way of managing blood donors information was through paper card based disseminate results to blood donors which needed IT based solutions. There was many in the disadvantage in traditional approach that it causing delay disseminate results to blood donors. Since there exist manual entry of data and manual analysis of results, more confidentiality maintained in the software so that the person who is not eligible will not be allowed to access.

The organ and blood donation is great charity that one can do it is as good as donating one’s life. In treasure care hospital or even primary health cares there is always shortage of blood and organ, there is a lot of demand in the hospital for blood and organ during emergency, Many Major diseases like cancer (Many types of cancer lung cancer, throat cancer, liver cancer etc) and other diseases. Blood Bank will be opened for 24hrs during emergency there may be need of blood at any time so one can contact blood at any time.

The death rates are increasing day by day due to increase in number of fatal accidents that are occurring in metro cities like Delhi, Mumbai, Bangalore, Chennai, due to this many people are losing lives because that are not getting proper treatment in time so this paper, we study on the available application that exists currently to serve the purpose.

However, this is still inefficient up to day. The main aim of this paper to find the quick donor and their contact number to

Know their willingness for donation. To develop a platform that any user and donor both can communicate and it is convenient to them. Searching for donor will be easy with this kind of application.

**A.Phases of Blood Donation System**

In any application based on blood donation management information system. The whole procedure is divided four main stages as depicted in fig1: first step is Registration, receive of blood, then transportation & saving blood storing in safe & proper way so that it can be reuse in an efficient way.

When patients come for blood donation they will be screened thoroughly before allowing them for donating the blood then once they satisfied with all condition, they are allowed to register themselves with the application there are many applications which does this basic check before they perform blood donation procedure. Then blood collected by the donors and agin it will be checked by blood bank centers if any virals and whether it is suitable for transfusion. When it passes all the stages then blood is transported and then ready to store.

Management of Blood Donation System

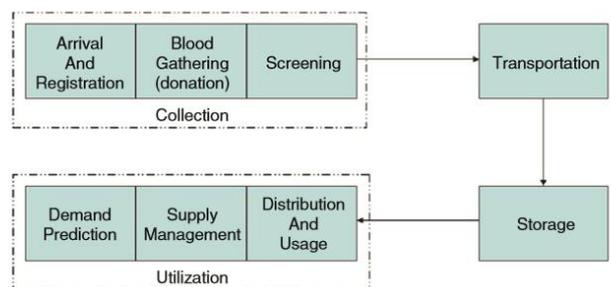


Fig1:Phases of blood transfusion

There are varous applications and web services which are international and state wise but not for are locality.

In this project Blood Donor Contact Manager Web Services it is a web service that provide a way to maintain a database that gives user feeling that it is easy good look and feel to access database. Of contacts & the blood types it is based on android based platform one can easily get them contact of donor

Many blood banks use the software to keep the inventory & many other details are also stored to facilitate the user during emergency they are responsible for the collection, processing, testing the blood type & compatibility, transportation, storage. Like ATM to withdraw money at any time there are many automated blood banks available in cities people can get blood at 24/7 but no card system used there many researchers are trying develop blood bank information system but this project aims to develop about organ donation system also in place.

One more android based application which facilitates user to connect the server & it is optimized by Technopedia. It is composed of two main components which is mobile phone and server which response back for all the queries which user is requesting for. Similar to any web-based application user has to register themselves with user id and password for logging in for authentication purpose. The registration is opened for both donor or acceptor they can be either a patient or friend or relative to the patients. All the details of patients of donors or acceptor is stored in MySQL database

In this system it is a Web based Android Application. The System consists of two main instrument - Android Smartphone and A server (is a local PC).

User has to create an account and unique id and password will be allocated to them. Donor/Acceptor can be patient or relative to patient Acceptor can be either the patient or any relative to patient. Every detail is stored in Database (MySQL) [1]. There is disadvantage of this application is mentioned below:

1. No Blood Banks are involved.
2. Does not include organ donation.

In in this Journal paper that is E-Blood Bank and an concept to use on Smartphone but it can be used for single blood bank only not for multiple blood bank. It will have all information such as Blood Group; Total units of Blood available, donor's details etc are stored in a Database. This application gives different Id to donors to keep track of records of donor and to retrieve information in future. If Seeker needs blood, Doctor will just use this application on his/her an android based Smartphone to get relevant information from a Blood Bank about a particular Blood Type. With help of GPS it easy to find locate the location of blood donors

Reference Gap: 1. Applicable for single Blood Bank only.

