

A New Concept of Blood Bank Management System (e-donor)

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ABSTRACT:

At present, the public can only know about the blood donation events through conventional media means. There is no information regarding the blood donation programs available on any of the portal. The current system that is used by the blood bank is manual system. With the manual system, there are problems in managing the donor's records. The records of the donor might not be kept safely and there might be missing of donors records due to human error or disasters. There is no centralized database of volunteer donorso, it becomes really hard for a person to search blood in case of emergency. The only option is to manually search and match donors. Each bank is having their own records of donors.

A blood bank is a bloodcomponents,gatheredasaresult ofblooddonationorcollection, storedandpreserved for later use in blood transfusion. Here in this paper we are introducing a new concept of Online blood bank system using a [7] concept of traveling salesman algorithm. It also helps to provide a way for improving the facilities of Online blood bank system in any given area. In this paper we are using a concept of traveling salesman algorithm which is used to find the shortest way to reach any given destination. In this research paper we are also introducing mobile SMS based Online blood bank system which will be directly connected to our server.

[3][6]This system is necessary because in many areas blood transfusion is practically impossible because blood donors and receivers cannot come in contact with each other through our system we are providing a methodology through which the blood donor and receiver may contact each other directly or indirectly through our system. This will not only help save life but is also proposes commercial beneficial.

Key Words: Travelingsalesman, Short message service, centralized database, Blood transfusion, PHP, JAVA, Cytomegalovirus.

INTRODUCTION:

A blood bank is a center where blood gathered as a result of blood donation is stored and preserved for later use in blood transfusion .The term blood bank typically refer to a division of a hospital where the storage of blood product occurs and where proper testing is performed (to reduce the risk of transfusion related adverse events). However, it sometimes refers to a collection center, and indeed some hospitals also perform collection. The main aim of developing the system is to provide blood to the people who are in need of blood. The number of persons who are in need of blood are increasing in large number day by day. Using this system user can search blood group available in the city and he can also get the contact number of the donor who has the same blood group.

In order to help people who are in need of blood, [9] this online blood bank management system can be used effectively for getting the details of available blood group and user can also get contact number of the blood donors having the same blood group and within the same city.

So, if the blood group is not available in the blood bank user can request the donor to donate the blood to him and save someone life. Using this bank management system, people can register himself/herself who want to donate blood. To register in the system, they have to enter their contact information like address, mobile number etc.

PROPOSED WORK:

Our proposed work is to meet the challenging requirement of modern-day blood to efficiently collect blood during emergency.

- The specification builds on the experience of users of IT technology in blood transfusion that is currently available and informs both connecting for health (CFH) and commercial company producing both hardware and software
- The main objective of this specification is to support the automated tracking of blood products from the initially ordering of blood transfusion for a patient, through to the taking of blood sample for cross matching, to administration of a blood transfusion and subsequent update to care records. The scope of the specification includes following scenarios: -
 1. Rout in the blood transfusion.
 2. Transfusion for special requirement (ex: Cytomegalovirus (CMV)) negative blood, irradiated blood or antigen negative blood.
 3. Emergency issue of blood.
 4. Management of returned and unused blood units.

FUNCTIONAL REQUIREMENTS:

1. Login of admin:

The system provides security features through username and password matching where only authorized user can access the system with different authorization level.

Input - username, password

Output - Invalid or update blood details, logout

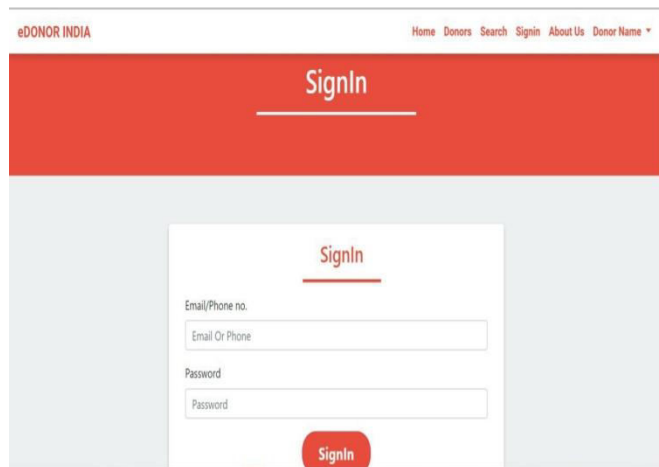


Fig.1: Admin Sign-In

2. Blood Donor:

2.1. Donor profile registration

This allows healthy public register as volunteer donor.

