WITFUL BLOOD DONOR LOCUS TRACKER

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Abstract-**Blood is a saver of all existing lives.In case of emergency needs.During the blood transfusion process the acceptor receiving the blood should be considered before displaying their details on the website.Technopedia is nothing but webservice with a mobile application.In this paper,we proposean extended web application to timely update the information regarding the donors and acceptor.In addition to web application an android mobile application is proposed to search the donors who are available nearby during the emergency cases such as accidents. Further we include Global Positioning System (GPS) to locate the nearest donor. This web based android application is readily scalable, efficient and adaptable to meet the complex needs of blood bank who is the key facilitators for the healthcare sectors. Hence the life at threat can be saved by this optimization technique.**

Index Terms- **Technopedia, Global Positioning System, Health Care Sector.**

I. INTRODUCTION

The need for blood is important for treating in medical field. For every second someone needs blood to save their life. The task of blood bank is to receive blood from various donors to monitor the blood group database and send the required blood during the need to the hospitals in case of emergency. In developing countries, especially like India the blood recourse lacks in quantity which is a barrier to others life. The Southern regions of Asia are week in regulation of Blood Transfusion Service(BTS) and sometimes

transferring the real time data are difficult. There are many shortcomings like decentralized nature of the donor. Manually it is difficult in the current existing system and tracking the database for a particular blood group is complicated. The aim of our project is serving an efficient quality of blood to the patients. The last minute update of the blood in done bi-directionally. The information regarding the BTS is explained by entering the details about the blood group, contact details, gender, date of birth, etc. The update about the information after blood donation is not entered in the system. This application in integration with GPS is important because when the lives are at stake, by using

the mobile application searching for the nearby location. Web service are used for transferring the data entered by the user to the database.

II. EXISTING SYSTEM

The recruitment of blood donor when compared with other countries is very less in overall blood donatingpercentage annually.Besides this recruitment, the screening of donor and the management system is not well maintained. 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.There are some websites present for donating blood were the phone numbers of the donors are present which are not reliable since they don't get often updated.

The primary disadvantage of BTS is that there is a concern of many discomforts in immediately following the process, but the difficulty is minor. However, the user feels week and light headed for several hours of following the procedure. A person who has anaemia or are underweight cannot donate blood.

Thus the above reasons are not considered in the website. These kind of information are not provided in the current system.There some difficulties in this application:

- Difficulty in handling emergency situation.
- Slow internet access
- No proper updates.

3.PROPOSED WORK

The proposed system aims to create a web-service with android application is developed so that the blood donors are easily accessible within the required time. The donors who are nearby location are tracked using GPS.The purpose of using a web service is to update the information in the database.Initially the application user enters his/her bio-data and mobile

number and register with the service.This is now stored in the web service database.When there is a need for blood, the blood donors' information is checked, which is stored in the database.In addition to this the blood donor who is nearby is found using GPS.Hence the life at threat can be saved by this application. The proposed system functionalities are described below,

- The application allows the needy to reach the donors directly.
- The application allows the donor to edit details.
- A better connection via the mobile application at places where there is slow internet connection.
- The system provides authentication features to the current system to protect private and confidential data.
- The system provides the usage of GPS to contact those who are nearby so that they can reach the patient easily.

Communication of various hardware devices in the developing countries has been improved over the last few decades which allows the people to communicate from anywhere and at any time via mobile applications. However this advanced technology has not been improved in medical field.Thus the purpose of this system is to develop a blood donation service and to assist in the management of blood donor record.

The high Growth in number of people and capacity of mobile devices that is used for communication coupled along with wide spread availability of inexpensive range of web service presents an opportunity for saving a life in mobile health care application.The communication between the donor and the requestor is done through hardware devices.The proposed system consists of two devices types:

1)Mobile phone with android operating system where the app is installed.

2)A Web server for storing the data.

The proposed system has 5 actors,

A.DONOR

Each donor is given a Username and Password which identifies him uniquely. The member is given a login form where he fills in his personal details. After registration he would Edit his personal details or change his password. He would request for blood when needed, also he acts as a donor during emergency.

