Project Synopsis
on
BLOOD BANK

Submitted as a part of course curriculum for

Bachelor of Technology
in
Computer Science

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2022-2023

DECLARATION

We hereby declare that this submission is our work and that, to the best of our knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgement has been made in the text.

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CERTIFICATE

This is to certify that Project Report entitled "**Blood Bank**" which is submitted by **Chhayank Tyagi, Hanu Agarwal, Khushi** in partial fulfilment of the requirement for the award of degree B. Tech. in Department of Computer Science of Dr A.P.J. Abdul Kalam Technical University, Lucknow is a record of the candidates own work carried out by them under my supervision. The matter embodied in this report is original and has not been submitted for the award of any other degree.

Date:13/11/2022

Supervisor Signature
Mr. Harsh Khatter
Assistant Professor

ACKNOWLEDGEMENT

It gives us a great sense of pleasure to present the synopsis of the B.Tech Mini Project undertaken during B.Tech. Third Year. We owe a special debt of gratitude to **Mr. Harsh Khatter[Assistant Professor]**, Department of Computer Science, KIET Group of Institutions, Delhi- NCR, Ghaziabad, for his/her constant support and guidance throughout the course of our work. His sincerity, thoroughness and perseverance have been a constant source of inspiration for us. It is only his/her cognizant efforts that our endeavours have seen the light of the day.

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Last but not the least, we acknowledge our friends for their contribution to the completion of the project.

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ABSTRACT

This project acts as an important role in saving life of human beings and which is also its main aim. The project Android Blood Bank system is developed so that users can view the information about registered blood donors such as name, address, and other such personal information along with their details of blood group and other medical information of donor. The project also has a login page where in the user is required to register and only then can view the availability of blood and may also register to donate blood if he/she wishes to. This project requires internet access and thus there is a disadvantage of internet failure. Thus this application helps to select the right donor online instantly using medical details along with the blood group. The main aim of developing this application is to reduce the time to a great extent that is spent in searching for the right donor and the availability of blood required. Thus this application provides the required information in no time and also helps in quicker decision making.

LIST OF FIGURES

LIST OF ABBREVIATIONS

Abbreviations	Definition
NGO	Non – Governmental Organization
SMS	Short Message Service
GPS	Global Positioning System
XML	Extensible Markup Language
HIV	Human Immunodeficiency Virus

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Chapter – 1

INTRODUCTION

Introduction –

Blood bank management system is an online software system that helps in managing various blood banks in a better way. This project gives information about various blood deposits available along with associated details. These details include blood type, storage area and date of storage. These details help in maintaining and monitoring the blood deposits. The project is an online system that allows to check whether required blood deposits of a particular group are available in the blood bank. Moreover, the system also has added features such as patient name and contacts, blood booking and even need for certain blood group is posted on the website to find available donors for a blood emergency.

Problem Statement –

Now we are living in new generation and facing a problem is not a big issue, but for getting a solution of that problem is a challenge of a person. Here one of the major problem is getting the blood and donating the blood. By using this app people can save their time. They don't need to go or search whole city. They can get all kind of information regarding the blood group, donor and hospital and easily reach their and save time.

Objective –

After defining the problems existing the current systems, the objectives of blood bank management system are –

1) Provide a report that can be generated of donors, seekers, total consumption of the blood units so that costs, records and counts are maintained precisely.
2) To help raise awareness in the community about blood donation and make some blood donation events or campaigns for the public.
3) To allow the public and organization to make online reservations on the day and session that they want to make blood donation.

4) To provide authentic and authorized features to the current system where private and confidential data can only be viewed by authorized users.
5) To make a valid informative portal about blood donation & managing systems.

Scope –

Blood Bank App is usually designed for the people who are needed to donate the blood or those who needed to get blood. All the information will provide in this app like Blood group, Donar information and Hospital information that they will easily connected to each other.

If any person wants to donate the Blood so he need to get the registration that he will be able to Donate the blood and become a member of this App. This system that contains different modules to maintain blood and blood donors Emergency situations, such as accidents, create an immediate, critical need for specific blood types, in addition to emergency requirements, advances in medicine have increased the need blood in many on going treatments and elective surgeries. Despite increasing requirements for blood, only 5% of the Indian population donates blood.

