The Optimization of Blood Donor Information and

Management System Using K-means Algorithm in Machine Learning

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ABSTRACT

Blood is a investor of all existing lives in case of emergency needs. During the blood transformation process the receivers receiving blood donor information considered before donating. The blood donor information must be checked before they are giving blood and the display on the website. In this paper ,we proposing the blood donation application making the power to save lives in the palm of your hands. A person needs to have an account in blood donation application. By using this application he can do both donate and request for blood anytime. In existing system its very time consuming &poor information for nearest donors. We are proposing very efficient way to use OBDI application using machine learning algorithm K-Mean clustering for grouping the similar blood groups and to find out the very nearest donors using Naïve Bayes classification. The Administrator have the whole information about Blood Bank Management System. It also maintains the bold groups and address of the donors. In addition its provides more secure application. This application proposed to search the nearest donors during the emergency case. Hence the life at threat can be saved by this enhance technique.

Keywords:-

OBDI, k-mean clustering, Naive Bayes Classification, Administrator, Blood Bank Management System, Donors.

1. INTRODUTION

The need for blood is important, for treating in medical field due to cause of large number of accidents and health problems. Its require to find directly blood donors. Since the blood bank centers are rapidly growing .It becomes increasingly difficult to extract the required information by using the traditional way. So, there is a need to come up with solution using Clustering for analysis and obtain the information of the blood donors [1].

The task of blood bank is to receive blood from various donors, to monitor the blood groups data base and send the required blood during they needs. The donation of blood is main because most often people require blood do not receive it on time cause loss of life. For example include sever accidents, patients suffering dengue or malaria fevers. Extreme health conditions such as Leukemia and bone marrow cancer.

Clustering analysis is major data analysis methods. It helps to identify grouping of data objects from the datasets. Clustering is unsupervised classification to find the meaning full sub classes. This can be done by applying the various similarity and distance algorithm.

The services used in the proposed system are web services and domain services. Web services are used for transferring the data entered by the users to the data storage.

Applying optimization methods to healthcare management and logistics is a developing research area with numerous studies. Specifically, facility location, staff rostering, patient allocation, and medical supply transportation are the main themes analyzed. Optimization approaches have been developed for several healthcare related problems, ranging from the resource management in hospitals to the delivery of care services in a territory. However, optimization approaches can also improve other services in the health system that have been only marginally addressed, yet. One of them is the Blood Donation (BD) system, aiming at providing an adequate supply of blood to Transfusion Centers (TCs) and hospitals.

2.LITERATURE SURVEY

In a web based information system for blood donation performed extensive research in the field of data mining experiments and organized analysis of the blood bank repositories which is helpful to the health professionals for a better management of the blood bank facility.

In this paper, improved k-means clustering is adopted that improves the performance for determining the blood donors information based on the required blood group and location where needed. Several attempts are made by the researchers to improve efficiency of the k-means clustering

 The variants of the k-means clustering algorithm, are K-modes and K-medoids. These algorithms replace the means with the modes and medoids. The K-modes algorithm handles the categorical data.
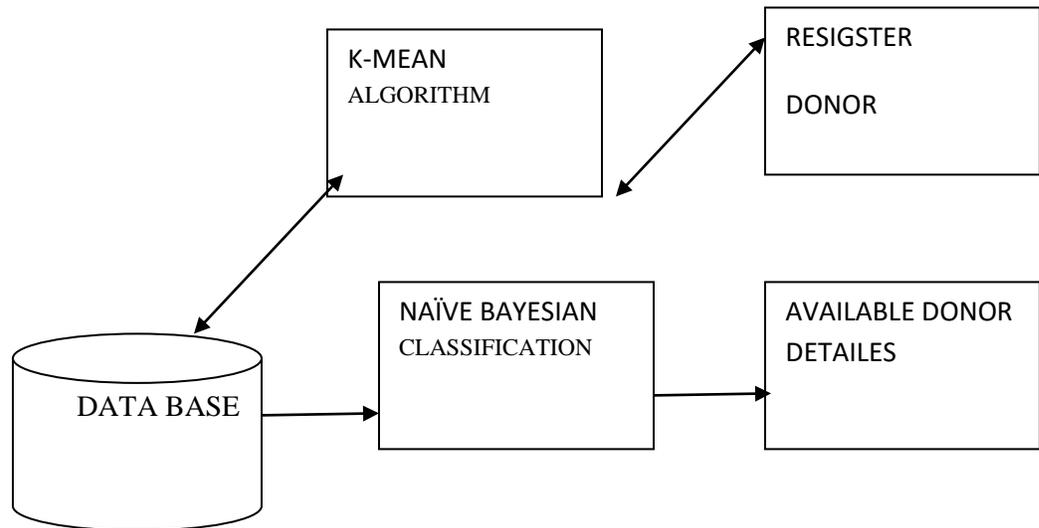
3.EXISTING SYSTEM