Input - donor/recipient id, name, date of birth, sex, blood group, address, contact number, email address.

Output-successfully registered.

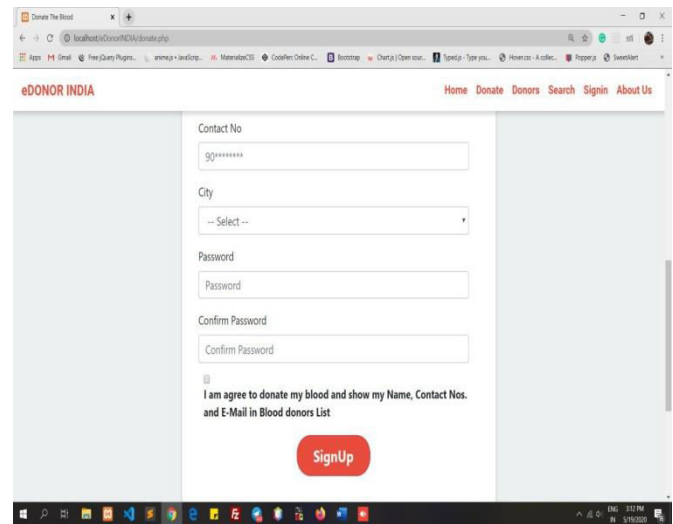


Fig.2: Donor registration

2.2. Blood stock management

[14] The blood bank can manage the blood stock starting from the blood collection to blood screening, processing storage, transference and transfusion through this system.

[2] The records of all donor/recipient and their history are kept in one centralized database and thus reducing duplicate data in database. The record of donation is maintained by the system.

Input—blood type

Output—no of blood bottles available

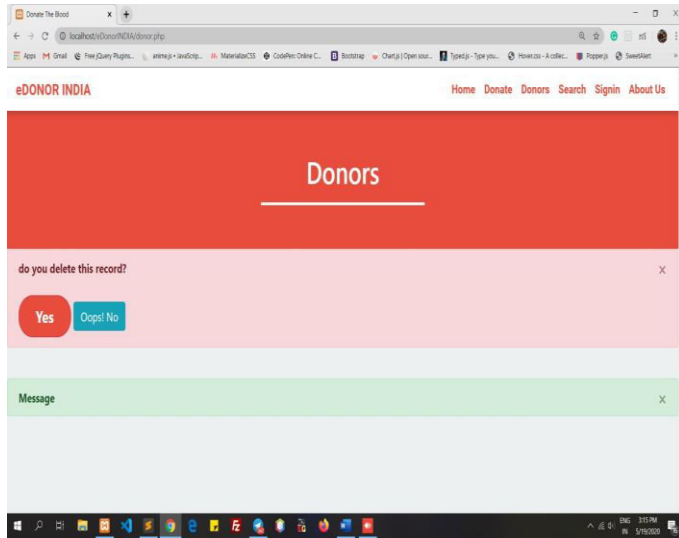


Fig.3-Management System

2.3. Reporting

The system is able to generate pre-defined reports such as the list of donors, recipient staff, the blood quantity in the bank and charts.

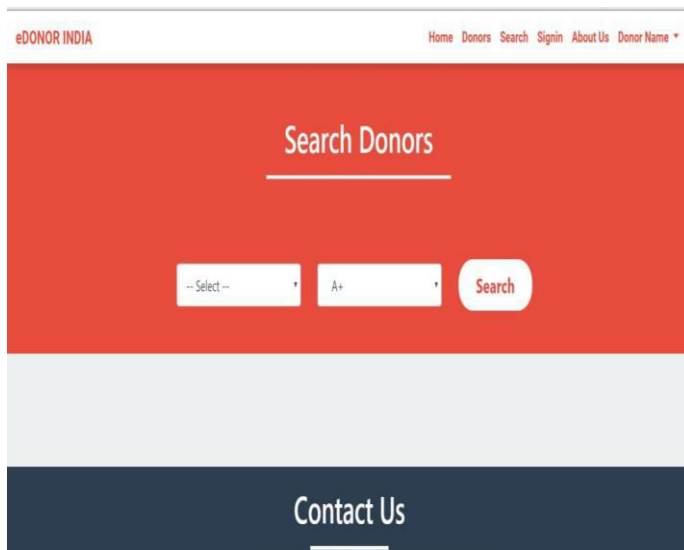


Fig.4-Donor Search using Traveling Salesman Algorithm

3. NON FUNCTIONAL REQUIREMENTS:

Characteristic of a quality is that in addition to describing the functional requirements of the system, it will also provide detailed coverage of the non-functional requirements. In practice this would entail detailed analysis of issues such as availability, security, usability, maintainability.