B.NON-DONOR

Each NON-donor is given a Username and Password which identifies him uniquely. After registration he would Edit his personal details or change his password. He would request for blood when needed.

C.DATABASE

Stores all the details about the donor and non-donor. There will an option for updating the personal information. This is for tracking and managing the application.

D.APPLICATION

An android application that is created for searching the donors in the nearby location using GPS.

E.GPS

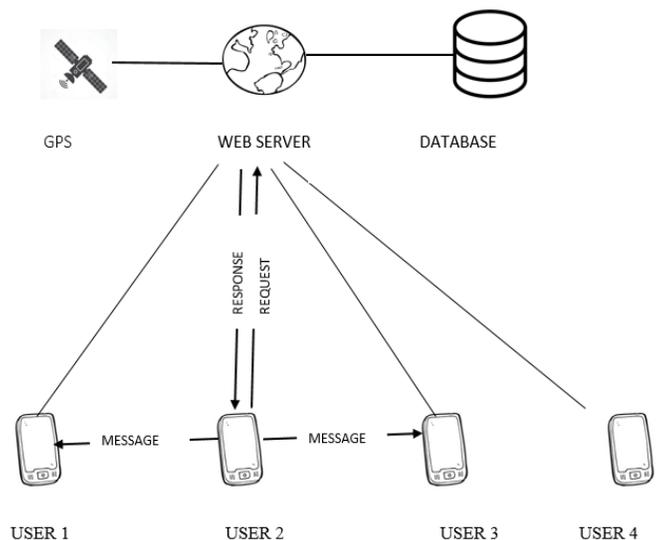This is used to locate the nearby donor so that the donor could act immediately during emergency cases.

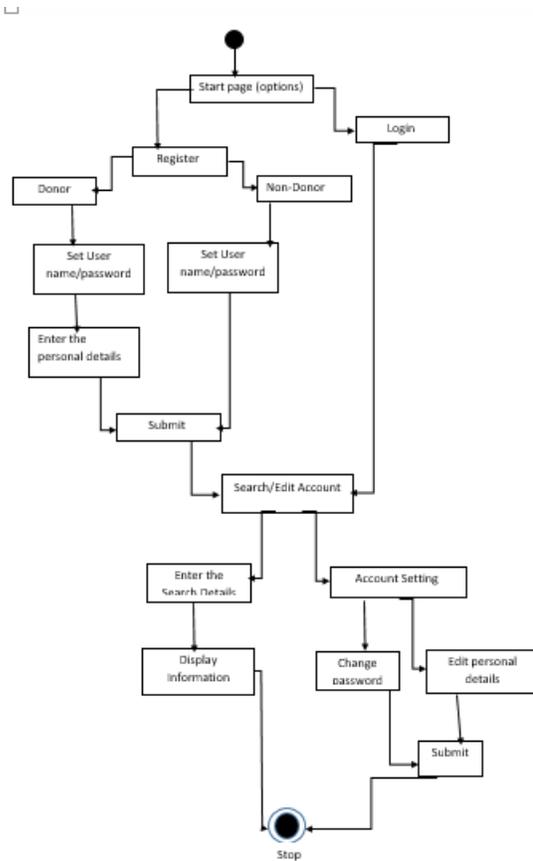**FIG 1: Scenario of the proposed method**

FIG 2: Activity of the blood donor application
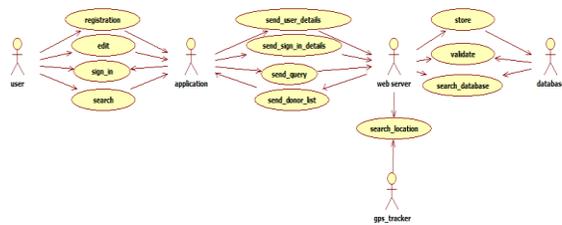
4.MODULE DESCRIPTION

