



Implementation of Organ Donation Web Application using Block Chain Technology

Prishita Pandey^{#1}, Aishwarya Padwalkar^{#2}, Snehal Malusare^{#3}, Shreeya Waghmare^{#4},

Prof. Neha Jamdar⁵

B.E Students, Department of Computer Engineering, SKN Sinhgad Institute of Technology and Science, Pune, India¹

Professor, Department of Computer Engineering, SKN Sinhgad Institute of Technology and Science, Pune, India^{2,3,4,5}

ABSTRACT: The current system is an organ donation decentralized app using blockchain technology. It would be a web based for patients to register their information most importantly medical ID, blood type, organ type and state. The system would work on a first-in, first-out basis unless a patient is in critical condition. Organ donation information system for hospitals in case of emergencies. As this plays a major role in saving lives, it is necessary to maintain the database for all the related information about the blood banks and the organ donation. The major point of this project is to make a flexible platform for making the blood reach the hospital doors, as it one of the important elixirs of our life. Situations where the need of blood arises such as accident victims, patients undergoing major surgeries require whole blood, where the blood is used directly after testing.

KEYWORDS: Cloud computing, Blockchain, Donar, Web application, Password

I. INTRODUCTION

Organ Donation system is a web-based application. Every year, thousands of people have their lives saved or dramatically improved through the gift of organ donation and the incredible generosity and altruism of donors and their families, who think of others at a time of tragic loss. Around 600,000 people die every year in the UK, but only around 1 in 100 of them die in circumstances where they can donate their organs. Organs can only be transplanted very soon after someone has died and the donated organs need to be in a suitable condition to be safely transplanted. Donors can usually only be people who have died in a hospital intensive care unit or accident and emergency department. Blood is an important aspect for all living things. It proves to be a lifesaving component in case of emergency requirement. In this, users can view all the information provided. The main aim of developing this application is to reduce the time to a great extent that is spent in searching for the right donor and the availability of blood required. As well as User can register himself for his/her organ donation after his/her death to the needed ones. It is developed mainly for general hospitals (GH), clinics and other health centers to manage the donor registration and user maintenance. Organ donation is a gift of one's body parts after death for the purpose of transplantation. The transplantation process is an operation which involves the replacement of diseased and defective organs and tissues with healthy one from donors. Organ donation also can be defined as the ultimate humanitarian act of charity. The commonly donated organs are kidney, heart, liver, lungs and pancreas while the tissues are eyes, bones, heart valves and skin. In this modern day, not many people who is willing to donate their organs after they die. Furthermore, public also do not know the procedure and the way to register. There are less advertisement and awareness about organ donation among the community. Besides that, the interested people facing many problems to register themselves because they busy with works and need to get the application form from the nearest hospitals or medical centers.

II. LITERATURE SURVEY

The blood is the body fluid that all humans' and other animals' life is based on and accounts for 7% of the human body weight. It is mainly composed of about 55% of blood fluid called plasma that has 60% liquid part (water) and 40% solid part. Blood is needed at some regular intervals and at all times as it has only finite time of storage. Red blood cells about 45% of whole blood that can be stored for about 42 days [4].

The recommender systems can provide the users with appealing or useful objects among a large range and variety of possible choices in a personalised way [13]. The most influential people in an online social network by Social Network Analysis were proposed. Its uses cluster-indexing Collaborative filtering for accurate SNA recommendation results. The study includes SNA, rating pattern and amplifying approaches are effective. In this model, it directly incorporates social network information extracted from the real world and social media [1].

The requirements for donating blood are the donor must not have donated blood or undergone any of the major surgeries in the last three months [5]. The donor has not consumed alcohol 48 hours before donating; avoid smoking on



the day before the donation. The donor should inform if he/she has undergone any serious medication before few months. The donor should not have had any immunization at least one month before.

The web application for blood donation management which provides platform for mobile application that provides an online edge between blood donors and patients who need blood. The interested donors must register their profiles with the website. The web application acts as a dynamic site for constant updating of both the blood donors and blood requester. They use Google Map to find out the exact location of a registered donor and update the location of a donor [7].

