

Web-Based Data Collection and Implementation System for Blood Donation

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Abstract— One of life's most fundamental components is "blood." Users may examine details about nearby Donors with the use of an Android blood donation search app. The patient and the benefit are two viewpoints from which our work is created. For both new and current clients, we will offer client validation services including enrollment and login. This project develops an online blood donation search engine for Android devices. Users will benefit from the android app's assistance in seeing and obtaining information about nearby hospitals, blood banks, and blood donors. The App will provide local blood donors who are in need of blood along with their names, addresses, phone numbers, and blood types. Having access to local hospitals and blood donors with just a wave of the hand. The user may search for the necessary blood from the nearby blood donors, blood banks, and hospitals, greatly reducing the amount of time required. to act quickly and maybe save a life. The software will identify and verify users who will be in need of blood donations.

I. INTRODUCTION

There are several e-blood donation sites that allow for efficient communication between them and medical offices. None of the blood donation websites emphasise speedy communication between donors and receivers. This is the actual problem with the current system. Since the bulk of transplanted blood is taken from patients dying in critical care units, there is a lot of pressure on physicians to follow the extensive practical and moral guidance that has been given in order to make blood donation a standard element of end-of-life care. The mismatch between the supply and demand for donated blood, however, results in the loss of numerous lives. The discrepancy between the availability and demand for donated blood, however, results in the loss of countless lives. The process of collecting blood for donation totally depends on how well health services are able to manage and identify potential donors. However, as the law currently stands, it is largely up to a person's or their family's decision, which is strongly influenced by psychological processes. In order to examine and intervene in both the professional practices of those involved in the creation process and the attitudes of the general public, it is crucial to emphasize this need.

II. DONATION

Health care has undergone a revolution thanks to blood. Many people, whether they are alive or dead or even brain dead, are willing to donate blood. The primary problem with blood donation is the delay in blood supply due to various circumstances; as a result, many people who require blood die. With blockchain, a distributed database that can handle such databases dynamically, we hope to resolve this problem. The participant receives a detailed rundown of the whole procedure. The procedure will be made easier by the

installation of blocks that will store the entered data. Furthermore, we intend to create a weight system to ensure the physical safety of blood.

III. LITERATURE REVIEW

The literature survey of some existing systems is done:

- Dr.A.Meiappan, K. Loga Vignesh, R. Prasanna-- "WORLD: Blood Donation App Using Android" The main objective of our project WORLD is to save lives by donating blood. The development of an Android blood donation search app enables users to view information about nearby Donors. Our project is based on two perspectives, such as those of the patient and the beneficiary—2019
- Andre M.N. Renzaho and Michael J. Polonsky--"Discrimination on knowledge about blood donation and blood donation status" - This study examined the relationships between awareness of blood donation procedures and blood donor status and perceptions of discrimination, acculturation, and medical distrust. Volume 53, December 2013.
- J.-P. Allain Conclusions --" Current approaches to increase blood donations in resource"- Innovative approaches that take into account the environment and local or regional culture should be used to increase blood donation and repeat donations. July 2019.
- André Smith, Ralph Matthews, Fiddler J – "Recruitment and retention of blood donors"- This study places donor recruitment and retention in the context of initiatives that link blood donation to significant elements of donors' social networks and communities. Volume 53, December 2013 Supplement.
- Cohn S --"Blood and the public body: a study of UK blood donation and research participation" This study uses ethnographic and interview data to examine blood donors' perspectives on blood donation in England and

how these perspectives differ from their replies when asked to take part in two related public health research projects -2015.

- S. Lin Tsai – “Challenge of donor recruitment” -- The effectiveness of donor recruitment cannot be achieved alone by the blood collecting sectors; it requires coordinated efforts from all levels of society, including the government, health authority, businesses, nonprofit organisations, multimedia groups, donors, and the general public-2009.
- Vera Raivola, Karoliina Snell – “Blood donors’ preferences for blood donation for biomedical research” The relationship between the blood service and blood donors depended on familiarity and reciprocity. Blood donation is placed in a new, more complicated perspective when done for research -volume 58, July 2018
- Rehab S. Ali, Tamer F. Hafez Blood Bag –” A Web Application to Manage All Blood Donation and Transfusion Processes” Due to the difficulties in discovering a suitable blood bag, many lives might be lost. As a result, this project intends to assist individuals in finding a blood group that is trustworthy and safe in 2017.

