SMART FARMER - IOT ENABLED SMART FARMING APPLICATION

A PROJECT REPORT

Submitted by

N. SELVA NANCY

M. SHINY

P. MAHALAKSHMI

R. LENITHA

in partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

in

ELECTRONICS AND COMMUNICATION ENGINEERING

PONESLY ENGINEERING COLLEGE, NAGERCOIL

ANNA UNIVERSITY :: CHENNAI 600025

NOV 2022

ANNA UNIVERSITY : CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"BLOOD DONOR APPLICATION"** is the bonafide work Of "P. MAHALAKSHMI (961819106035), R. LENITHA (961819106034), M. SHINY (961819106047), N.SELVA NANCY (9618191060)" who carried out the project work under my supervision.

SIGNATURE

Dr.M.R.Geetha

HEAD OF THE DEPARTMENT

Electronics and Communication Engineering

Ponjesly College of Engineering, Nagercoil-3

SIGNATURE

MRS.T.Grace Berin

MENTOR

Assistant Professor

Electronics and Communication Engineering

Ponjesly College of Engineering, Nagercoil-3

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1. Introduction:

1.1 Project Overview:

Patients with severe liver disease or numerous clotting factor deficits, as well as those who have undergone trauma, burns, or shock, frequently get plasma. The patient's blood volume is increased as a result, which can aid in blood coagulation and helps to prevent shock. The number of people with Covid-19 infection has increased, as has the demand for the plasma of patients who have recovered. The antibodies that are already in our systems can aid someone in overcoming the infection.

Plasma donation saves lives, and donors' and blood/plasma facilities' communication is key to this. Smart apps are increasingly viewed as a crucial communication tool, and if they are created with the users' requirements and preferences in mind, plasma donation could make the best use of them.

1.2 Purpose:

In our opinion we intend to create an application that is user-friendly for people who require plasma or who wish to donate plasma to anyone who is in need. However, during design and development, areas of concern including privacy and secrecy should be taken into account. Age was found to be a contributing factor that might reduce donors' propensity to use apps. This system is used if anyone needs a Plasma Donor. This system comprises of Admin and User where both can request for a Plasma.

• Both parties can Accept or Reject the request.

• The person who wants to donate his/her plasma needs to register in our application providing required information which are name, age, blood group, phone number, and location, etc.

• Patients who need plasma can also fill the form to request the plasma. Patients can directly call the donor by taking his/her contact number from the application.

• User can also search based on location they are living.

• Just a single search allows anyone to reach maximum number of plasma donors in minimum possible time.

2. LITERATURE SURVEY:

2.1 Existing Problem:

In most of the existing plasma donor application then system is closed for general plasma donation and mainly focused on COVID-19 patients for plasma donation, the android mobile user will not be able to insert or view details if the server goes down and a disadvantage of single point of failure. Most of the user details remains unverified and it is difficult to track the fake users. The user interface of the application is not being user friendly and the user must have a device with android operating system with an active internet connection to interact with this application. A Plasma is a liquid portion of the blood, over 55% of human blood is Plasma. Plasma is used to treat various infectious and diseases and it is one of the oldest methods known as Plasma Therapy. Plasma Therapy is a process where blood is donated by recovered patients in order to establish antibodies that fights the infection. In this project, Plasma Donor Application is being developed by using AWS services. The services used are AWS Lambda, API gateway, Dynamo DB, AWS Elastic Compute Cloud with the help of these AWS services, it eliminates the need of configuring the servers and reduces the infrastructural costs associated with it and helps to achieve serverless computing. Situations like if the donor count is very low, it is very important to get the information about the Plasma Donors. Saving the donor information and notifying about the current donors would be a helping hand as it can save time and help the users to track down the necessary information about the donors.

2.2 References:

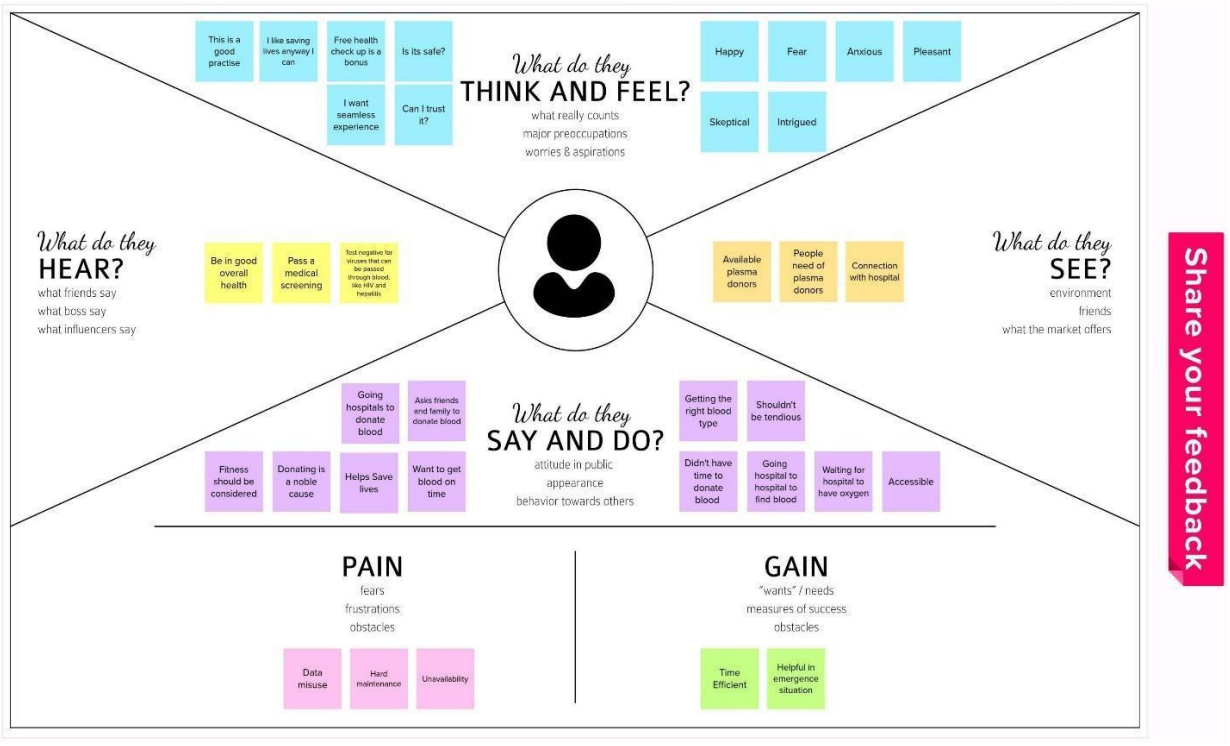
S NO	TITLE	AUTHOR	ABSTRACT	DRAWBACKS
1	Developing a Plasma Donor Application using Function as a service in AWS.	Aishwarya R Gowri, Jain University, Department of MCA, Computer Science.	A Plasma is a liquid portion of the blood, over 55% of human blood is Plasma. Plasma is used to treat various infectious and diseases and it is one of the oldest methods known as Plasma Therapy. Plasma Therapy is a process where blood is donated by recovered patients in order to establish antibodies that fights the infection. In this project, Plasma Donor Application is being developed by using AWS services. The services used are AWS Lambda, API gateway, Dynamo DB, AWS Elastic Compute Cloud with the help of these AWS services, it eliminates the need of configuring the servers and reduces the infrastructural costs associated with it and helps to achieve serverless computing. Situations like if the donor count is very low, it is very important to get the information about the Plasma Donors. Saving the donor information and notifying about the current donors would be a helping hand as it can save time and help the users to track down the necessary information about the donors.	• **Internet:** It would require an active internet connection. • **Auto - Verification:** It cannot auto verify the genuine users.