The details of the information of donors are given for the usage of the users for contacting them when in need of blood in case of any emergency. The problem which currently exists in the medical field is that blood is needed immediately for an injured person or for any major operation, it is not easily available even though blood banks are present. Its v ery time consuming problem. Blood donor registration OTP Verification is required Only it provides the list of donor available in locality.

4. PROPOSED SYSTEM

Our application is different than others as it uses machine learning algorithm for detecting the best matched donors. If a person donates blood one time then he will be not shown in the map for next three months because it' s not healthy to donate blood more than once in three months. If any blood group is out of stock then the alert message

will be sent to the server administrator then the administrator will check weather the donors of the similar blood group are eligible and ready to give blood.

Block Diagram

Naïve Bayesian classification:
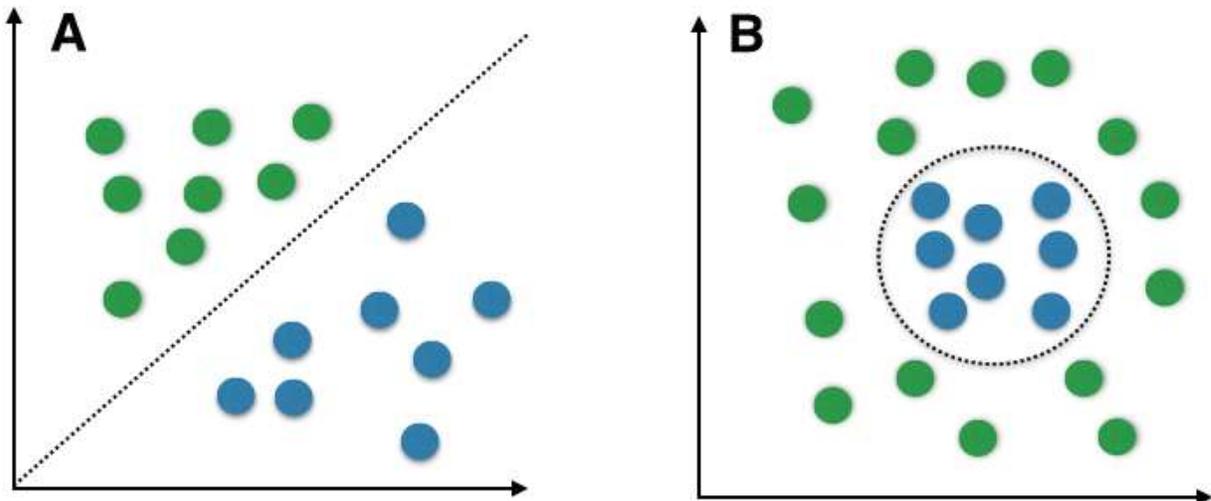
Advantages:

- In existing systems, the donors should update their " availability" status but in our system we automatically update the profile as " available" .

- Maintains the previous donation details of a donor.

- Alert messages will be sent if there is any blood group is out of stock.

- The details of the donor can be seen by the valid users if and only if the Administrator grants the permission.

- Maintains complete privacy and confidentiality of donors information.

5.RESULTS:

6.CONCLUSIONS

In this paper, we have proposed an efficient and reliable blood donor information and management system based on OBDI integrated web application. The service provided by the proposed system is needed and valuable to health sector where a quality of the blood is considered for the safety of the patient through a systematic process by the blood management system. This system will be the solution for the problems such as wrong information of donors, misuse by third parties and updating the donated blood by the donor which replaces the older systems.

7. References :

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