FIG 3: Overall usecase diagram of the blood donor application

Our Application consists of 4 modules,
   a) INSCRIBE
   b) GAIN ACCESS
   c) INQUIRE
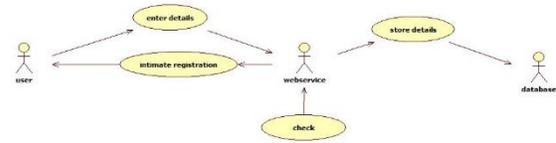   d) REVISE DETAILS

a) INSCRIBE

FIG 4:usecase diagram to inscribe with the blood donor application

After the successful installation of the application, user need to register with the database via web service by entering his/her personal details such as name, date of birth, weight, height, blood group, address and phone number. Those entered details will be stored in the database and an account will be generated and intimated to the user by the web service.
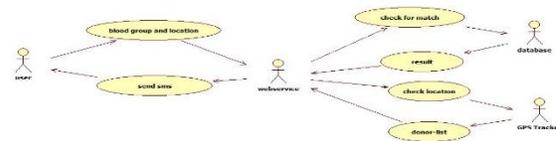
b) GAIN ACCESS

FIG 5:Usecase diagram for Gaining access to the blood donor application

If there is a need for blood, the registered user will login with the application and give the necessary details such as blood group and location for searching the donors. This request will be received by the web service. Then the web service will trigger the database for matching blood group and location and automate the GPS tracking operation. After the GPS tracking is accomplished, the donor list will be displayed to the requestor and SMS automation operation by web service will be done.
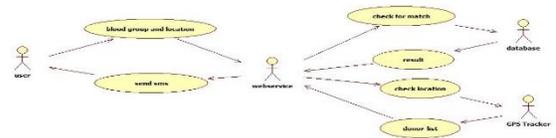
C) INQUIRE

FIG 6: usecase diagram to inquire to the blood donor application

If there is a need for blood, the registered user will login with the application and give the necessary details such as blood group and location for searching the donors. This request will be received by the web service. Then the web service will trigger the database for matching blood group and location and automate the GPS tracking operation. After the GPS tracking is accomplished, the donor list will be displayed to the

requestor and SMS automation operation by web service will be done.

D) REVISE DETAILS
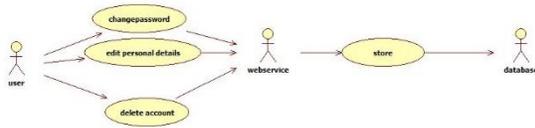
The users have access for updating their account by changing their password, other personal details and delete the account. The same will be updated in the database.

FIG 7: usecase diagram for revising the details in the blood donor application

5.   CONCLUSION   AND   FUTURE ENCHANCEMENT

In this paper,we have proposed an efficient and reliable blood donor information and management system based on android application integrated with GPS.The service provided by the proposed system is valuable and highly needed in health care industries,where the quality of blood is considered for the safety of the patients through systematic process.The proposed system is a web based android application that helps to reduce inefficiency.The wireless internet technique enables the flow of data to work more rapidly and conventionally. This is an integrated framework which has a cloud-based application on mobile devices.The future work of the system is to extend the security provided by this application so that the contact details of the donor is hidden from other members.By this there will be secure BTs where the strangers cannot misuse the details of the donor and the strangers would become the helping hand for life at emergency.

REFERENCES

[1]Ahmed, N. ; Hasan, K. ;Jubayer. M, "mHealth: Blood donation service" Dhaka, Bangladesh; 978-1-4799-0397-9,Informatics, Electronics & Vision (ICIEV), 2013 International Conference 2013 IEEE.

[2]Arif, M. ; Sreevas, S. ; Nafseer, K. ; Rahul, R, "Automated online Blood bank database", 978-1-4673-2270-6 India Conference(INDICON), 2012 Annual IEEE.

[3]Nader Moayeri, Jalal Mapar, Stefanie Tompkins, KavehPahlavan, "Emerging opportunities for localization and tracking", IEEE Wireless Communications, April 2011.