**MAKERERE UNIVERSITY.**

**COLLEGE OF COMPUTING AND INFORMATION SCIENCES**

**SCHOOL OF COMPUTINGAND INFORMATICS TECHNOLOGY**

Group 21 Concept paper.

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**Title: Blood donation UG: A blood donation awareness mobile platform.**

**Introduction:**

Blood donation is a vital part of worldwide healthcare. **It relates to blood transfusion as a life-sustaining and life-saving procedure as well as a form of therapeutic phlebotomy as a primary medical intervention**. Over one hundred million units of blood are donated each year throughout the world. While Uganda has between 80,000 and 90,000 registered blood donors, most of who donate **twice a year**. This research will therefore help provide a reliable platform to connect local blood donors with patients and blood banks in the country. The project will great a communication channel through authentication clinics whenever a patient needs blood donation.

**Purpose of study:**

Health authorities in Uganda say the supply of blood has sharply declined since the start of the coronavirus pandemic as fewer people donate and schools remain closed. The consequences are sometimes deadly. With rapid increase in the usage of social networks sites across the world there is also a steady increase in blood donation requests as being noticed in a number of posts in these social medias for example twitter. Finding donors is a challenging issue inn almost every country. Donation can occur at a number of places although awareness of the donor has been proved to be lacking. And the donors fear of having Covid-19 are some of the factors that contribute to the decrease in blood donations. Furthermore, there are no applications specifically in the country to connect patients promptly with a large pool of donors in the same region via an authorized clinic.

**Preliminary Literature Review:**

Several studies have been carried out in the developed countries which prove that mobile applications have great potential to improve services in various regions. The Uganda Blood Transfusion Services (UBTS), the national body responsible for all blood safety activities in Uganda, enables surgeons and other medical professionals to offer units of blood that save patients’ lives. In the early years of the global HIV/AIDS epidemic, a safe blood supply was a critical concern for stopping the transmission of HIV for developed and developing countries alike. Over the year’s great strides have been made in improving blood safety, but it continues to be an ongoing challenge in developing countries, requiring improved infrastructure and ongoing technical assistance. CDC, through its work in implementing the President’s Emergency Plan for AIDS Relief (PEPFAR), has made blood safety a critical component of its HIV prevention activities.

**Problem Statements:**  
The problem statements of this project are:  
• It is difficult to locate blood donors with a certain blood types in a designated  
area.  
• There is a huge gap between blood donors to interact between themselves in  
emergency situation Thus, as a solution to counter these problems, Blood Seeker will be developed. As it is difficult in recruiting and retaining the next generation of blood donors, Blood donation Ug is designed in attracting both new and repeat donors. In this case, smartphone application is the most suitable approach to be used as a platform for an emergency blood supply. Blood donation Ug is an innovative mobile application that enables the user to find the blood donors with a specific blood type within certain miles of radius. It acts as the intermediate between the blood seeker and blood donors. Apart from that, donors can provide details of any blood donation events including location, organizer as well as date and time to notify the public. This can boost the participants in the campaign and increase the awareness of Ugandan citizens towards blood donation

**Objectives:**The objectives of this project are:  
• To develop a mobile application which provides a platform for searching and locating blood donors within a certain mile  
• To develop a mobile application that able to inform people the news of events and campaigns on blood donation around Uganda.  
• To develop a mobile application that able to save lives through emergency blood request function.

**Scope of Study:**

The scope of project is a boundary for the system. Blood donation Uganda Mobile Application is essential for anyone who wishes to tackle an emergency situation in which a blood donor is needed. It helps the user to search and locate the nearest donors in immediate need of blood by downloading the mobile application, signing up to it and use the Locate Donor function to find all the existing users around him with in Uganda.

Technologies to be used:

Flutter(Dart),

Firebase,

APIs:

Twitter Api,

Dialog flow Natural language processing Api,

Flutter wave Api,

Geo-fencing,

QR- code flutter Api.

**Anticipated results.**

* To provide cash support to the organizations that need blood through donations.
* To request emergency blood donations.
* To update events by the hospitals.
* To provide current twitter feeds about blood donations using twitter bot.
* To send notifications about the current emergency blood requests including blood type.
* The hospital can scan the patients’ qr-code and upload the his/her information.
* To easily identify the location of the events, donor and emergency blood request.
* To profile chat area where application users can interact about the health sector and acquire knowledge from experts.