The track of literature related to blood bank system management and organising the existing research based on the process phase in order to throw light on undiscovered issues, optimization of the route for the supply of the blood from the blood bank to the hospital door. The means of optimization developed for several healthcare problems, ranging from the resource management in hospitals to the delivery of care services in a territory. Other optimization approaches for the Blood Donation (BD) system, aiming at providing an adequate supply of blood to Transfusion Centres (TCs) and hospitals [10].

The computer-based information system are time consuming, laborious, easy to use compared to the manual systems. It provides with the oversight reviews of the important features, merits and demerits for the existing Web-based Blood Bank Information Systems. This shows the comparison existing and inventory management system. As inventory management system holds the precise and exact information like the measure of the availability of a blood type. It includes the donor inventory and seeker inventory [11].

III. EXISTING SYSTEM APPROACH

In existing there is no proper care about the people who donate blood to patients. In case if the donor has or had any medical problem and comes toward to donate blood to the patient then it may lead to threat. Hence medical history of donor should be updated.

Medical histories would be like:

*A person who have anemia should not donate blood.

*Donar who having diseases that are transmissible through blood is not request to donate blood.

*People who are unweighted for height from their height should not donate blood.

*pregnant women or recent child birth women should not donate blood.

Thus, the above following reason are not updated in existing system. This type of information are not provided in existing system this may lead to dead in person. The donor and patient's body condition will not match at all the time.

IV. PROPOSED SYSTEM APPROACH

The proposed system is an organ donation decentralized app using blockchain technology. It would be a web application for patients to register their information most importantly medical ID, blood type, organ type and state. The system would work on a first-in, first-out basis unless a patient is in critical condition. Blockchain based website that would secure and automate the organ donation process while protecting sensitive patient and donor medical records using blockchain technology to eliminating any possibility of manipulation. It is designed specifically for use in the medical field related to organ donations, hospitals, patients, organizing the donation process, and making it accessible while maintaining the integrity of the system. It will provide an easy solution to maintain the anonymity of medical records.

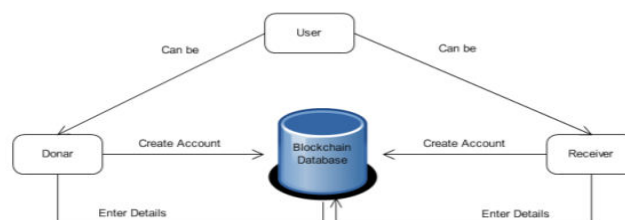


Fig.1 Block Diagram of Proposed System

In proposed system, stop word Removal algorithm is used for searching purpose. A stop word is a commonly used word that (the, is, a, about, more etc.) a search engine has been programmed to ignore, both when indexing entries for searching and when retrieving them as the result of a search query. Using stop word removal algorithm user search the organ or user search name with donar wise organ.