CHAPTER – 2

LITERATURE REVIEW

Paper 1
Android Blood Bank

Introduction

The most precious and valuable gift to a person is life. It is very important that a person suffering from any kind of health issues gets the required aid on time. The purpose of this project is to fulfill the blood requests of people in need of it by time. To achieve this we will be having a promising Android application in which one can easily request for blood. One can even donate blood through it. A person in need of blood can easily search for voluntary blood donors near him as well as locate and contact nearby hospitals, blood banks, healthcare centers and NGOs to check for availability of the same. Here both, the donor and the recipient are brought on to a common platform. There will be no communication barrier between them. The recipient can easily get to know the details and can contact directly the required donor. This will help in improving speed and efficiency of the service. If somebody wants to request for blood beforehand even that option is available. How much quantity is required, of which blood group, etc. all this can be specified. Moreover one can post their requests in public and can also share others posts. This feature will help in publishing one's request to a big crowd. Anybody who is in need of blood should be able to use this service anytime without any need for sophisticated hardware.

Conclusion

Thus the proposed application will help users to get the data of available blood near them in time. Also any person who wants to donate blood can do the same with the help of this application. Anybody who is in need of blood should be able to use this service anytime without any need for sophisticated hardware.

Paper 2
Online Blood Bank Management System using Android Application

Introduction

Blood is a fluid that carries oxygen and is considered as a connective tissue which carries other elements because it has matrix. Now, as we know the importance of blood, the role of blood is not only to carry the oxygen to the tissues but also it takes away carbon dioxide from the tissues through heart and the vascular system. An average blood donation volume is limited to 470ml /person and it is only 8% of the volume of an adult. In the hospital,

most of the cases, when blood is a requirement for blood it couldn't be provided on time causing uneven things. Even if the donor is available in the hospital, patients are unaware of it, and so are the donors due to lack of communication and other assistance. In order to resolve the communication gap among the hospitals, blood banks, donors, and receptors such a system is important. The system mainly compromises of things which includes price variations along with stock handlings, increase in blood types which may lead to increase in human blood infrastructure and categories to be managed. This project is developed with an aim where users can view the knowledge of nearby hospitals, blood banks and also the three important perspectives which includes the hospital, blood bank and patient/donor. In this system we've provided security with authentication where users have to login if already registered or as a brand-new user must register per their form of perspective. This project requires internet connection so as to fulfil the necessities. The system will confirm that just in case of need, the blood is made available to the patient. This paper is targeted on Online Blood Donation Management System which is an android application with supporting mobile application aimed to function a communication tool between patients (who need blood) and donor.

Conclusion

The proposed system provides an Android based application which is extremely useful at Emergency Services i.e. at the time of Blood Donation, insertion, etc. this method provides a more robust thanks to communicate with blood Donors. The system provides a more robust thanks to communicate with blood banks. It's also ready to maintain reports like stock, blood requirements, etc. It's easy to keep up the records through a database of the registered Donor's. It also provides us knowledge about the most recent technology utilized in developing android based applications.

Paper 3
Design and Implementation of Automated Blood Bank using Embedded Systems

Introduction

Automated Blood Bank is an associate work that brings voluntary blood donors and those in need of blood on to a common platform. The mission is to fulfill every blood request in the country with a promising android application and motivated individuals who are willing to donate blood. Entire communication takes place via SMS (Short Messaging Service) which is compatible among all mobile types. "Automated Blood Bank" is an project that brings voluntary blood donors and those in need of blood on to a common platform. This project aims at servicing the persons who seek donors who are willing to donate blood and also provide it in the time frame required. Automated Blood Bank tries to assist victims/patients/those in want of blood. It is an endeavor to achieve dead set these people in want of blood and connect them to those willing to donate.

Conclusion

When there is urgent need for blood, it may not be possible for people to connect to the internet to look into the online blood database systems that are already in existence. If people adopt this model, the caller is immediately connected to the donor. Consider a SMS based database system is in which whenever a SMS is send to prospective senders, based on the demand. Here there will be a significant delay in the recipient side in viewing the SMS and then responding to it. If the system that propose is setup, only the most eligible donor is contacted and that too with no cost being borne by him.

Paper 4

Blood Bank PH: A Framework for an Android-based Application for the Facilitation of Blood Services

Introduction

Blood services are very essential for it can save a person's life. The absence of a platform to schedule blood donation appointment and to request for blood lead to problems such as lack of knowledge with the process of blood donation and requesting for blood. This study presents a framework for the development of an Android mobile application that will facilitate blood services between blood banks, blood donors and blood requesters. The proposed system will allow blood banks to manage blood drives to encourage more people to donate, view updated reports of the current status of blood services, and manage blood requests as well as blood donations. The proposed mobile application will allow blood donors to conveniently schedule blood donation appointments or participate in blood drives. People who need blood can send a request to the nearest blood bank with an available supply of blood through the proposed mobile application.