IV. PROPOSED METHODOLOGY SYSTEM

The design and development phases of software development are built upon problem analysis. The problem is investigated to provide sufficient knowledge for the development of a new system. To make them clear and simple to solve, big issues are broken into smaller ones. The tasks in this project are similarly grouped into categories.

A. Registration

B. Login

C. Donation Form

SYSTEM MODULES:

- Admin
- User

MODULES LIST:

Admin

- Manage Users
- View all Blood donor details

User

- Register
- Login
- Create Blood donate
- My Blood donation details
- Search Blood donor details by city, blood group
- My Profile

MODULE DESCRIPTION:

Admin

- View User details
Admin can view and check the donor details and if there is any modification means admin can change their personal details and manage the details.
- View donation
- Admin can manage all arrival blood for a donation based on user.

User

Add Blood Details

Once a person has registered their profile, they may enter data such their donor name, phone number, address, and the kind of blood they need to give.

View my donation

A user once can add blood then if any details are modified means checking their details of blood donation.

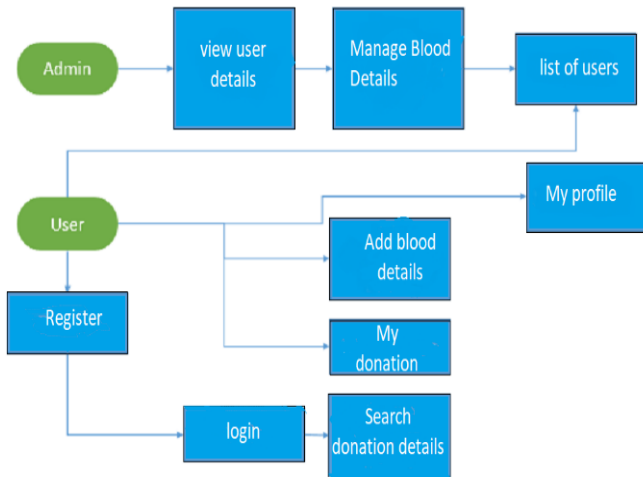
Search for Blood Details

The user has to search for blood from the list and check all donor details by city, group, etc

My profile

The user once registers their profile by entering their Name, phone number, address, and which hospital they give blood to or else request blood they are managed in my profile.

V. USER CASE DIAGRAM



- The intent is to depict the interactions between the actor and the use case.
- To portray the system needs from the viewpoint of the user.
- A system's end user or an external system might both be considered actors.

SYSTEM TESTING

Testing is carried out to search for errors. Finding errors or vulnerabilities in a piece of work is the process of testing. It is the process of testing software to make sure that it meets user expectations and needs and does not malfunction in an unfavourable way. It provides a method to test the functionality of individual parts, sub-assemblies, assemblies, and/or a finished good. There are several exam types. Each test kind answers a certain testing requirement.

VI. RESULT AND DISCUSSION

In this way, our programme provides the necessary information (results) more quickly and also aids in making decisions. The Donor is arranged according to the following criteria: Blood Group, Rh factor, Last Donation Date, and, finally, Location.

The main goal of our project is to connect all blood donors into a single system while authorising, storing their blood information and data as well as information about each person's health.

VII. CONCLUSIONS

The public's search for blood donors will take less time. Blood Donation App, a Django Python application, may be used to implement the system. People may not be able to contact every hospital or blood bank when there is an urgent need for blood. In order to combat the death rate, the

application must be able to complete its criteria in a short amount of time. Thus, the suggested system may assist anybody who requires blood at any time or location. This method is highly beneficial for the goal of a smart nation and city.

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