

Android Application for Blood Donation Services

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Abstract— The major objective of this project is to save the lives of human beings who are in an emergency situation by rendering them blood of the requested blood group. The Blood Bank Management system is an Android application. This application is created to help users to view the details of the hospitals that are located nearby and also information about blood banks. It is developed using three major perspectives—the hospital, blood bank and patient/donor. The security for an authenticated user is provided in such a way that existing users have to only login whereas the new user has to register based on one of the three perspectives. The Blood Bank Management application is an online application and it uses internet. This online application helps the users to choose the hospital that is nearby, immediately by tracking the hospital's location using the Global Positioning System (GPS). It also comprises of an alert system that provides a distinct alarm for life-threatening accidents by sending ambulance to the destination of the accident victim immediately, without any time delay. The Blood Bank Management system application quickly and easily searches the requested blood of the specified blood group from the registered blood banks and also the hospitals. Therefore this application gives the necessary details in a minimum amount of time and also gives us more time for decision making.

Keywords— Online blood donation, smartphone, GPS, Blood bank, mobile application

1,INTRODUCTION

The aim of the project is to provide the users with a large number of useful features without consuming much time.. It gives us a refined management of blood, a registered list of hospitals, blood banks and blood donors that are available online. The major intent of this application is to link all the blood banks, hospitals and the blood donors under a single roof through a network. This application also validates and stores several details of blood and health of every single patient and the data is maintained by centralized server. A third party will not be able to gain access to the database present in this centralized server. eHealth is a branch of health care that utilizes several mobile devices, details and information and the technology of communication for delivering health services. Nowadays there is an increased use of mobile phone. With the help of the application that is based on this paper the individuals can monitor their health and can send data and queries to the doctors and helps in

bringing many latent developments using the aid of data sharing. An indispensable component of health care services is blood transfusion .Hundreds of humans lives are saved during complex surgeries and in emergency situations. To meet the increased demands of the society new methods are needed. This paper describes the application for blood donation that links the requestor and the donor with ease without much difficulty during routine or emergency situations.

2,LITERATURE SURVEY AND PROBLEM IDENTIFICATION

In the year 2014 Adarsh N ,Arpitha J, Md. DanishAli, Mahesh Charan N, Pramodini G Mahendrakar prepared a paper on the title with the concept of Effective Blood Bank Management Based On RFID in Real time systems but the disadvantage of the paper is Manual labeling is

susceptible to human errors. Barcodes can store less information and cannot be reused.

In the year 2001 Ming Jiang, Ping Fu, Hexin Chen, Mianshu Chen, Bo Xing, and Zhonghua Sun, Ping Deng, Guang Wang, Yi Xu, Yu Wang prepared a paper on the title with the concept of A Dynamic Blood Information Management System Based on RFID systems but the disadvantage of the paper is the blood types are found to not matching or the blood is found to be infected. Increase the number of transfusion errors considerably by automating the entire process

In the year 2016 Muhammad Fahim, Hali Ibrahim Cebe, Jawad Rasheed, Farzad Kiani prepared a paper on the title with the concept of mHealth: Blood Donation Application using Android Smartphone but the disadvantage of the paper is The barcode on the blood bag carries less information and cannot be reused. It is not quite convenient to administrate the donor's information.

3, EXISTING MODELS

For providing the provision of healthcare, several mHealth solutions are created and are in use. The existing system uses a mobile device based blood donor enlisting that helps in high rate of efficient management of the blood donation management. Also some services of blood donation made use of the Short Messaging Service (SMS). They used to send a query for a specific blood group that was SMS-based. The blood group and the location of the donors who have registered already are matched by the server. It then sends the retrieved details to the requested user along with the mobile phone number of the donors. The existing system uses a one-way communication. The users can contact the donors only by talking to them through a phone call.

4, PROPOSED SOLUTION

The current web based Blood Bank systems are not present in our country India, based on the user demands and requirements. This android application provides a higher rate of mobility that can be accessed on the user's mobile phone easily and within less time. The exact location of the user will

be properly tracked with the help of the Global Positioning System (GPS). The Blood management is done correctly and properly over the mobile servers. The records of the user are stored correctly with correct details. The database will function normally and correctly. Internet connection must be indispensable for this blood bank management android application to function.

A. Facilities

1) Precision of Location

The list of Blood banks is provided by the web-based system along with a unique identifier in the city that is nearest to the requested user's location, the web-based system is not as practicable when it is compared to the direct usage of the mobile application. With the aid of the Global Positioning System (GPS), the requested user's location is tracked and is identified and also details about the nearest blood bank and the path to reach the destination is sent to the user by the mobile application.

