Development of a Blood Bank Management System

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Abstract: The aim of this study was to develop a blood management information system to assist in the management of blood donor records and to easily control or control the distribution of blood to different parts of the country based on hospital demands. Without quick and timely access to blood donors, it becomes very difficult to formulate a market strategy for blood donation, lobbying and sensitization of blood donors. The blood management information system provides functionality for quick use of donor records collected from different parts of the country. This enables monitoring of the results and performance of blood donation activity, so that the relevant and measurable objectives of the organization can be examined. It provides timely, confidential and secure medical reports to the management which facilitates planning and decision making and hence improves medical service delivery. The intentions of proposing such a system is to abolish the panic caused during an emergency.

Keywords: Emergency; Blood Units; Donors;

Introduction:

Blood is one of the most important elements of human life and is actually called the 'river' of life. There are many scenarios where blood is urgently needed in society. The call routing facility will be very helpful. The new algorithm is defined to find the right donor at every point. There is a need that such systems have more advantages than currently available systems. It helps to meet immediately. React instead of SMS-based system or Internet-based database system only.

Blood supply the need made possible through this system can help save human life.

Details about Blood:

A) Different components of blood are represented as followers:

Plasma - The medium in which blood cells are transported around the body.
Red blood cells- It takes oxygen.
Platelets - which helps in clotting of blood and also requires blood transfusion
White blood cells- is part of the immune system.

Hemoglobin - an essential chemical in the body and carries oxygen from the lungs to another part of the body.

B) Need for blood

Statistics say that one needs a blood transfusion every two seconds. Blood transfusion is used for trauma victims - due to Accidents and burns - heart surgery, organ transplant, and women with complications during childbirth, newborn and premature
Infants and patients receiving treatment for leukemia, cancer, or other diseases, such as sickle cell disease and lymphoma.

C) Factors to be considered for blood donation

A donor must be over 18 years of age and under 60 years of age. And hemoglobin competition should be more than 12.5g / dl. And Weight should not be less than 45 kg, and body and blood pressure temperature should also be normal. Want donor Stay free from all diseases and have not taken any medicines in the last 48 hours. And donors should also not be affected by jaundice Last three years. And donors should not be addicted to drugs.

Important Issues In Blood Bank Management:

1. Tackling fake donors:

Since a dynamic algorithm is followed to select the most qualified donor, which takes into account the will Each donor, a counterfeit donor factor, will be automatically returned to the bottom of the donor list. Follow up Communication with the donor Once the initial communication between the donor and the recipient is completed an SMS.

2. Handling large user traffic blood:

Parallel programming is employed to handle large user traffic. When there is a high demand for blood, then by pressing
There is a limit of 5 donors for each collar, for people with constant demand for blood, such as people with blood cancer. A separate registry of their phone numbers has been kept, so that middlemen can be prevented from creating artificial shortages.
The caller's database is maintained and monitored to ensure that there are not too many calls from the same number. A Separate registry are created from the phone numbers of hospitals and blood banks. Thus the tracking of middlemen or Agents can be made possible.

Updating database:

For each blood transfusion performed, it is necessary that the database is updated regarding this transfer. It is essential that Next time a selection of the most qualified donor should be considered, as a minimum time of 56 days should be given. After donating whole blood. This update is done on the basis of confirmation from both the donor

Terminology used in blood bank management:-

Donors :- Person who wants to donate the blood

Seekers:- Person who wants the blood from the blood bank due to various reasons like accidents, surgeries, delivery and many more.

Blood Bank:- Blood bank management system provides the unique identification number at the time of blood donation camp, which helps him for the future correspondence. Blood bank management system has a permission to edit their
Information regularly. One of the major tasks performed by the blood bank management system administrator is to collect the information of all the donors' area wise and blood group wise.

Advantages:

In other similar systems, there is no such provision, which again adds to the delay in receiving the donor. A toll free

The number is used to connect to the server. Any additional costs that may occur will be the minimum that can be borne.

Government or NGO So at that time any common man can join this system for help.

APPROACH:

They gathered some of the data about the blood bank management system situated in their city and found that some of the hospitals have its own blood bank unit with each and all technical facilities in a city. There are a number of research works that have been done to integrate cloud computing, the health sector, and social media. In existing systems, the given blood group and quantity is searched for in the cloud database, where the blood bank data has been stored.

The results contain the basic information of the blood banks that have that specific blood group, ordered by the geographical proximity.

PROPOSED SYSTEM:

The proposed system (blood bank management system) is designed to help blood seekers to meet the demand for blood and to send or serve requests for blood when and when necessary. This website will provide a common basis for the three parties (ie, recipient, donor and blood bank) and will ensure the demand for blood demanded by the blood seeker.

GOALS:

1. To ease the process of Blood Donation and reception.
2. To improve the existing system
3. To develop a scalable system.
4. To be highly available.
5. To provide open source to the user
6. To provide easy access to the user.

SCOPE:

1. To provide all information about blood banks and donors
2. Ensure that all the functionalities of a manual blood bank are covered
3. To include all blood banks at least within a city.
4. Make sure the program is easy to use and access.

Discussion

Recruiting a sufficient number of safe blood donors in Saudi Arabia is an emerging challenge especially with the increase in demands as a result of an increase in population size and an increase in the number of medical facilities in Saudi Arabia. The present study has been conducted in Riyadh city in order to understand the various factors contributing to beliefs, attitudes, and level of knowledge associated with blood donation and transfusion that should help Saudi blood centers in building and maintaining an adequate and safe blood supply.

The current study results show a general lack of information regarding donation policies and practices among the surveyed individuals. As a group, donors had better understanding of the donation process. Although the experience of having donated blood likely explains why donors are more knowledgeable in this area, it is also possible that an increased availability of correct information on donation requirements to more

eligible potential donors may help persuade some of them to donate.

Conclusion

An online blood bank management system has been successfully designed and developed. Developed system proves to be more Impact in terms of access speed and security. An online database with automatic call routing facility is a suitable Option for immediate fulfillment of blood requirements for emergency people suffering under various circumstances.

Recommendations

The study is concluded by listing down the following points:

1. The regular donors in addition to donating blood should motivate and educate the other people
2. All one-time donors should be made aware that repeated donation at a proper gap of 3 months is an absolutely healthy practice
3. Female donation needs to be encouraged more
4. All the voluntary donors, who have been rejected or deferred for some reasons, should take corrective measures to eliminate the factors that are stopping them from blood donation
5. About those willing donors, who have not donated yet for the reason that nobody has approached them to do so, should be motivated to take the initiative and to approach such blood banks or associations as voluntary donors
6. Formation of more such voluntary associations such as BDA should be encouraged in all medical colleges as well as nonmedical throughout the state.

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