Conclusion

In summary, blood donation systems are already becoming essential in helping patients, blood donors, blood donation centers and different health organizations in facilitating blood donations. Different blood donation systems are developed to utilize the blood donation process and aims to provide a communication between blood donors and blood donation centers and allow patients to look for blood donors when there is a need for blood transfusion. Numerous existing mobile applications for blood donations are already used in different parts of the world and most of them are successful which proves that using technology for the blood donation process will be beneficial.

Paper 5
Zomraty: E-Blood Bank Android Application for Donors and Life Savers

Introduction

Every day, thousands of people around the world receive an emergency blood transfusion because they undergo major surgery or a serious injury that needs replacing the lost blood. Or because they suffer from bleeding in the digestive system, from an ulcer, from a disease such as leukemia or kidney disease that causes anemia (not having enough healthy red blood cells), a blood disorder or severe liver problems, or even because of cancer treatments such as radiation therapy and chemotherapy. According to the American Red Cross, every 2 seconds someone in the U.S needs blood, this means that America alone needs 14,400 blood donors daily, considering that only one donor can save three needy blood transfusions. This is not all. About 38 percent of Americans are not eligible to donate blood or platelets, measure for that in the rest of the world. It would be terrifying to need a blood donor, given these numbers. Based on this, we created the Zomraty Application, which aims primarily to save thousands of lives in Algeria as a basic first stage for people who need a blood transfusion. Where it connects volunteers to donate blood and people in need by providing detailed information about the donor that allows the needy person to choose the volunteer who is closest and most suitable.

