

# BLOOD BANK SYSTEM

Mr.T.H.Feiroz Khan M.E

Assistant professor Department of CSE SRM IST,  
Ramapuram  
Sai Niveditha.R  
Department of CSE SRM IST  
Ramapuram

Aishwarya.D

Department of CSE SRM IST, Ramapuram  
krupaleni.k  
Department of CSE SRM IST  
Ramapuram

**Abstract--** In this project, we have tried to reduce the gap between donor and user . For that purpose, we created a blood bank system which consists mainly of Arduino uno and GSM module. This project acts as an important role in saving life of human beings and which is also its main aim. The project Blood Bank system is developed so that users can get the information about registered blood donors such as phone number along with their details of blood group .This project does not requires internet access and thus there is a advantage of this project.Thus this helps to select the right donor online instantly using medical details along with the blood group. The main aim of developing this project 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 project provides the required information in no time and also helps in quicker decision making.This system will have all the donor details and accordingly select the right donor.Usage of this project will greatly reduce time in selecting the right donor. . “Blood Bank System ” proposes to bring considered blood benefactors and those needing blood on to a typical stage. Then this project is more useful for the people who are in remote areas .

**Keywords:** GSM Module , Arduino UNO ,Blood Bank

## I.Introduction

This is an android based project which plays a vital role in saving the life of human beings. The main aim of development of this project is to provide all means of communication between blood seekers, blood donors and blood banks. This will help the users in such a way that users can locate different volunteer blood donors and blood banks in their locality and then request for blood in case of emergency. This project is an initiative to bring the donors and users of blood on the same platform.The Aim of our project is to fulfill every blood request by using Arduino UNO and GSM Module .In this project user sends message to the blood bank number mentioning the blood group required .And this system will reply the contact details of that particular blood group . Thus blood bank system is used for people who needs blood .

## II. Problem Statement

One of the rising problems with blood bank system is the records or details of the donor cannot be kept safely. Those records might be misplaced due to human error or natural calamities. There is no database of donors. So, in case of emergency it becomes really hard for a user to search blood . The only option is to manually search the donor and give information's to the user about the donor and then make phone calls to donor. There is no centralized database which keeps the donors records. Each bank will have separate records of donors. If a donor donates blood in different hospital, there will be no previous records . And it cannot be traced except if the donor brings the donation certificate along with

him. And so, the donor will be considered as first-timer if they donate blood in a new place. Without an automated blood bank system, there will be problems in keeping records of the actual amount of blood type in the blood bank. The main disadvantage of the blood bank system is there will be no alert or message given when the quantity of blood is below its partial level or when the blood in the bank has expired.

## III. Existing System

The blood donation process by donors, and the blood request process by hospitals are two types of process in the existing system. In these processes, the one in charge of managing the blood inventory in the blood bank is an administrator. When a new donor visits to donate blood, during the registration process before making a donation they are required to fill out their personal information. The donor is given a donor identification card with his name, blood type and a barcode to be used as a reference for future donations after the donation. To retrieve the donor's record containing their personal information, medical history and donation information, including blood results the barcode is used. Since the system is only available for their use within the organization, only blood bank administrators have the authority to access the donor's records. This makes it hard for donors to make changes within the system to their personal information. They cannot update the information by themselves. For donors to update their personal information, like their phone number, mailing address, or e-mail, they have to contact the blood bank.

## IV. Proposed System

In our proposed system, user in need of blood will send message to the blood bank number using GSM Module, by mentioning the blood group which is needed . GSM Module will transmit the request to the Arduino UNO through the message.Once the ArduinoUNO receives the message it will check for the database of the donors.Then the donor will reply the contact details of that particular blood group using ArduinoUNO. The Arduino UNO contains the details of the donor like Blood group and Contact number and same will be send as SMS through the GSM Module .By this process the donor and the user can directly communicate with each other. The main aim of this project is to bring the donors and users of blood on the same platform.The Aim of our project is to fulfill every blood request by using Arduino UNO and GSM Module .In this project user sends message to the blood bank number mentioning the blood group required .And this system will reply the contact details of that particular blood group.