2.3 Problem Statement Definition:

Plasma donation saves lives, and the communication between blood/plasma centers and donors plays a vital role in this. Smart apps are now considered an important communication tool, and could be best utilized in plasma donation if they are designed to fit the users' needs and preferences. We plan to make a User-friendly application for users who are in need for plasma or who wish to donate plasma to anyone who are in need. However, areas of concern, including privacy and confidentiality, should be considered during design and development. Age was identified as a contributing factor that might decrease the likelihood of app usage among donors. The donation center staff focused on the educational features of the app and emphasized the importance of the app providing statistics and sending notifications and reminders to donors
AllMETEO, Smart Elements, and Pycno are a few instances of these agricultural IoT devices.

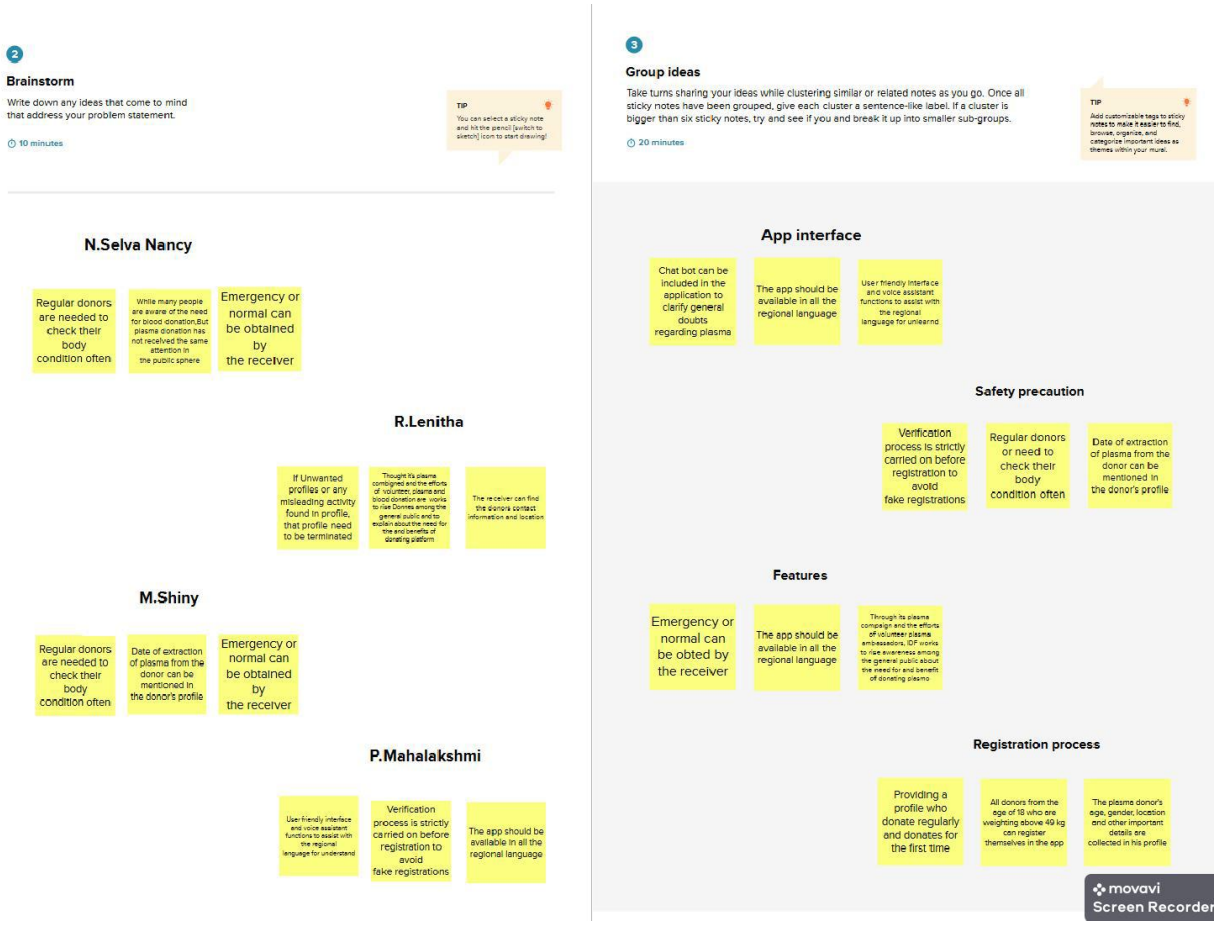
3. IDEATION & PROPOSED SOLUTION

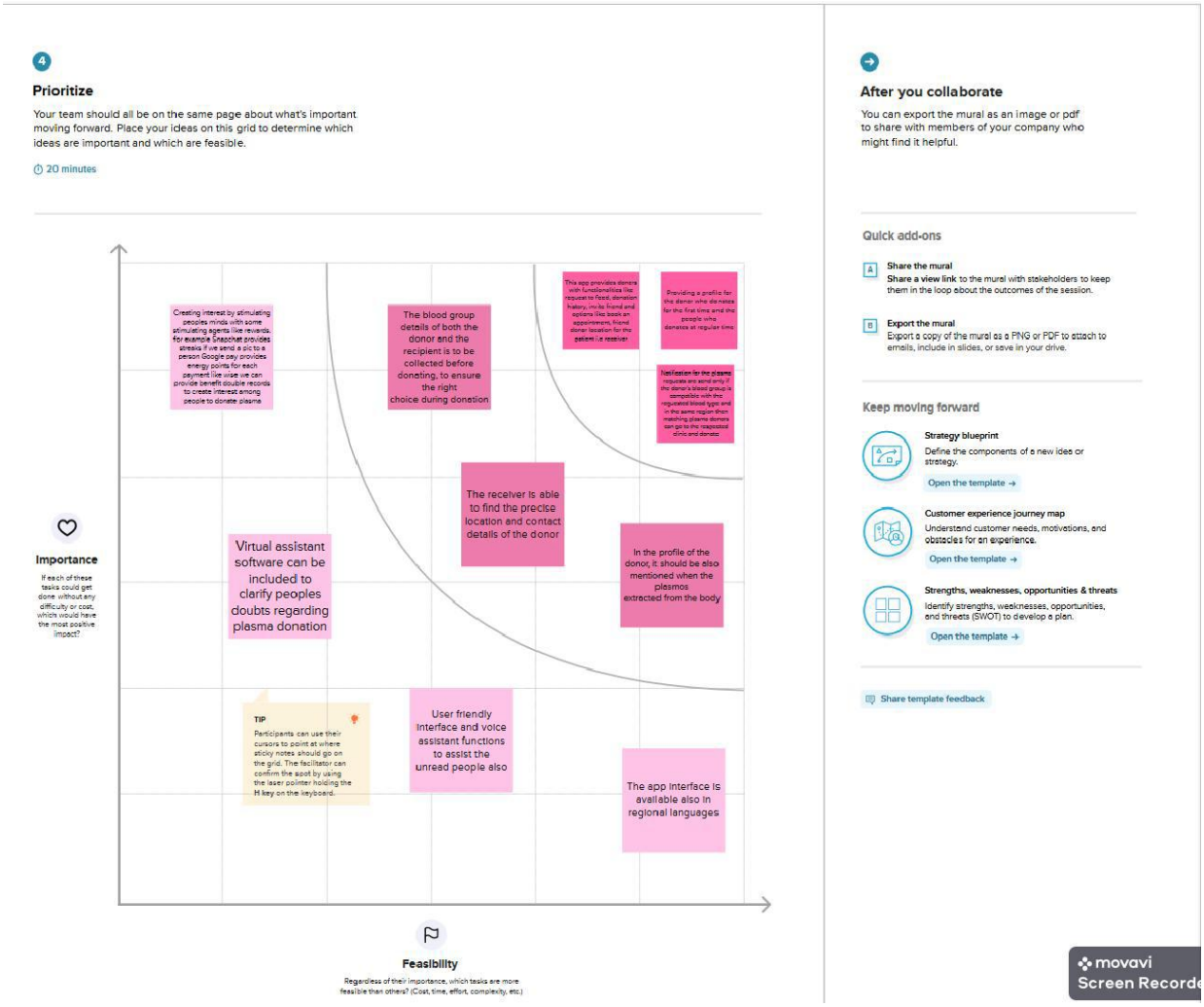
3.1. Empathy Map Canvas:



3.2 Ideation & Brainstorming:

Plasma is used for the treatment of serious health problems. This is why there are blood drives asking people to donate blood, plasma. Plasma is utilized to treat different irresistible sicknesses and it is one of the most established strategies known as plasma treatment. During Coronavirus emergency the necessity for plasma expanded radically as there were no immunization found to treat the contaminated patients, with plasma therapy the recovery rates where high but the donor count was very low and, in such situations, it was very important to get the information about the plasma donors. Saving the contributor data and talking about the ongoing givers would be some assistance as it can save time and assist the clients with finding the vital data about the contributors.





3.3 Proposed Solution:

S. No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Many major medical conditions are treated by plasma. For this reason, blood drives are held to solicit donations of plasma and blood. One of the most well-known techniques known as plasma treatment, plasma is used to cure various incurable diseases. As there were no vaccines available to treat the infected patients during the Covid-19 emergency, the need for plasma increased dramatically. Plasma therapy had a high probability of recovery but a very low donor count, therefore it was crucial to learn more about the donors in these circumstances. It would be helpful to save the contributor information and let clients know about the recurring donors because it can help them find the crucial information more quickly.

2.	Idea / Solution description	This system's goal is to use an online application to link donors and patients. Users of this application may post requests for plasma donations or requests for services. The fundamental solution is to establish a centralised system to keep track of current and previous Plasma Donation Events. The recommendation solution is as follows; Application contains **two roles**: **1)Admin** • Admin can login using their credentials. • Admin can edit the request. • Admin can delete the request. • Admin can add volunteers. **2)User:** • If the user wants to donate or receive, they have to register with their personal details. • After successful registration of user. • A successful registration email is sent to the user.

