

# **VELAMMAL COLLEGE OF ENGINEERING AND TECHNOLOGY**

## **DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

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**Topic** : Plasma Donor App

### **PROPOSED SOLUTION :**

#### **PLASMA DONOR APPLICATION**

### **PROBLEM STATEMENT :**

During the COVID 19 crisis, the requirement of plasma became a high priority and the donor count has become low. Saving the donor information and helping the needy by notifying the current donors list, would be a helping hand. In regard to the problem faced, an application is to be built which would take the donor details, store them and inform them upon a request.

### **IDEA / SOLUTION DESCRIPTION :**

Plasma donor is an application which will make things easier and efficient at crucial times and to solve our problem statement.

Some of the features which can be incorporated are :

- The user and the donor both register all relevant information.
- An email message will be issued after registration is complete.
- The user has the option of sending a request for a blood group in need or donating plasma in this.
- Statistics for various blood types are shown and updated regularly.
- It contains details regarding plasma donation camps, including information about the location of the events.

- The users can choose to obtain a home sample collection as well.
- E- certificates can be provided.

### **NOVELTY / UNIQUENESS :**

A visual representation that is simple for users to understand will be used to display the statistics for the blood group availability data for plasma donation. The user can send a request for plasma if they are unsure about its availability in their immediate vicinity. Whether plasma is in short supply or is more readily available, users will receive an email notification within a short period of time. If individuals sign up for our application for plasma donors and decide they want to donate plasma, they can schedule an appointment. They will obtain their e-certification for donating plasma once they have completed their session according to schedule. These are the innovative elements included in this.

### **SOCIAL IMPACT / CUSTOMER SATISFACTION :**

We reside in a modern world where digital health services are available and can be accessed online instantly. Despite the apparent abundance of resources, there are still cases where hospitals or blood banks run out of essential resources, such as specific blood type shortages. For instance, In the United States, a blood donation request is generated approximately every two seconds, and blood transfusion events save 4.5 million lives annually. One of the major issues health facilities run into is the shortage of certain blood types. An additional problem is facilities need access to patient data as quickly as possible before beginning patient blood transfer.

Considering such issues, the availability and knowledge base of collected blood types with patient history is critical. To solve these issues, modern software applications are employed with Machine Learning, Cloud Computing, and Internet of Things (IoT) tools which enable features such as significant information retrieval, continuous data tracking with analytics, and Cloud-powered search engines.

This application, along with all the services it provides, also helps to eradicate certain spam messages and mails circulating around regarding fake or already satisfied blood emergency situations . A single platform for maintaining all genuine blood related activities and information increases the trust of the public to get involved in these activities, and to participate in blood donations.

### **BUSINESS MODEL :**

An unpaid application exists for plasma donors. It is readily available and accessible by all. Due to the difficulty in locating donors who match a certain blood group, this application enables users to register people who wish to donate plasma and keep their information in a database. By informing the current donors of the need, saving the donor information would assist. The need for plasma increased significantly during the COVID 19 crisis, and the number

of donors is limited. In the end, working with the government can use an app to aid those in need of plasma.

### **SCALABILITY OF SOLUTION :**

This application assists users in finding the closest blood centre, knowing their eligibility to donate blood, receiving notifications when an urgent blood donation call comes in, and scheduling a convenient appointment utilising temporal and/or spatial information. A current donor profile will be used, containing details such as the donor's present location, blood type, and the date of their most recent donation, among other things. The right donors will be cleverly informed of the demand for blood donations, making it easier to locate a local suitable donor at the right time.