



Online Blood Bank System Using Blockchain Technology

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Abstract The number of persons who are in need of blood are increasing in large number day by day. In order to help people who are in need of blood, Online Blood Bank can be used effectively for getting the details of blood donors having the same blood group and within the same city. With the help of Online Blood Bank people who are having the thought of donating blood gets registered in Online Blood Bank giving his total details. Online Blood Bank site is available to everyone easily. A person who likes to donate blood gives his entire details i.e., fill in the registration form and can create a username with a password by which he can modify his details if at all there are any changes in his information given before. site also helps people who are in need of blood by giving the details of the donors by searching, if at all there are no donors having the same group and within their own city they will be given the addresses with phone numbers of some contact persons in major cities who represent a club or an organization with free of cost. If at all the people find any difficulty in getting blood from the contact persons we will give them a Mobile link i.e., India's Largest Paging Service number through which they can give the message on every ones pagers with the blood group and city they are living in, such that the donors who view the messages in their pagers having the same blood group and the in the same city or any other city, he contacts the person on phone who are in need of a blood. Such that the person gets help from us which saves his life. My contribution work is provide security using block chain Technology **Keywords:** —

Block Chain, bit coin, blood bank, online system, Security.

1. INTRODUCTION

A blood donation is a process whereby a person voluntarily has blood to be used for future transfusions when in need at hospitals for treatment procedures that require them. Donation may be of whole blood (blood drawn directly from the body) or of specific components of the blood; such as red blood cells, white blood cells, plasma, and platelets. Blood banks often participate in the process of collecting blood and other procedures such as managing stocks, approving blood requests and updating donation information. The inspiration of this project is to improve blood banks and to develop a blood bank information

system which focuses on making an online system that is accessible for donors, seekers and administrators Donors can directly receive information regarding their previous blood donations, including their blood results and donation history, in order to easily schedule their next donations. They can also update the personal information through the system, without having to contact the blood bank registry. The system is also developed for the administrators, who are the main authority in the system. Administrators can add, modify, delete, and query any donation information if necessary. The administrator is also responsible for responding to the hospital's blood requests and checking the stocks in the blood bank's inventory

II LITERATURE SURVEY

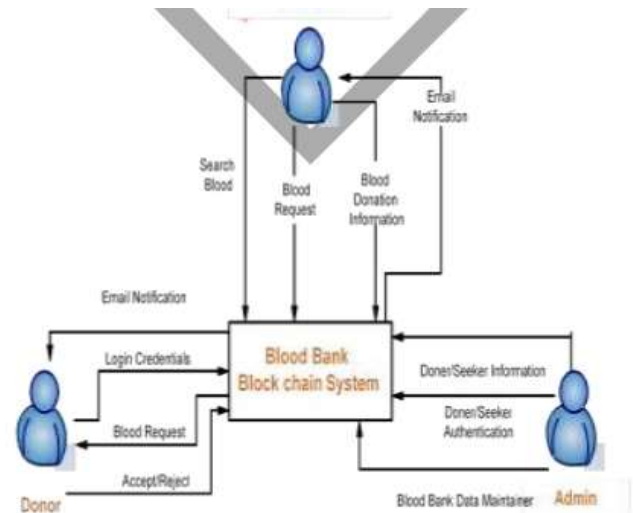
In this section, we briefly review the related work on mental sickness detection system and their different techniques. This paper [1] creating cloud-based blood bank system is to make the blood available on time to the people, even in emergency situations. With the help of this project, the user can be able to view information about every entity related to blood bank i.e. hospitals, donors, a location of another blood bank etc. A disadvantage is the security factor not maintained properly and used private cloud. In this paper [2], we conceptualize a block chain-based decentralized framework for crowd sourcing named Crowd, in which a requester's task can be solved by a crowd of workers without relying on any third trusted institution, users' privacy can be guaranteed and only low transaction fees are required. In particular, we introduce the architecture of our proposed framework, based on which we give a concrete scheme. We further implement a software prototype on Ethereum public test network with real-world dataset. Experiment results show the feasibility, usability and scalability of our proposed crowd sourcing system. The proposed work [3] aims to overcome this communication barrier by providing a direct link between the donor and the recipient by using low cost and low power Raspberry Pi B+ kit It requires Micro USB of 5V and 2A

power supply only. Entire communication takes place via SMS (Short Messaging Service) which is compatible among all mobile types. The aim of this system [4] is to fulfil every blood request by using android application and raspberry pi. In the proposed system, data about the donors will be collected by using android application and raspberry pi by installing systems at places such as hospitals, blood banks etc. These data will be stored in the database. User/Patients needs to access application and needs to enter his requirements about the blood in the application the requirements are matched with the database and message will be to that particular blood donor through GSM modem