3.1. Availability:

1. The system should be available at all times, meaning the user can access it using application.
2. In case of a hardware failure or database corruption a placement page will be shown. Also, in case of hardware failure or database corruption backup of the database should be retrieved from the application data folder and saved by the administration.
3. It means 24*7 availability.

3.2. Security:

The system must automatically log out all customers after a period of inactivity.

3.3. Performance:

The system is interactive and the delays involved are less.

3.4. Reliability:

As the system provides the right tools for problems solving it is made in such a way that the system is reliable in its operations and for securing the sensitive details.

4. INTERFACE REQUIREMENTS:

4.1. Software Requirements	4.2. Hardware Requirements	4.3. System Requirements
Operating system	Intel p4	Operating system
IDE	512MB RAM	IDE
Database	80 GB HDD minimum	Front end: - php, HTML, CSS, JavaScript
Language		Language: - php, Java, JavaScript
Front End		Database: -SQL server

An Image to describe the working relationship of entire system:

Entity Relation diagram

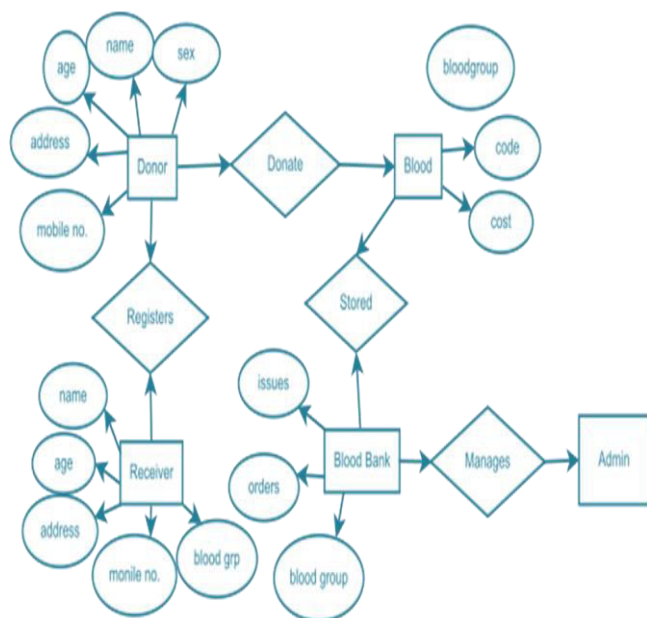


Fig.5-Entity Relationship Diagram to demonstrate the entire modules connections in the System.

CONCLUSION:

- Easy to understand and implement.
- Testing in each phase.
- Documentation available after each phase.
- Most suitable for single projects where work products.
- Are well defined and there functioning is understood

This paper here shows the new working concept of blood bank system for various area. Information and computer technology are very famous in blood banks for its potentials in working efficiency as well as service quality where we have just provided a new facility for all blood bank system for donor as well as for seeker. The main objective behind this concept is to provide blood to any seeker or any donor at any time and at any situation so that blood is available in very serious conditions of patients. Also, any donor who wants to donate blood for future uses is also

available in our system. In future, we intend to expend this system broadly at national level.

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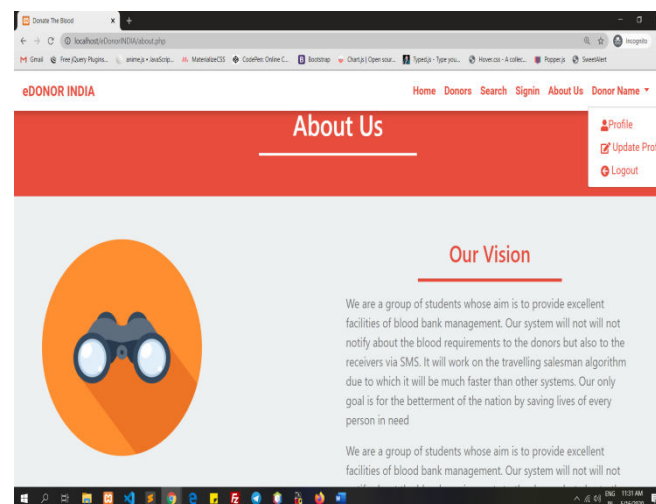


Fig.6-About Team

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