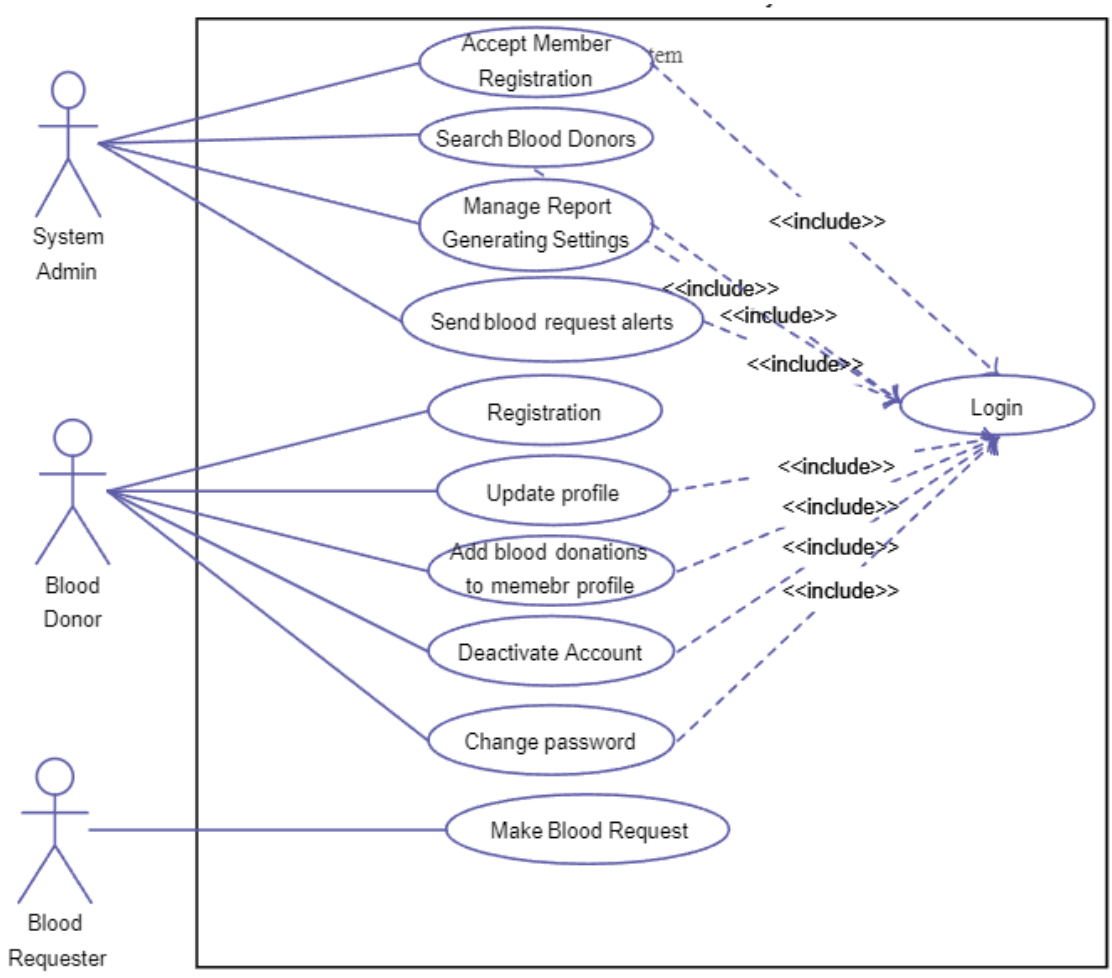
Conclusion

This application and perhaps the most prominent thing we are currently working on is adding the feature to locate the closest donors within ten kilometers from the vicinity of the user in need of blood using GPS technologies, in addition to integrating direct communication media between them. By video calling and texting directly using the application in a 100% freeway.

