

Problem Statement for Plasma Donor Application

Problem: -

There has been an increase in demand for blood plasma among hospitals and blood banks as they are additionally used in an experimental treatment for COVID-19. Hence there is a requirement for new infrastructure to facilitate donors, blood banks and hospitals for easier donation and access of blood plasma that could potentially satisfy the excess demand for it to be used for treatment.

Background: -

Convalescent plasma therapy uses blood from people who've recovered from an illness to help others recover.

This is an experimental form of therapy which is also used to treat COVID-19 by using blood plasma with high antibody levels against COVID-19. It may be used for some hospitalized people ill with COVID-19 who are either early in their illness or who have weakened immune systems.

Blood donated by people who've recovered from COVID-19 has antibodies to the virus that causes it. The donated blood is processed to remove blood cells, leaving behind liquid (plasma) and antibodies. These can be given to people with COVID-19 to boost their ability to fight the virus.

Relevance: -

As there is no effective anti-viral treatment for COVID-19 there is a higher prevalence of other forms of therapy such as convalescent plasma therapy which has increased the demand for blood plasma. Also, with lockdowns and increased restrictions it has become harder to facilitate donors, furthermore contributing to the scarcity of resources that can be used for treatment.

Objective: -

The main objective is to create an easy-to-use application that can be used by donors to donate their blood to blood banks. Hospitals in need for blood plasma can request blood from blood banks. This application should have a wider reach to appeal to more potential blood donors.

Abstract: -

The application must have a simple accessible interface for donors to register and donate blood to the allocated blood bank. Additionally, they can upload a COVID-19 negative certificate, so that their blood plasma be used for treating COVID-19 patients. The users can create an account and enter their information (name, age, address, blood group etc.) that can be used for registration and scheduling appointments at the nearest blood bank for blood donation.

Blood banks can look at potential donors and book them for an appointment. They can also request potential donors who are registered to the application for their blood. The donors who receive these requests can either accept and book an appointment or reject them.

Hospitals in need for blood plasma can request blood banks according to their needs. Blood banks can look at requests from hospitals and can either accept or reject them.

Keywords: COVID-19, blood plasma, COVID-19 positive, COVID-19 negative, hospitals, blood banks, donors.