III. PROPOSED WORK

The proposed system, Online Blood Bank site overcomes the drawbacks of the present system using block chain technology. The Blood Bank helps the people who are in need of a blood by giving them overall details regarding the donors with the same blood group and within their city. Provide security to these data using block chain technology. The advantages of the proposed system are listed below. [2] The people in need of blood can search for the donors by giving their blood group and city name. [2] It is very flexible and user friendly. [2] The person's time and work is reduced very much which prevails in the present system. [2] Easy and Helpful. A lot of work has been done in this field thanks to its extensive use and applications. This section mentions some of the approaches that have been implemented to achieve the same purpose. These works are mainly differentiated from the technique for online blood bank systems. At present, the public can only know about the blood donation events through conventional media means such as radio, newspaper or television advertisements. The Existing system that is using by the blood bank is manual system with the manual system, there are problems in managing the donors' records. The records of the donor might not be kept safely and there might be missing of donor's records due to human error or disasters. There is no decentralized database of volunteer donors. So, it

becomes really tedious for a person to search blood in case of emergency. The only option is to manually search and match donors and then make phone calls to every donor. In existing system not secure.



Modules

Collectwholebloodunit: In this function, it was tested whether or not the owner of the smart contract was able to add the donor ID. Successful execution of the function and its corresponding events and logs are displayed .

Createbloodunit: The Createbloodunit function is the most important key function in this contract. It notifies the details of the produced blood component units. As we mentioned in the previous section, the enumerated variable "BloodcomponentType" takes inputs in the form of uint8 where "0" represents "redcellstype", "1" represents "plasmatype", and "2" represents "plateletstype". Thus, a successful execution of creating a platelet unit is given in Figure 7.

BloodunitRequested: The doctor sends a blood component unit request to the smart contract. This is done using the BloodunitRequested() function. The logs after the doctor has sent the request. The request includes blood component unit type, quantity, and requested date.

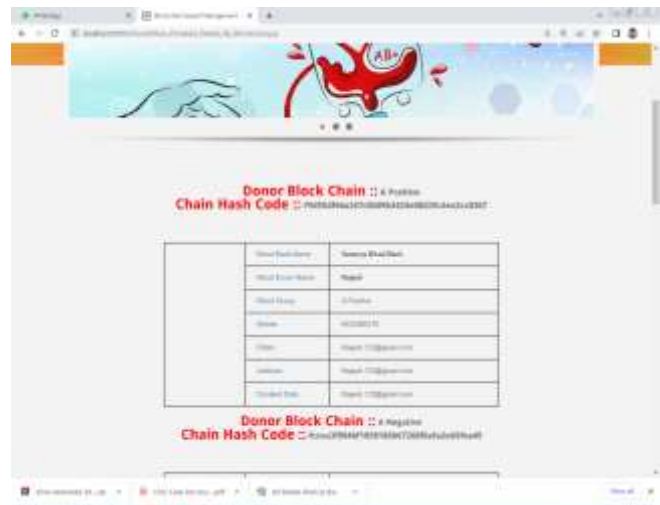
BloodUnitPrescription: In this function, it was tested whether or not the doctor is able to insert the details of the prescription. Successful execution of the function and its

corresponding events and logs are shown.

BloodUnitTransfusion: As a final step in this process, the nurse administrates the blood component unit to the patient, and this is done using BloodUnitTransfusion function.

IV METHODOLOGY

The data is taken from an NGO blood bank to test the implementation. Below is the description of the data.



V. CONCLUSION

This paper proposed the reliable online blood bank system using block chain technology. Latest technology and information

system plays a vital role in blood bank system and its services, as its quality improves. The system is beneficial for both seeker

and donor too. Due to this System, the bridge between donor and the seeker is reduced and their Communication improves

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