		• If the user is donor, then he/she will fill the donation interest form which includes their Name, blood group details, location, last time donated date, phone number, email id. After filling the donation form, he/she will be redirected to page in which he/she can download the e-certificate. • If the user is receiver, then he/she can see the list of donors available and they can raise their request and contact donor directly.
3.	Novelty / Uniqueness	Users can easily grasp a user interface. The application is available anytime, anywhere. The user can use this application to raise a request and directly contact the donor to ask them to donate the plasma if they urgently need it for their treatment but the plasma is not available in the nearby hospitals. Hospitals may also put out a call for donors. Someone who wishes to donate blood and plasma but is unsure how to do so uses this programme, which is easy to use and will help save many lives. Nowadays, a lot of them have smartphones on which they can download this programme and use it to save lives.

4.	Social Impact / Customer Satisfaction	Everything is accessible online because we live in a modern age. Despite the fact that there are numerous applications, there is no official form for donating plasma. Although many of them would like to donate blood and plasma, they are not aware of the process or how to contribute. The ability to give plasma is made available through this application. Plasma donations are being made everywhere, and although many people step forward to do so, the plasma is not always ready for use. There may occasionally be a shortage of a particular type of plasma. Prior to plasma transfusion, we require additional facilities that provide quick access to patient information. Software applications are used in conjunction with cloud computing and Internet of Things tools to address this problem and offer capabilities like information retrieval and ongoing data tracking with analytics. This programme prevents the spread of false information. a centralised location to save accurate information and boost participants' faith in the activity. It boosts the quantity of donors.
5.	Business Model (Revenue Model)	Everyone has access to this programme. This programme allows users to add people who want to donate plasma and store their data in a data set. It is free because it is difficult to identify donors who match a particular blood group. The need for plasma is rising today. Anyone with a basic understanding can use this software. This can be applied at anytime, anywhere. Working with the government, we can develop a programme to assist people in need of plasma.
6.	Scalability of the Solution	Instead of scouring the entire world for plasma donors, this programme enables users to find donors while sitting at home. When there is an emergency, plasma requests that everyone sends a message. When a donor is prepared to donate, the recipient is informed. Receiver may get in touch with the donor. This software helps donors find potential donors quickly and easily by letting them know if they are eligible to donate.

3.4 Problem Solution Fit:

Uniqueness:

A User Interface is simple for users to understand. We can use the application anywhere anytime. The user immediately needs the plasma for their treatment but the plasma is not available in nearby hospitals, then user can use this application

to raise request and directly contact the donor, request them to donate the plasma. Hospitals can also raise request donors for donation. Somebody wants to donate blood and plasma but they don't know the way to donate then they use this application which will simple to use and it will save lives of many people. Today many of them have mobile phones they can install this application and use it to save the lives of people.

Social Impact / Customer Satisfaction:

We are living in a modern world and everything can be accessed online. Even though there are many applications there is no proper application for plasma donation. Many of them wish to donate blood and plasma but they are unaware about donation and how they can donate. This application provides opportunity to those who want to donate plasma. Donation of plasma are happening in many places many of them come forward to donate but it is not available at right time for use. Sometimes there is a shortage of plasma of particular type. Additional facilities that we need is to access the patient's information quickly before plasma transfusion. To solve this issue software applications are employed with Cloud computing and Internet of Things tool which enable features such as information

retrieval and continuous data tracking with analytics. This application avoids circulating of wrong information. A single platform for maintaining genuine information and increase the trust of participants involved in this activity. It increases the number of donors.

Business Model (Revenue Model):

This application is accessible by everyone. It is free. Because of the trouble in finding givers who match a specific blood bunch, this application empowers clients to enlist individuals who wish to give plasma and keep their data in a data set. Nowadays the need for plasma increases. Anyone with basic knowledge can access this app. This can be used anywhere anytime. working with the government we can utilize an application to help those needing plasma.

Scalability of the Solution:

This application helps users to find plasma donors by sitting in home itself instead of searching donors everywhere. When there is an emergency then plasma request to send to everyone. Once the donor is ready to donate receiver is notified about donation. Receiver can contact the donor. With this app donor can know the eligibility to donate and making it easier to locate suitable donor at right time.

4. REQUIREMENT ANALYSIS

Following are the functional requirements of the proposed solution.

4.1 Functional Requirements:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form (WebApp)
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Certification	After the donor donates plasma, we will give them a certificate of appreciation and authentication.
FR-4	Statistical data	The availability of plasma is given in the page as stats, which will be helpful for the users.
FR-5	User Plasma Request	Users can request to donate plasma by filling out the request form on the page. Once the request is submitted, they will get an email
FR-6	Searching/reporting requirements	Users can use the search bar to look up information about camps and other topics.
FR-7	Virtual Assistants	A virtual assistant is a software agent that can carry out tasks or provide services on behalf of a person in response to commands or inquiries. When users enter their inquiries, the system will respond with pertinent information about plasma and details of plasma donation.

Following are the Non-functional requirements of the proposed solution.

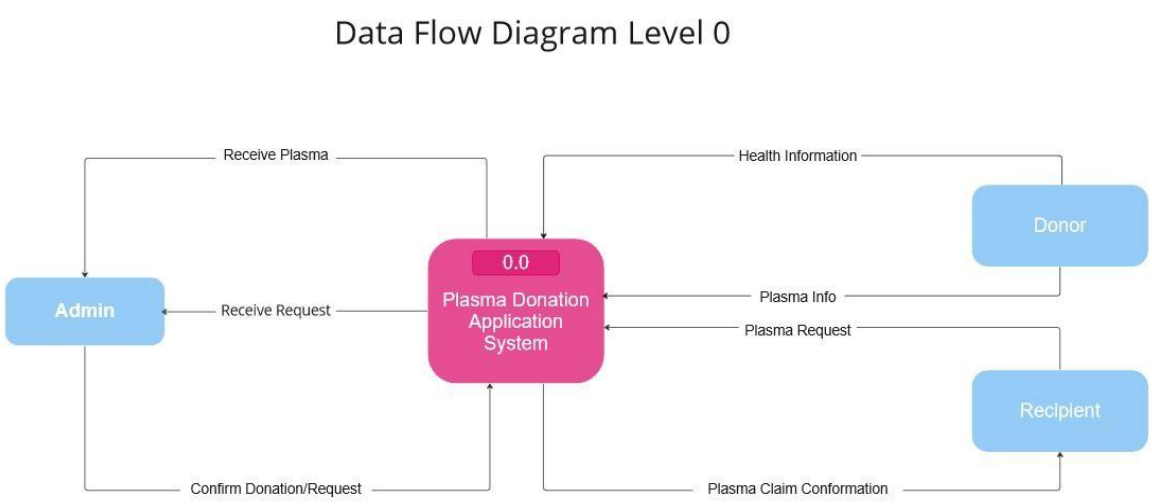
4.2 Non-Functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Must have a good-looking User-friendly interface.
NFR-2	**Security**	It must be secured with the proper username and password.
NFR-3	**Reliability**	The system should be made in such a way that it is reliable in its operations and for securing the sensitive details.
NFR-4	**Performance**	Users should have a proper Internet Connection.
NFR-5	**Availability**	The system including the online and offline components should be available 24/7.