2. Only Doctor can check for availability of blood.
3. Time Consuming and does not include organ donation.

The recent advance medical field made one advanced application for kidney came to live where in access is given to end users like it can be doctors or nurse via android based device it may be smart phone, tab by relevant authority to monitor kidney patients and donors who are willing to donate kidneys. The application imbibed with the artificial intelligence feature to it so that it can detect who are user and people in medical related. The complete information is stored in cloud. So it is anybody can access anywhere. Notification is given to user whenever required with help of cloud technology. Main feature of this app to monitor and analyse & to their history of the patient and current status of the patient after post-surgery. It is very usefull for doctors to monitor patient's status. Apart from this the other details are also stored about patients like injection entry records medicines, prescription. [5].

In many western countries like US there is a strict procedure to be followed for blood donor management processes.

Blood or organ will not be accepted so easily. Donor or acceptor has to pass through many stages. The rules are strictly followed in blood banks or hospitals such application will have enterprise blood Management software that will manage the blood supply chain including donor management, blood collections, testing, distribution and transfusion.

### **B. Blood Bank India:**

In this application user is registered with age, gender, residential address, height, weight, mobile number, email, city, last blood donation made and he/she should be between the age of 18-60years. In this MIS user has a provision to search the blood donor by city wise or blood group wise (a person who needs blood). Any requisition for blood this application is as good as any web-based application where in database information such as the name of the patient, a blood group which is needed, number of unit needed, Rh factor type, city, date and time when the blood will required, name, contact email id, contact phone number, address, city, state of the person who needs the blood in their management System.

### **C. e-Blood Donors:-**

The information system in this application information such as name of the donor, unique id which allocated to user donating blood to view his account and the password for logging in. information such as date of birth of the donor, Gender status, another important information such as blood Group, weight & photo, contact details, postal address such as State, City & pin code.

It provides the option to search for city wise and blood group wise and gender wise search of the blood (a person who needs blood).

It does not provide any mechanism that a patient can request for blood online.

### **D. Lions Blood Bank & Research Foundation:**

The very old charity organisation is Lions Blood Bank & Research Foundation, which works for all charity works like cloth donation, money donation blood donation which maintain an application about current status of availability of blood & inventory status about blood bank, number of packed cells, number availability of frozen plasma, number of availability of platelets.

The drawback in this system is it does not provide a feature for the patients to register for it and cannot request blood online.

### **E. Organ donor ECard: -**

Ecard is introduced by Irish Kidney associations to the organ donors. Card is maintained to track donor. It is very convenient method to convey message to family & emergency services in case of casualty But this application is only for organ donation.

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**F.Improvements:** The many disadvantage in the above discussed application. Firstly

Inventory for both blood and organ donor are not maintained properly stressing only on user registration. Inventory is crucial to run any business successfully. With help of inventory one can know which blood group type is in much in demand and need and it also gives the information such as how much unit is available and stock status. which blood group is going to finish, etc. There should be proper report generation for the inventory used in the application. Inventory includes the donor inventory and the seeker inventory.

Secondly with the help of inventory one can easily dispose the expired date of blood bottles. Any blood composite will expire in 21 days so there should be proper management of it otherwise it will go waste. If the expired blood group is transfused then it may lead to infection so it should be discarded. This function also shows how much time is left of the particular blood group so that stockiest will give that unit first to the patient which is about to expire, as management concept follow the First in First Out concept (FIFO).

Thirdly inventory is classified based on area wise & blood group wise so that it helps in area wise.

Lastly requirement for updating is there should be a feature used for report generation of any time given by the end user, so that user will get details for everything & will come to know which blood group is in demand and which is difficult to collect and also display the blood donation camp notice in order to fulfil the demand on particular blood group.

### III. CONCLUSIONS

Blood is primary necessity of life. There are different scenarios for searching blood donors. This proposed system will be one step head from other blood donation system. Blood recipient can contact blood donor directly using this system. The purpose of any application is to simplify and automate the process of searching the blood in case of emergency and maintaining the records of blood donors, recipients, blood donation programs and blood stocks in the bank. Using this application one can search for blood donors or organ donor. This website can also be used by organ donor and seeker where person can register for organ donation. Proposed system will contain a Directory which includes details of all Blood Bank across India. User can search Blood Bank using PIN code and typing name of State or city.

This paper introduced those applied outline and improvement of provision for blood conveyance. This paper gives the complete detailed information about both blood donor and organ donor application



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Author-3  
Photo

**Third Author** personal profile which contains their education details, their publications, research work, membership, achievements, with photo that will be maximum 200-400 words.

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