2) Trained Dataset

The process of storage of data, service, manipulation etc., is collectively termed as dataset training. This dataset training gives a huge backup support model for the Application. The dataset which is filtered is uniformly organized and it helps the final user to make use of these details for quick and timely actions to be taken during an emergency. The major information and details that are provided are the date and year of birth of both the blood donor and the patient, the blood group of both the patient and the donor, the date when the blood was donated last time, contact number (mobile number), address including the city and state of residence and e-mail id. Also the criteria is provided in such a way the user can perform an advanced search based on either of the three perspectives from the available list and can even retrieve the data that is stored.

3) Database and Inventory Management

Many web based applications are available in the recent days. They perform the work of storing and providing the information and details of both the requested user and the blood donor. Generally, the blood banks are very huge considering both their geographical and physical features and aspects and the details contained in it are vast. That is why the management of the database of the Blood bank Systems is an essential job. The report generation for the databases and the inventories that are used in the android application should be clearly generated. The databases comprises of the details of the patient, blood donor, hospitals, blood banks, stock and the seeker database. The blood bags inventory should be disposed automatically as soon as it has expired. The expiry policy for the blood bags is twenty one days starting from the day when it was supplied to the inventory. Therefore a proper and a clear record should be maintained for the expired blood, thus saving the tough manual work by the person who manages the database and the records present in it.

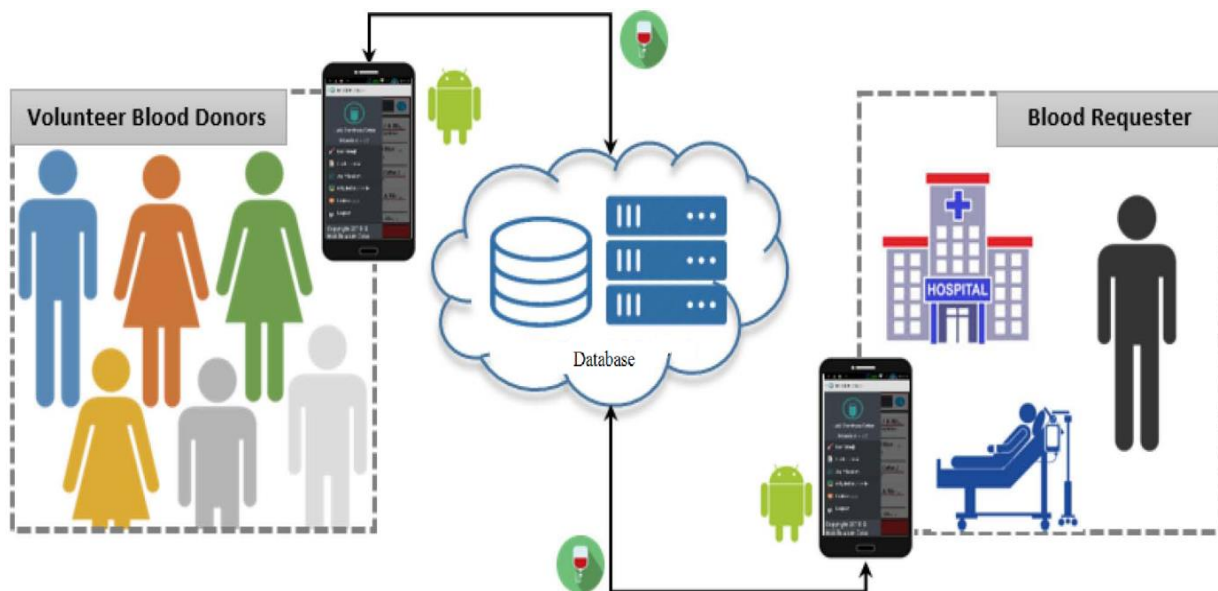
4) System Security

The Blood Bank management system provides the application with several unique facilities and features that include an

advanced feature of security that includes validation and verification in the case of a web-based application. In the case of an android application, the application itself provides the security service where the user is registered previously to the system. The details and information of the registered user and their profile's information is being stored in a centralized database and is maintained for the user's validation and verification in the future.

5) Alert Button

During certain life-threatening emergency situations, where there is no clarity on the blood availability and in emergency situations only less time is available to save the patient. The user cannot search for the specified blood group that is needed, from all the hospitals and blood banks, on his own, that too manually. Because of this, the application has a button, called the alert button. This button, when clicked, displays information based on the best attribute of search that is shown to the profile of the user along with the details of the list of the nearest hospitals and blood banks along with the way to the desired location.



5, CONCLUSION

Thus, the paper suggests the usage of android applications with the help of android mobile phones to enable increased communication speed and to help save the patients in emergency situations.

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