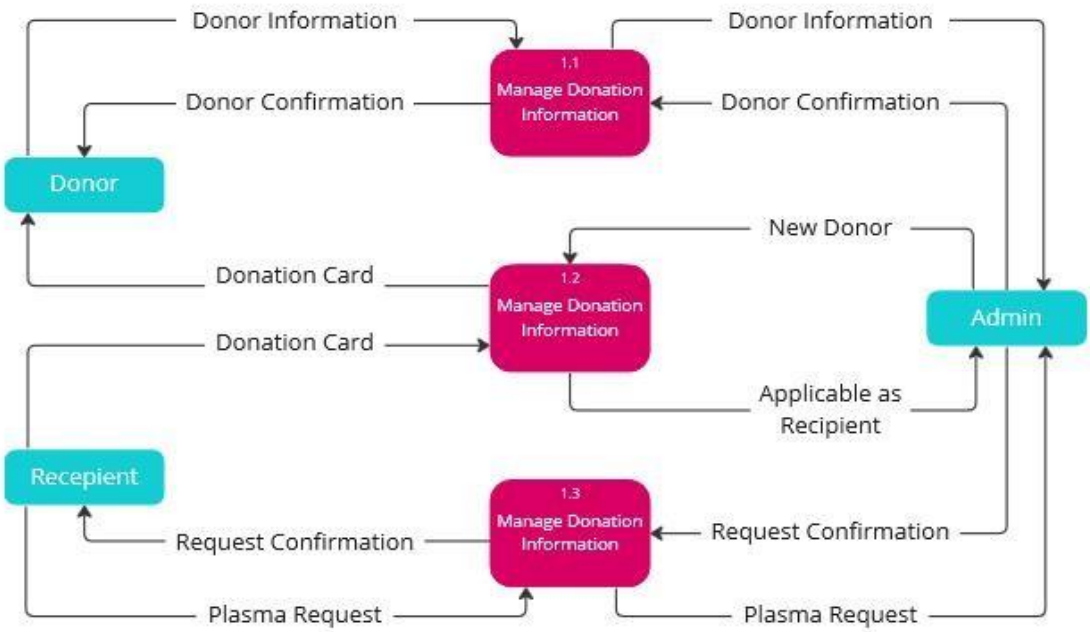
5. PROJECT DESIGN

5.1 Dataflow diagrams:

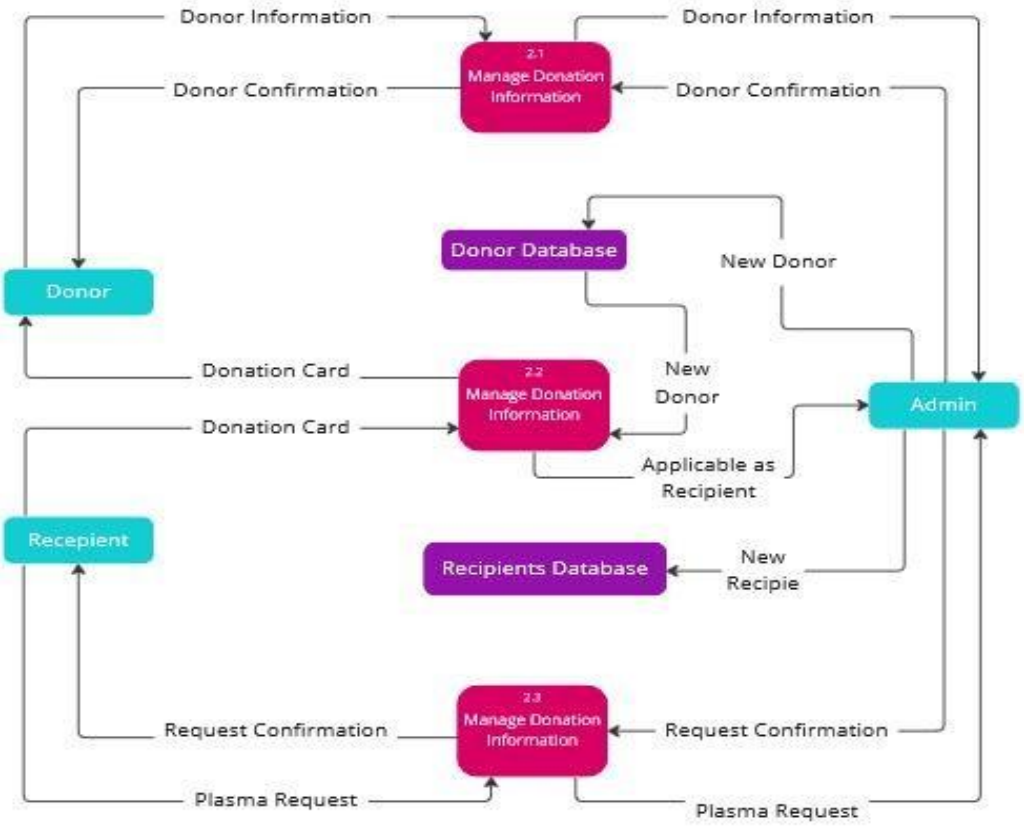
A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.