CHAPTER – 3

PROPOSED METHODOLOGY

Flowchart –



CHAPTER – 4

TECHNOLOGY USED

Software Platform – Android Studio , Firebase

Languages – Java , XML

- Android-Based Geolocation

CHAPTER - 5

DIAGRAM

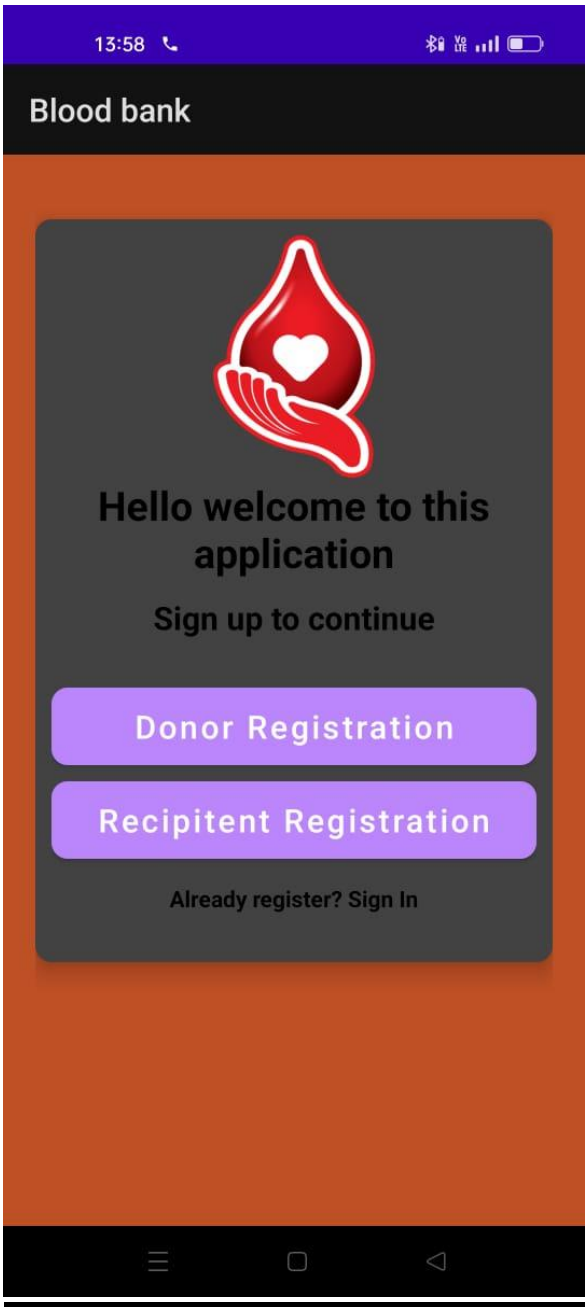


Fig1: Home Page

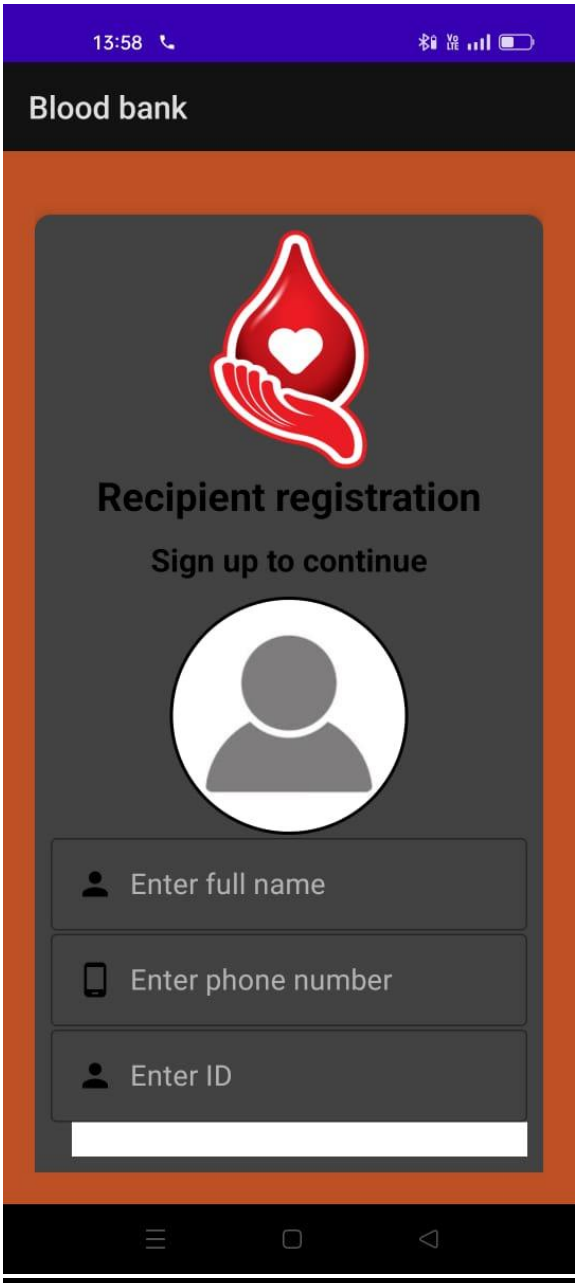


Fig 2: Recipient Registration

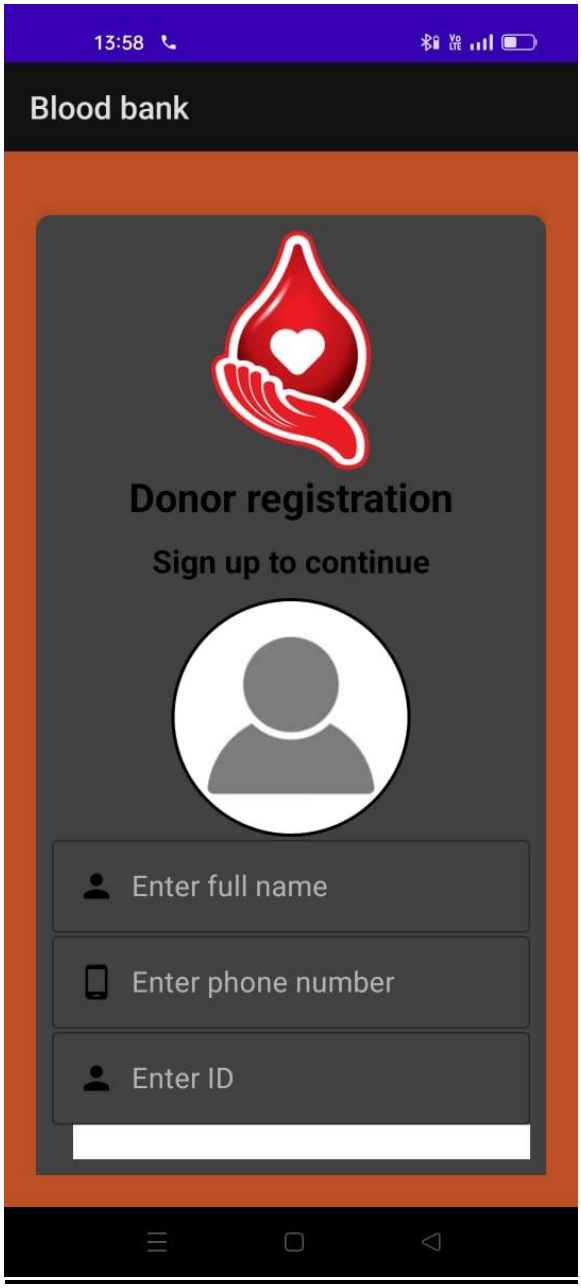


Fig 3: Donor Registration

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CONCLUSION

Blood bank system, which is linked the blood bank with the donors by sending messages to the donor who registered in the blood bank as a constant donor. To inform them of a shortfall in one of the blood groups both by his platoon. The application used by the blood bank employee through smartphones. It characterized by ease of use in organizing the blood donation.

As the donor's data is saved in the system we can reject who have HIV or any other infections. As we have the contact number of the donor whenever necessary comes.
This system will be linked by internet, so the other hospitals can use this data.

A large number of blood donors are attracted using an Android Application. It ensures instant location tracking and communication. Health benefits of donating blood include good health and reduced risk of cancer and hemochromatosis. It helps in reducing the risk of damage to liver and pancreas. Donating blood may help in improving health.

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