V. IMPLIMENTATION

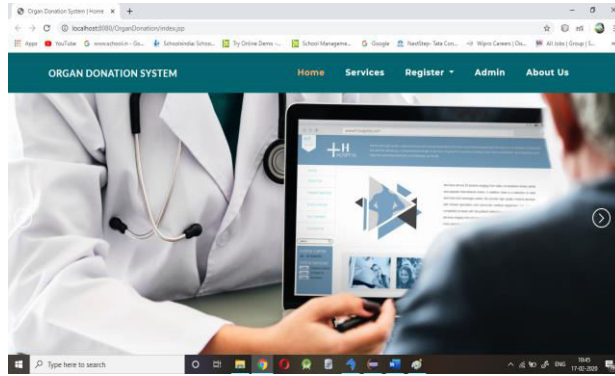


Fig. Main Index Page

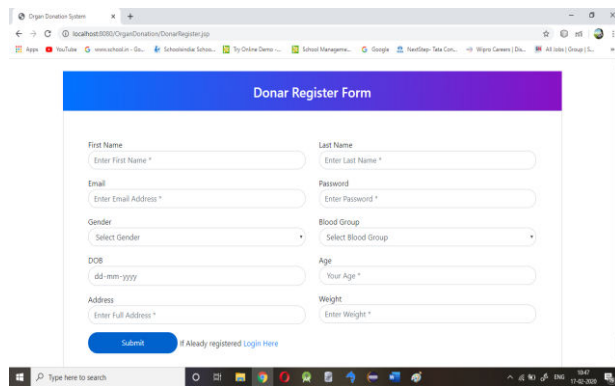


Fig. Donar Register Form

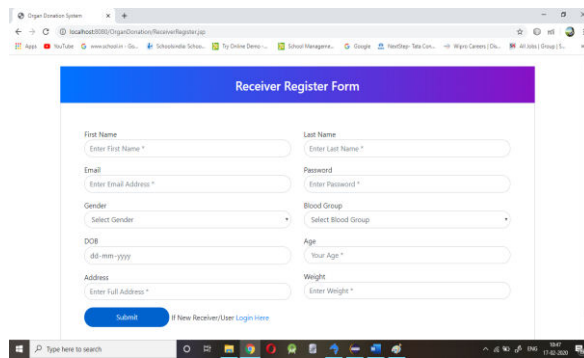


Fig. Receiver Register Form

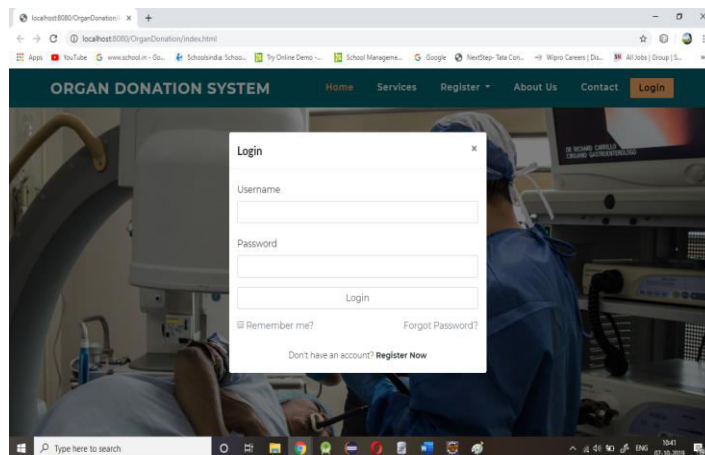


Fig. Donar Login Form

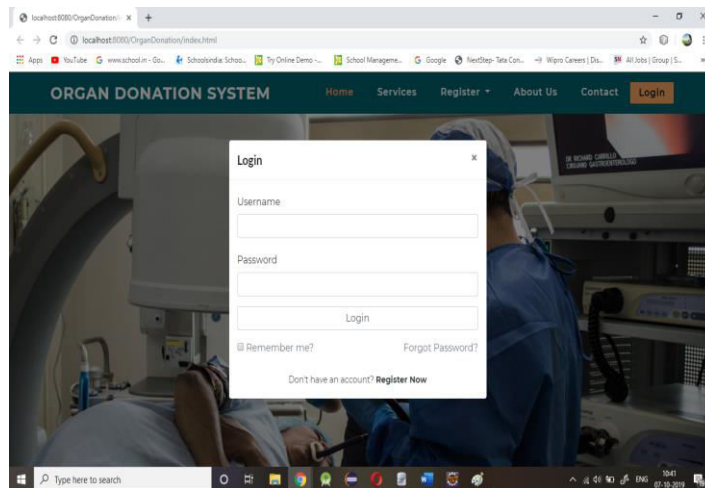


Fig.Receiver Login Form

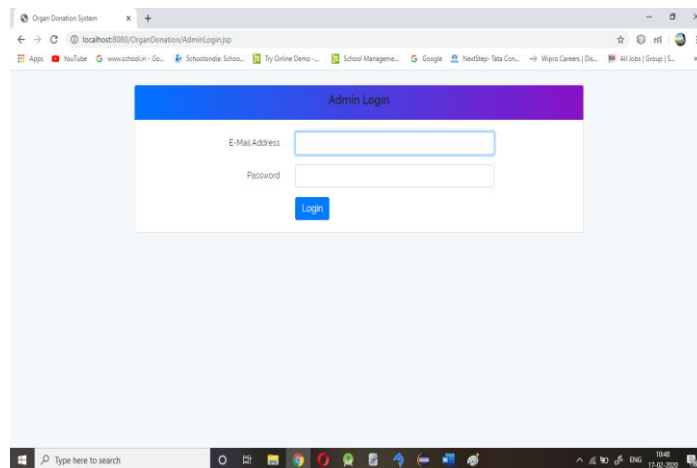


Fig. Admin Login Form

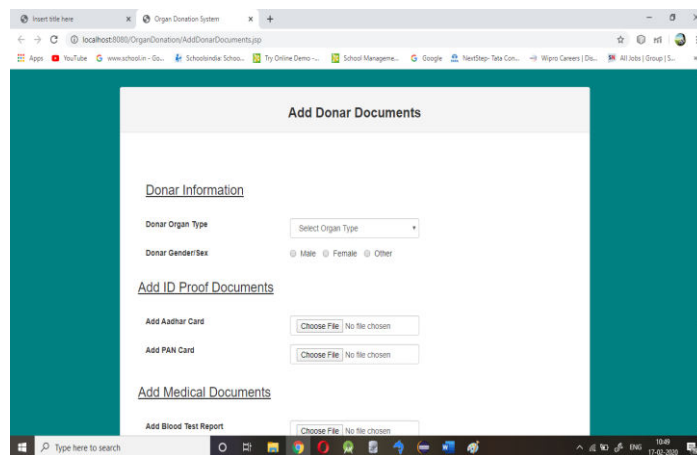


Fig. Add Donar Documents

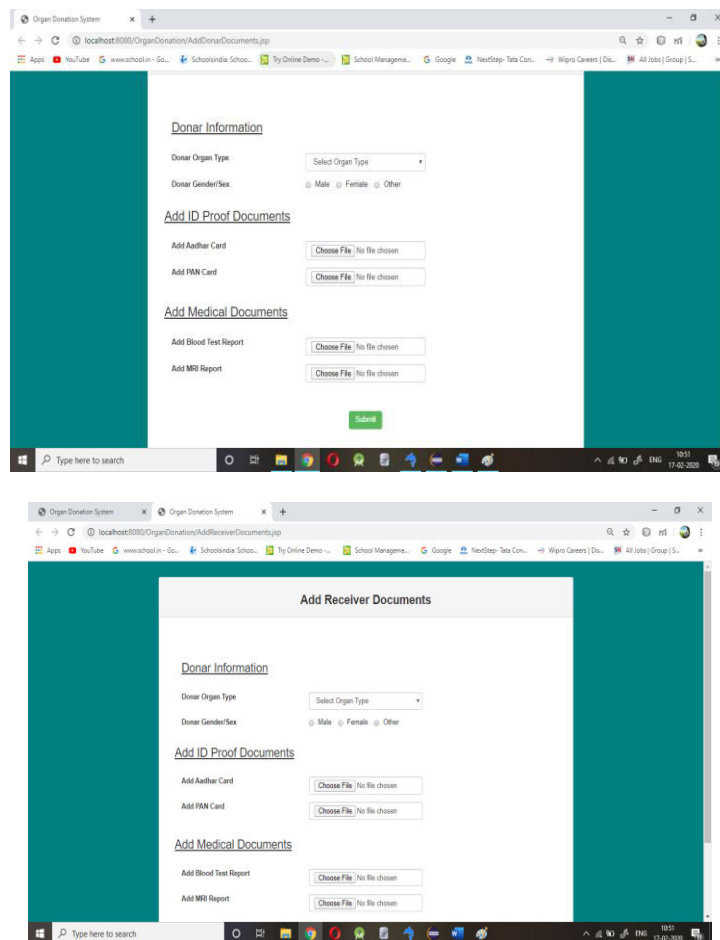


Fig. Add Receiver Documents

VI. CONCLUSION

So, this system concluded that the use of blockchain technology in system is better security wise, and it provides automation than current systems. A much faster system with improves scalability, as it can handle increased growth in the amount of work. Transparency in increased and corruption is almost impossible to occur.

In future Provide Organ Donor Card for status of organ donation. This system is now web based in future we making it as android app also because every user is uses android phones now-a-days.

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