Data Flow Diagram Level 1



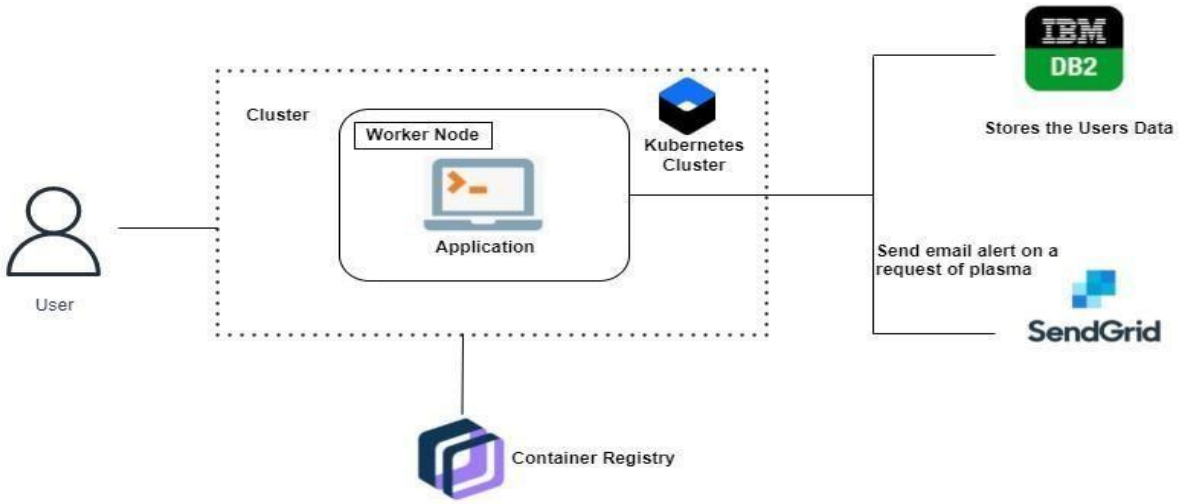
Data Flow Diagram Level 2



5.2 Technology Architecture:

Technical Architecture (TA) is **a form of IT architecture that is used to design computer systems**. It involves the development of a technical blueprint with regard to the arrangement, interaction, and interdependence of all elements so that system-relevant requirements are met.

- The user interacts with the application.
- Registers by giving the details as a donor.
- The database will have all the details and if a user posts a request, then the concerned blood group donors will get notified about it.



5.3 User Stories:

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Donor	App Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard.	High	Sprint-1
	Login	USN-2	As a user, I can log into the application by entering email & password.	I can receive confirmation email & click confirm.	High	Sprint-2
	Register For Donate	USN-3	As a user, I can log into the application and find the current bank to donate plasma and confirm my booking.	I can register & access the dashboard with Facebook Login.	Medium	Sprint-3
patient/d doctor	Find the bank	USN-4	As a patient, I can directly access the application and find the plasma available bank.	I can access my account / dashboard.	High	Sprint-1,2
	Request for plasma	USN-5	As a user, I can enter into the application and find the current bank and request for plasma and state the emergency.	I can register & access the dashboard with Facebook Login.	Medium	Sprint-3
Administrator	Maintain the applications	USN-6	As Administrator I can log into the application by entering email & password and maintaining details for users.	I can access my account / dashboard.	High	Sprint-3
	Connect The Bank with Users	USN-7	As Administrator, I can hold the good communication between bank and user.	I can access my account /dashboard	Low	Sprint-4

	Maintain Database	USN-8	As Administrator I can hold the exact details of donor and patient and also bank for requesting and available of plasma	I can access my account / dashboard	Medium	Sprint-4
Plasma Bank	Connect The Bank With Users	USN-7	As Bank, I can hold the good communication between Administrator and user	I can access my account / dashboard	Medium	Sprint-3
	Maintain Database	USN-8	As Bank I can hold the exact details of donor and patient and also bank for requesting and available of plasma	I can access my account / dashboard	High	Sprint-4
BOT	Help the user my bot message in application	USN-9	As AI bot, I can hold the good communication between bank and user also help the user	I can access my account / dashboard	Medium	Sprint-4

6. PROJECT PLANNING AND SCHEDULING

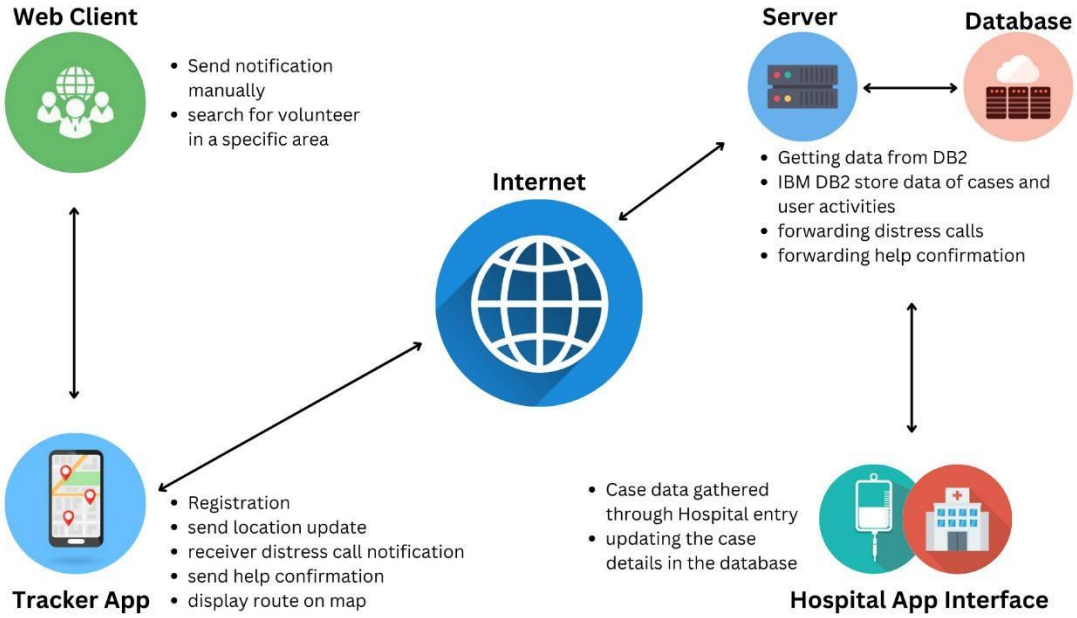
6.1 Sprint Planning:

Sprints are the backbone of any good Agile development team. And the better prepared you are before a sprint, the more likely you are to hit your goals. Spring planning helps to refocus attention, minimize surprises, and (hopefully) guarantee better code gets shipped. The main event during agile methodology is the sprint, the stage where ideas turn into innovation and valuable products come to life. On one hand, agile sprints can be highly effective and collaborative. At the same time, they can be chaotic and inefficient if they lack proper planning and guidance. And for this reason, making a sprint schedule is one of the most important things you can do to ensure that your efforts are successful.

We categorized the sprint as 4 phases for creating the application

- Sprint 1 is about creating the login page and the register page.
- Sprint 2 is about sending the confirmation mail to the users during registration.
- Sprint 3 is about as a user, can log into application by entering email and password.
- Sprint 4 is about as user, can register and make request for plasma donation via portal.

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2.



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

Table-1: Components & Technologies:

S.No	Component	Description	Technology

1.	User Interface	The user register and login. See the UI.	HTML, CSS, Python Flask
2.	Data maintenance	Store, maintain, retrieve the user's details.	MYSQL
3.	Chatbot	Clarify user queries.	IBM Watson service
4.	Confirmation Email	Sending the confirmation email to users they have registered successfully.	SendGrid
5.	Cloud Database	Cloud database to store plasma information and View Plasma information.	IBM DB2
6.	File Storage	File storage requirements	IBM Block Storage
7.	Infrastructure (Server / Cloud)	To deploy the application on Local System	Kubernetes

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Python Flask frameworks is used.	Python Flask
2.	Security Implementations	Mandatory Control (MAC) and Kubernetes is used.	SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	3-Tier Architecture is used.	Web server-HTML, CSS Application Server- Python Flask Database Server- IBM DB2
4.	Availability	Using Load Balancer to distribute network traffic across Servers.	IBM Load Balancer
5.	Performance	User Friendly UI. Request and Response is faster.	IBM Content Delivery Network

6.2 Sprint Estimation and Delivery Schedule:

A sprint estimation shows how much effort a series of tasks require. It's based on assumptions, requirements, and dependencies of a project.

Sprint	Functional Requirement (Epic)	User Story Number	User Story/Task	Story Point	Priority	Team Members
Sprint -1	Registration	USN -1	As a donor I can register for the application by entering my email/phone number, Password and conforming my password	4	High	Lenitha R Shiny M
Sprint -1	Login	USN -2	Registered Donor can login to the application by entering donor email and password	3	High	Mahalakshmi P Lenitha R
Sprint -2	Verification	USN -3	As a Donor I can enter my details to check the Donor eligibility criteria	10	Medium	Selva Nancy N Mahalakshmi P
Sprint -3	Dashboard	USN -4	User can provide their personal details and location	7	Low	Shiny M Selva Nancy N

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a receiver, I can register for the application by entering my email /Phone number, password, and confirming my password.	4	High	Lenitha R Selva Nancy N
Sprint-1	Login	USN-2	Registered receiver can log into the application by entering receiver email & password.	3	High	Mahalakshmi P Lenitha R
Sprint-2	Verification	USN-3	As a receiver, I can enter my details to check the receiver eligibility criteria.	10	Medium	Shiny M Mahalakshmi P
Sprint-3	Dashboard	USN-4	User can search the list of available donors.	7	Low	Selva Nancy N Shiny N
Sprint-4	Access	USN-5	User can access the available donors list, then they can choose the donor who is nearby to receiver.	10	Medium	Mahalakshmi P Shiny M Lenitha R Selva Nancy N
Sprint-1	Registration	USN-1	Third Party user can register for the application by entering my email /Phone number, password, and confirming my password.	3	High	Selva Nancy N Shiny N
Sprint-1	Login	USN-2	Registered user can log into the application by entering user email & password.	3	High	Lenitha R Selva Nancy N
Sprint-3	Query System	USN-3	User can ask their queries via Chabot which is available 24/7 to sort user issues.	6	Medium	Mahalakshmi P Lenitha R

Project Tracker, Velocity & Burndown Chart:

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{sprint\ duration}{velocity} = \frac{20}{10} = 2$$

7.CODING & SOLUTIONING

7.1 SendGrid

SendGrid is a cloud-based SMTP provider that allows you to send email without having to maintain email servers. SendGrid manages all of the technical details, from scaling the infrastructure to ISP outreach and reputation monitoring to whitelist services and real time analytics.

SendGrid provides two ways to send email: through our SMTP relay or through our Web API. SendGrid provides client libraries in many languages. This is the preferred way to integrate with SendGrid. If you choose to use SendGrid without a client library, the Web API is recommended in most cases as it is faster, provides some beneft with encoding, and tends to be easier to use. SMTP provides many features by default, but is harder to setup.

Web API

- The Web API has some advantages over SMTP:

- If your ISP blocks all outbound mail ports and your only option is HTTP.
- If there is high latency between your site and ours, the Web API might be quicker since it does not require as many messages between the client and server.
- If you do not control the application environment and cannot install and configure an SMTP library.
- If you build a library to send email, developing against a web API provides quicker development. **SMTP Relay**
- If you are integrating SendGrid with an existing application, setting up the application to use our SMTP relay is easiest, as it only requires modifying SMTP configuration.
- Change your SMTP username and password to your SendGrid credentials.
- Set the server host name to smtp.sendgrid.net
- Use ports 25 or 587 for plain/TLS connections and port 465 for SSL connections.

