Community Based blood contribution scheme with eligibility criterion of blood contributor with machine algorithm

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Abstract : Blood is most significant influences in life of human being. We faced so many troubles for judgment a particular blood and also for donor to predict whether they are eligible or not for donating blood and also it take too much time for testing the blood donor. Therefore this we purpose a system which will help the humans or patients who are seeking blood. The numbers of blood donor is very less when compared with other countries and also it takes much times for searching those particular blood donor. Therefore this system is designed in such a way that donor and blood seeker can communicate with each other by notifying each other. Our system will also predict the weather donor is eligible or not for giving blood to blood seeker. In this we have used a machine learning technique such as classification. In this system we are using a machine learning technique for predicting whether these blood donors are eligible or not for donating blood for patient and if yes then the system will notify the blood recipient so that it will reduce the effort taken by both. Overall our system will be beneficial for blood recipient as well as blood donors.

IndexTerms **- Component,formatting,style,styling,insert.**

I. INTRODUCTION:

Healthcare is the world's largest industry and its market size is continuously growing. Today in the urban world, most of blood donors are unpaid volunteers who donate blood for a community supply. Since healthcare industry is a growing industry, it faces many challenges of providing safe and quality of health care services for a patient but nowadays population is also increasing day by day with this diseases are also increasing day by day. Day to day increase in the need for blood. Sometimes the lack of communication between the blood recipient and blood donors, most of the patient who needs blood do not get blood on time and many lives have been lost and sometimes because of improper hospital management system. The improper management of blood leads to wastage of available inventory. Therefore to solve such problem we have developed a blood management system in which we will reduce the effort of blood recipient as well blood donors by notifying each other, therefore the gap of communication between them will be finished.

Keyword:

data mining, knn, Naive bayes' algorithm, machine learning.

Related Work:

The counseling of blood donors is an important means of promoting healthy lifestyles and makes an important contribution to individual and community health .In addition, counseling contributes to the early diagnosis and treatment of conditions such as anemia, blood disorders and infections. This offers a crucial early entry point for the treatment and care of donors found to be infected and may contribute to delaying or preventing the development of full-blown disease or complications .This duty of care extends beyond donors themselves to their families and the general population as these individuals may infect others if they are not aware of their infection status. Donor counseling thus contributes to the continuum of care in the health system, plays an important role in preventing the further transmission of infections, contributes to the containment of epidemics and reduces the disease burden on the national health system.

Motivation:

Normally blood bank will send request for blood to all people.

Then some of them will come.

After that blood bank check eligibility criteria of all donors who are come for donation.

Then found some of them are not fill full those criteria.

This is what we create this system.

Our system will check eligibility criteria first.

Mathamatical Model :

Mathematical model set theory S= {s, e, X, Y, Φ}
S = Start of the program
1. Register/Login into the system
2. Provide input as a Criteria with specific Attribute.
e= End of the program

Identify the Blood Donor
X= input of the program= {P, R, Q}
P= Criteria
R= Analysis
Q=Result For Blood Donation
Y= Output of program= Eligible Donor
First, users provide the Criteria
Let C be the set of Attribute Criteria
C={A1, A2, A3... An}
Let A be the set of Attribute
therefore,
A={A1, A2, A3..., Am}
Y ={A1,A2.....An}
Where Y is number of overall Predicated Output i.e Person Eligible YES Or NO.

System Architecture:

This architecture diagram gives us the flow of the algorithm and overall functionality of the system.

The user of the system selects one product after which the process starts.

Method:

Naïve Bayesian Algorithm is used for classification purpose. It is based on Bayes' Theorem. In simple terms, Naïve Bayes' is used to classify between the particular features and unrelated features in the class. It is easy to build and very useful to classify enormous volumes of data.

In following way , Naïve Bayes' is used in our system:

Step 1 : In our system , user is categorized on his/her eligibility to donate blood or not .

Step 2 : From huge number of donors if blood bank has an emergency for a particular blood group say A+ then from the details provided by the user in the form, Naive Bayes' theorem will filter only those users who have A+.

Step 3: The system uses factors like hemoglobin, weight, height, any recent vaccination, month of last donation, any surgeries, etc for classifying eligible donor. As there are many factors for classification of eligible donor, Naive bayes is applied for every factor in our system.

As there is enormous data of users Naive bayes makes it easier for classification

Fill Blood donation form: This process takes the user's selected product and the dataset and composes that product with the all possible combination.

Feature Extract: This method helps in extracting all the features of all the combination

After all classification, the classifier recommends the donor is eligible or not.

When System will check the criteria result will be send on registered email.
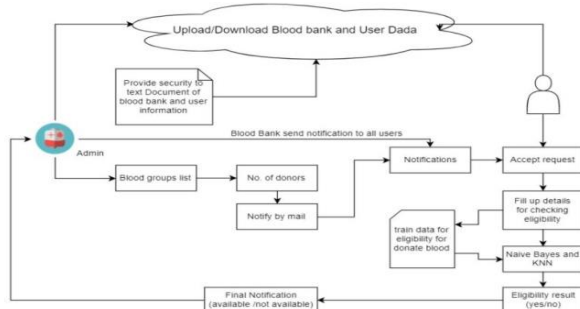
Conclusion:

Our system will reduce the donor as well as blood bank time.

We generate authorization card if donor is qualified.

We send all the blood bank address on registered email.

We provide user friendly UI for interface.

We will save the time of Hospital

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