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# Automated Mobile Blood Bank System Using Location

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**ABSTRACT:**“Raspberry pi 4 based automated mobile blood bank system with using location” is proposed to bring blood donors to one place. The aim of this system is to fulfil every blood request by using android application & raspberry pi. In the proposed system, android application is used to collect the information and availability of blood donors, website & raspberry pi by installing systems at places such as hospitals, blood banks etc. These data will be stored in the database. User / Patients need to access application & enter his/her requirement about the blood in the application ,then that information will be fetched from the database and the message will be send to the donor through android application.

**KEYWORDS:**Android Application, Website & Raspberry pi

## I. INTRODUCTION

This project ‘Automated Blood Bank System Using Location’ is implemented to bring voluntary blood donors & user/patient those who are in need of blood to the common platform. The requirement of blood for the patient is directly communicated to the donor who has the same blood group through the application. It consists of the information of the donor, helps the patients to get the blood at the earliest and also the fresh one. This application also shares the patient’s live location, so the donor can reach the patient earlier.

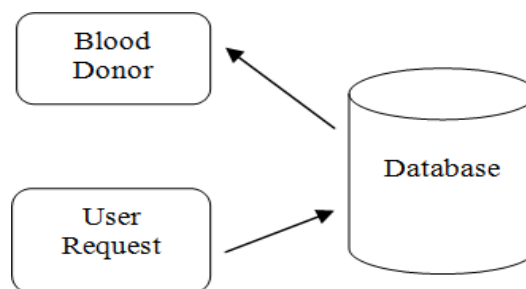


Fig-1: System overview

## II. BLOCK DIAGRAM

The proposed system works on finding the blood donors using raspberry pi4 & Android application (IOT) based system. In this system, it consists of android application, website, raspberry pi4 kit. In android application or website, the person who wants to donate blood needs to register, so that his information will be stored in the database. Application displays screens such as Sign In, Register screen. Donor needs to register his/her details such as Gender, Address, Location, Blood group & Mobile number.

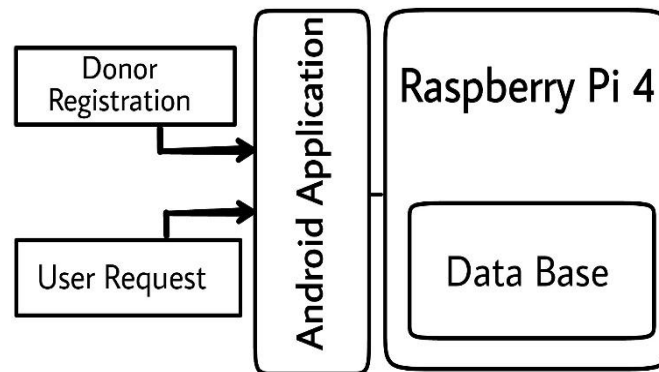


Fig -2: Block Diagram

In view of donors section, patient needs to select required blood group and current address & Location. Whole system is implemented using raspberry pi4 kit. If there is requirement for blood, then patient should enter the required blood group details. Then, those information will be fetched from database donor directly on his number. There will be direct communication between donor and patient.

### Android Application

In proposed system, android application is designed using IOT app inventor. IOT App Inventor is a visual programming based environment. App Inventor is an open-source web application for android.

### III.METHODOLOGY

The donors who wish to donate blood needs to register their details in the Android Application; these details will be stored in raspberry pi4 system database. The user in need of blood will have to select required blood group, current address and location. Those information will be fetched from database and thePatient needs to select view donor option on the screen.



Registration Searching Provide-data

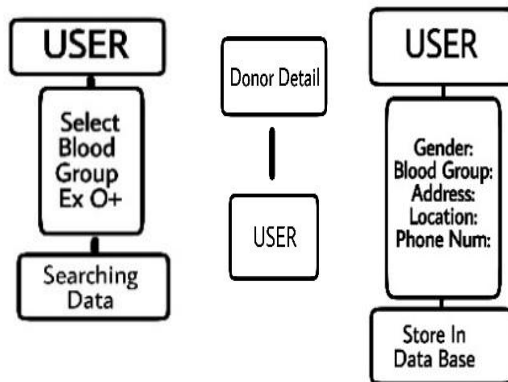


Fig-3: Proposed System Flow Chart

#### IV. HARDWARE REQUIREMENTS

##### Raspberry Pi 4

Raspberry pi4 is based on Broadcom system on a chip (SoC), which consists of on-chip ARM compatible central processing unit (CPU) and an on chip GPU (Graphics Processing Unit). CPU speed of the raspberry pi ranges from 700 MHz to 1.5GHz. Most board have HDMI composite video out port, a 3.5 mm audio phone jack, and one and four USB 3.0 slots.



Fig-4: Raspberry Pi kit

It has on board memory range from 256 MB to 4 GB RAM. In raspberry pi4 operating system is stored in SD cards. Lower level output is provided through number of GPIO 40-pins which support common protocols. We have on board Bluetooth 5.0 and Wi-Fi 802.11b. The B-models have an gigabit Ethernet.



### V. EXPERIMENTAL RESULTS

#### Application Main Screen

The figure shows the output screenshots for the android application main screen. It displays such as Sign In, Register screen



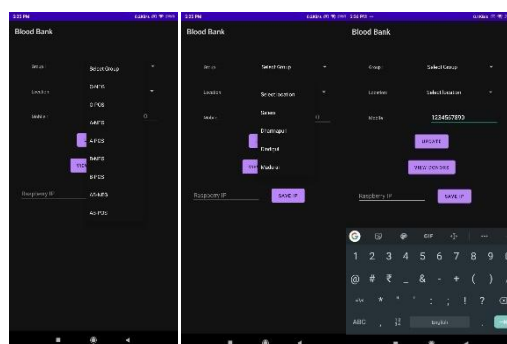
#### Registration Screen

Donor needs to register his/her details such as Gender, Address, Location, Blood group & Mobile number.



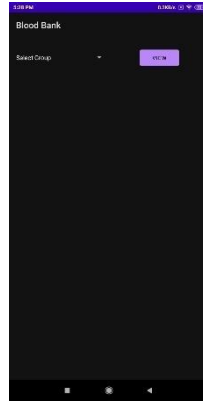
#### Enter Full Details

In Registration section patient select Gender, blood group, current address & Location.





View donors section select Blood group & select View option.



Finally Get Donor details Gender, Phone Number Address & Location.



## VI.CONCLUSION

The proposed system can be used to reduce time span between donor & patient. The system consists of android application, website & Raspberry pi4. There is direct communication between donor and recipient. In case of emergency this system plays important role. Results shows different screens of the android applications where user needs to enter blood requirements.

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