

Blood Donor Community as a Mobile Application

A research proposal submitted by

SREEJAN ROY

Student Id: 19-39737-1

Section: I Group: G7

Email: sreejanroy01@gmail.com

DEBORAJ ROY

Student Id: 19-40158-1

Section: I Group: G7

Email: deborajroy123@gmail.com

KYNATUN MAHIN

Student Id: 18-39056-3

Section: I Group: G7

Email: natashakainat91@gmail.com

Course Supervisor:

M.M. Mahbubul Sayed

Department of Computer Science

02-11-2021

Abstract

Nowadays blood donation application is developing in modern countries. Blood donation is a noble work. But in emergencies sometimes we can't find our desired blood group in the blood bank. For this reason, an effort can be given to find blood from the nearest location.

In this research, we are developing an application by which people can find their desired blood group from the nearest location. This smartphone application will impact on reducing the number of death due to lack of desired blood group.

Keywords: Blood donation, blood group, blood donation application, blood bank, smartphone application.

1 INTRODUCTION

A blood donor is usually given their blood in a blood bank or hospital. Those who required blood usually collect from a blood bank or they can receive it from their relatives. According to the World Health Organization (WHO), the blood donation rate is high in high-income countries and also low in low-income countries (31.5 and 5 donations per 1000 people, respectively) [1]. But in Bangladesh, the amount of blood collection yearly is very low as per population. In the years 1977-78 the collection of blood bags was 207, in 2001-02 the collection was 41814 and in 2012-13 the collection was 38604 [2]. So, we can see the decrease level of blood bags collection from the year 2001-02 to 2012-13. Moreover, in Bangladesh, it is difficult to find a blood donation centre cause the amount of blood donation centres is less than our vast population.

In recent times almost every people use a smartphone. In Bangladesh, 41% of mobile phone users had smartphones in 2020 [3]. So, a mobile application

can play an important role to find a blood donor in emergencies within a short time. Both android and iOS users can run our application.

2 RESEARCH BACKGROUND

The blood donor community is an essential and much-needed part of our society. Although almost every hospital in the country has an emergency blood transfusion system, they are often unavailable. Already many types of blood collection, multiple organizations for blood donation, are helping people, currently collecting necessary blood using social media. Meanwhile, people are being encouraged to donate blood. The number of blood donors is increasing day by day due to social awareness [4]. But there are still limitations. Lack of a systematic blood donation plan delays the patient from getting the required blood [6]. Blood donors have to face various problems, such as misinformation, not getting the time needed, not getting anywhere nearby.

So, we will create a mobile application where it will be beneficial for the blood donor community. One of the challenges of blood collection is to provide free blood for all. Many people in the country now use smartphones, due to which the local people can face the challenge of collecting blood from ordinary people. The application will have a well-organized plan between the blood donor and the recipient because a blood donor cannot donate blood even if he wants to. He can donate blood every four months, which is very important for a blood donor and whether the blood donor has any physical illness such as diabetes, high blood pressure, etc. [5]

3 RESEARCH QUESTIONS

1. To what extent will the free blood donation business for all (aristocrats from the common people) be implemented and how reliable will it be?
2. What will be the reaction with all the blood donation organizations and mobile applications? How to deal with adverse reactions?
3. If any function of the mobile application does not work properly or cannot meet the needs of the patient, is there any alternative arrangement? How will it handle that?
4. Any adverse reaction of the patient after blood collection or after blood transfusion, what action will be taken in case of side effects? /How to control?
5. What is the security of the biodata of all the users including blood recipients and blood donors in the application? Is there a backup system for this and how?

4 RESEARCH METHOD

In this research, we are using the case study research method. Using this method, it can be explained, describe, or explored events or phenomena rationally.

CASE STUDY RESEARCH METHOD

The case study research method is an established process. It is given a solution in multiple ways of the real-world problems [7]. This method explores, describes events or phenomena rationally [7]. A case study is an appropriate research design, it gives a contextual in-depth knowledge of a specific real-world subject [8]. This method in the domain of software engineering gained substantial acceptance [9]. Researchers select methods of data collection and analysis that will generate material suitable for case studies but a case study is not a research method itself [10].

Relevance Of Case Study Method

In developed countries, there have so many ways to collect blood and have so many organizations with sufficient blood donors [11]. But in undeveloped countries, there have so many problems with collecting blood in a difficult situation. Nowadays smartphone is used worldwide. So, an emergency blood need button on a smartphone can help people to collect blood. The case study method used in social science and is based on an in-depth investigation of a single individual, group, or event that easily can work together. A case study is a descriptive and exploratory analysis of a person, group, or event [12].

Design Of the Case Study

Our application helps people to find a donor by the app. Those who want to donate or need blood both have to create a profile with name, phone number, age, blood group, address, gender, etc., and this information is saved in our database. Those who want to need blood they can post, search for blood groups and can chat. Every donor will be qualified to donate blood after four months from the last date of donation.

5 SIGNIFICANCE OF RESEARCH

The problem that we define in our research, for this reason so many people losing their life. In our country, there are 319 blood transfusion centres, and only 31 percent of blood is received from voluntary donors in Bangladesh [13]. In an emergency situation when need blood, people collect blood from their relatives, friends, or friends of friends. But some time blood group is the rear type. There are hardly dedicated organizations that have effective blood donor management processes. And also, many people are victims of fraud.

But our proposal is to develop a mobile application that will help to find a blood donor. So, if people use the blood need an app that will be easier to find people who want to donate and who need blood both. In this app, there has an emergency blood need option. Those who want blood just press that button. By using GPS and GSM with emergency blood need app on smartphones they can be tracked each other. So, this app will be so much easy to find blood and useful.

6 REFERENCES

- [1] <https://www.who.int/news-room/fact-sheets/detail/blood-safety-and-availability#:~:text=The%20median%20blood%20donation%20rate,people%20in%20low%2Dincome%20countries.>
- [2] <https://www.sandhani.org/about-us/yearly-blood-cornea-collection/>
- [3] <https://www.tbsnews.net/tech/62-bangladeshi-users-have-smartphones-2025-report-294121>
- [4] <https://www.thedailystar.net/backpage/number-blood-donors-rise-1419814>
- [5] https://www.researchgate.net/publication/321991358_Eligibility_and_willingness_to_donate_blood_in_men_who_have_had_sex_with_men
ELIGIBILITY AND WILLINGNESS TO DONATE IN MSM
- [6] <https://www.thedailystar.net/news-detail-238160>
- [7] <https://bmcmmedresmethodol.biomedcentral.com/articles/10.1186/1471-2288-11-100>
- [8] <https://www.scribbr.com/methodology/case-study/>
- [9] <https://www.jiscollege.ac.in/pdf/projectcasestudy.pdf>
- [10] <https://www.simplypsychology.org/case-study.html>
- [11] https://www.researchgate.net/publication/283834868_An_Extended_Research_on_the_Blood_Donor_Community_as_a_Mobile_Application
- [12] <https://www.pressacademia.org/definition-of-case-study/>
- [13] <https://www.who.int/bangladesh/news/detail/14-06-2017-bangladesh-is-still-to-meet-the-demand-of-safe-blood-supply>