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ARM BASED BLOOD BANK MANAGEMENT SYSTEM USING GSM

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Abstract:-
Nation requires 4 crore units of blood among that only a major 40 lacks units blood is available. When someone requires blood urgently in situation of accidental case or operation, then they have to find out the blood all over the blood banks. There are number of blood banks around the world, but there is no provision for direct contact between the donor and recipient. This is actually a serious issue. This project is solution of all over this problem. This project aims To overcome the communication barrier between the donor and receiver.

Keywords:- ARM-Cortex; GSM; Android studio apps; Visual studio; Blood bank management.

I. INTRODUCTION

Blood is one of the most critical element. There are number of scenario like accidental case, critical operation of any person at that time there is a urgent need of blood for the patient. At that time Online Blood bank which has call steering facility will be used. In online Blood Bank database can be created by gathering all details from different sources like blood banks, NSS, NAO's, hospitals. This database is stored in central server. In online database all data available in server. There are some condition, which has to be followed by donor. At the time of great need there is a automatic message routing facility is given.

This system is more advantageous than other system, Because of this system recipient gets immediate response. It is a messaging based system. In this system there is immediate fulfillment of the blood requirements. This project aims to beat this type of communication barrier by providing an immediate link between the donor and the recipient. Arm Based Blood Bank Management System Using GSMendorses to bring intended blood donors and those in need of blood on to a shared platform.

The main objective of proposed work is servicing the persons who seek donors who are keen to donate blood and also offer it within the time frame. Every year the state needs regarding four Corer units of blood, out of that solely a meagre forty Lakh units of blood square measure out there. Every two seconds someonerequests blood. More than thirty eight thousand blood donations area unit is required per day. A complete of thirty million blood parts area units transfused annually.

Methodology:

If any person requires blood urgently in hospital then they have to go to the blood bank of hospital and they have to contact with operator of that blood bank. Then operator passes message to all donors that someone need blood urgently. For example, AB+ve person need a blood. Then operator gives message that someone requires AB+ve urgently. This message will pass to all nearest donors, if they got AB+ve in near by region, then they passes message that donor is found.

There is one app that has facility of online blood donation. This app is installed in all hospitals. If any person wants to donate blood then through this app he/she can donate the blood and his information is stored online.

LCD is used in a project to imagine the output of the application. We have used 16 X 2 LCD which requires 16 columns and 2 rows. So, we can write 16 characters in each line. So, total 32 characters we can show on 16x2 LCD.

LCD can also used in a project to check the output of different components interfaced with the microcontroller. Thus LCD plays a important role in a project to see the output and to debug the system module wise in case of system letdown in order to correct the problem.

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II. BLOCK DIAGRAM:

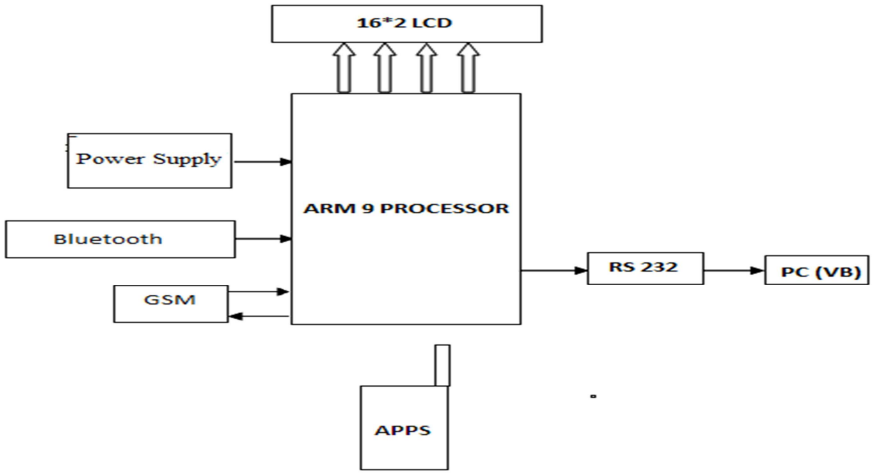

Fig. Block diagram of blood bank management system

DESCRIPTION:

- Fig. shows the block diagram of ARM based blood bank management system using GSM.
- This system consist of Bluetooth, GSM, computer (VB) which interconnect through UART that is universal asynchronous receive transmit
- There for ARM 9 cortex series is used.
- This project uses GSM modem interfaced to the controller i.e Arm Processor. GSM is interfaced through the MAX232 to the Controller.
- GSM, which stands for Global System for Mobile communications, reigns (important) as the world's most extensively used cell phone technology.
- GSM is used for sending and receiving the message .
- GSM is used to send SMS via using AT command to the user .also received approval SMS from the user.
- A 16*2 LCD display is interfaced to the microcontroller for displaying the information nearby.
- LCD is used for displaying the message is send or not to the person.
- In that way blood can be effortlessly available for need patient.
- Bluetooth is used to interface application information to the supervisor.

- The actual range of Bluetooth devices is 32feet(10meters).
- Bluetooth transfer data at the rate of 1Mbps,which is from 3 to 8 times the regular speed of parallel and serial port respectively.
- RS 232 is a serial communication cable used in the system.
- The RS 232 offers the serial communication between the microcontroller and the external world such as display, PC or Mobile etc.
- Therefore it is the media used to communicate between microcontroller and PC(computer).
- VB is used to store the database of the user.
- Microsoft's integrated development environment (IDE) for growing in Visual Basic .NET language is Visual Studio

ADVANTAGES:

1. Helps blood bank to mechanize blood donar and depository online.
2. Encourages blood donar to donate.
3. Helps peoples find blood donar in times of need.

CONCLUSION:

Finally we can conclude that with the help of GSM, Bluetooth, pc(VB) etc. we can efficientlyapplied ARM Based Blood Bank management system in the hospital. Blood is the primary necessity of life. There are diverseconditions available for searching blood donors.

This proposed system will be one step ahead from the other blood donation systems. Blood recipient can contact the blood donar directly by using this system.

FUTURE SCOPE:

This project further can be implemented with the help of cloud using cloud we can implement this project through web (webpage).

Online data collection system .

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