## V. System Architecture

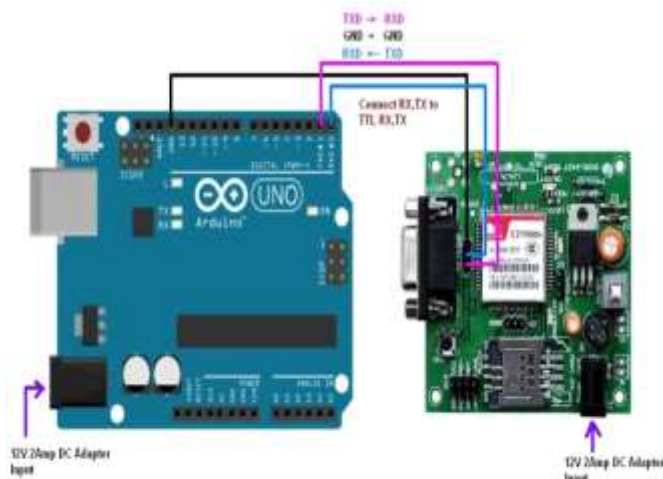


Fig. 1 Circuit Diagram

## VI. Future Research

Blood will solely return from generous donors and cannot be factory made. The blood (red cells) that can be transfused to patients of all blood sorts is type O-negative blood. It has great demand and maybe in brief offer. Plasma can be transfused to patients of all different blood sorts is type AB-positive. Thus AB plasma is additionally in brief offer. The fact related to the blood donation method that is donating blood maybe a safe method. A sterile needle is employed only one time for every donor and then discarded after every use. Blood donation is an easy straightforward four-step process: registration, case history, donation and refreshments. To guarantee that it is safe for the donor to administer blood, every blood donor is given a mini-physical, checking the donor's temperature, pressure, pulse and Hb. The usual blood donation actually takes around 10–12 minutes. From the time the donor arrives to the time he goes away, the whole method takes concerning Associate in nursing hour and also 15 min. The normal adult has around 10 units of blood in his body. Approximately 1 unit is given throughout a donation. A healthy donor can give red blood cells for each 56 days, or double red blood cells each 112 days. A healthy donor can give platelets only as 7 days apart, moreover a most of 24 times a year. The given blood is tested for HIV, hepatitis B and C, syphilis and also for different infectious diseases before it can be transfused to patients.

## VII. Conclusion

In our project The proposed system can be used to reduce time span between donor and user. The system consists of Arduino UNO and GSM Module. There is direct communication between donor and user through SMS so in case of emergency this system plays important role. 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. Problem of blood is drastically increasing. Per annum we require 5 million blood units and only 5 million blood units are available. This is the major drawback in case of an emergency of blood. Some patients like those suffering from cancer. Even though the technology is developed we have failed to bring the donors and users on the same platform. So our project will be helpful for the users who need blood. Then it's more useful for the people who are in remote areas.

## VIII. Reference

1. Ditto B, et al. Dismantling applied tension: mechanisms of a treatment to reduce blood donation-related symptoms. *Transfusion*. 2007;47:2217–2222.
2. Ditto B, et al. Effects of applied muscle tension on the likelihood of blood donor return. *Transfusion*. 2009;49:858–862.
3. Eder AF, et al. Transfusion-related acute lung injury surveillance (2003–2005) and the potential impact of the selective use of plasma from male donors in the American Red Cross. *Transfusion*. 2007;47(4):599–607.
4. Chapman C, et al. Ten years of hemovigilance reports of transfusion-related acute lung injury in the United Kingdom and the impact of preferential use of male donor plasma. *Transfusion*. 2009;49(3):440–452.
5. Reil A, et al. Specificities of leucocyte alloantibodies in transfusion-related acute lung injury and results of leucocyte antibody screening of blood donors. *Vox Sanguinis*. 2008;95(4):313–317.
6. Sorensen B, Johnsen S, Jorgensen J. Complications related to blood donation: a population-based study. *Vox Sanguinis*. 2008;94:132–137.