Code: import os from dotenv import

load_dotenv load_dotenv() from sendgrid

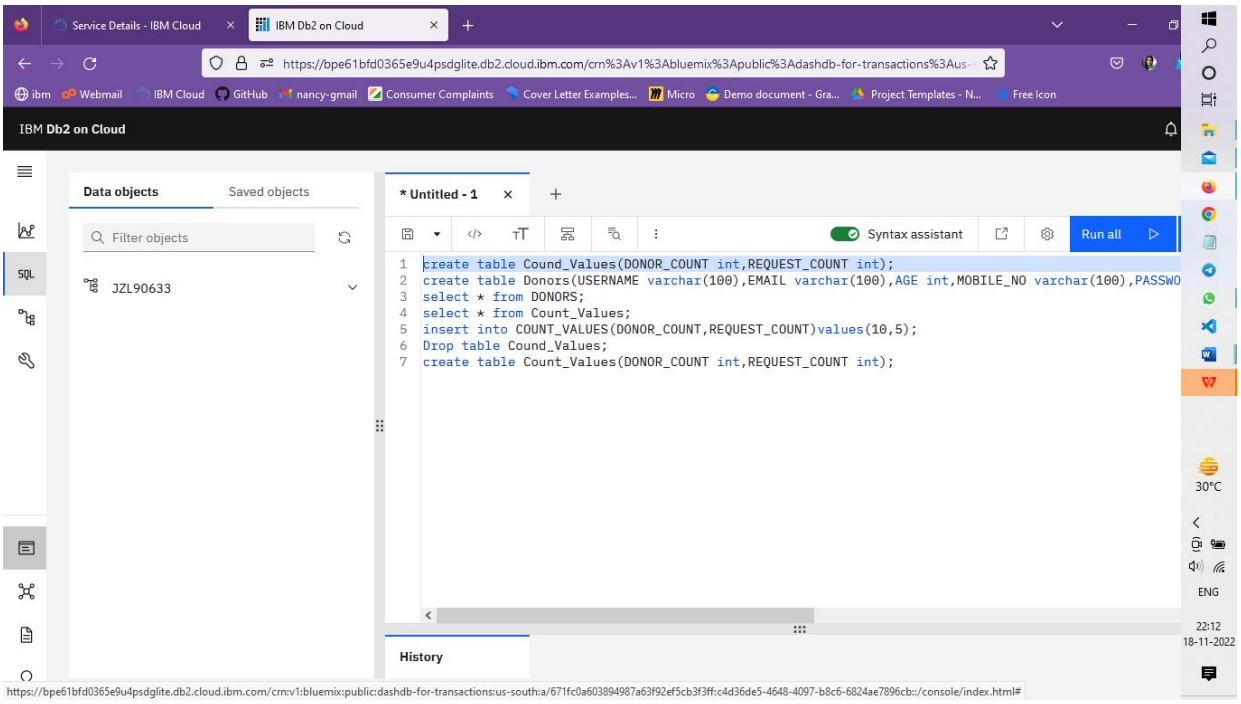
import SendGridAPIClient from

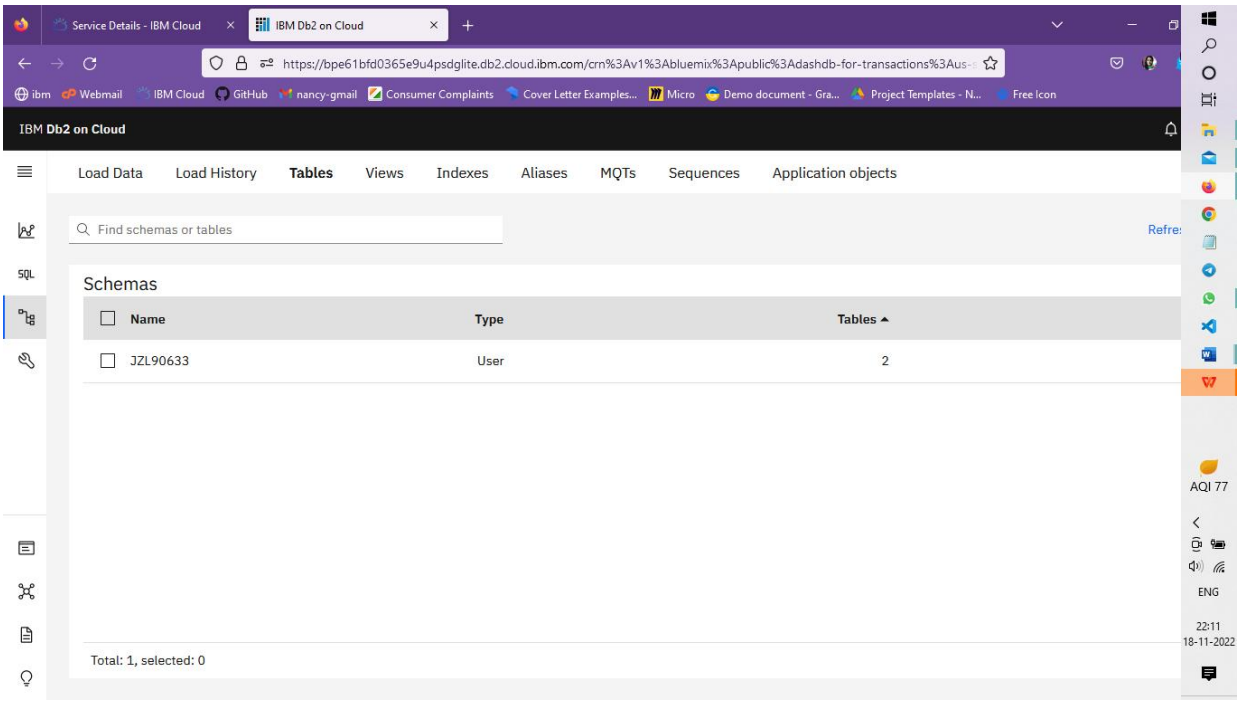
sendgrid.helpers.mail import Mail def

sendmail(usermail,subject,content):

```
   message =
Mail(from_email='maryada@student.tce.edu',to_emails=usermail,subject=subj
ect,html_content='<strong> {} </strong>'.format(content))     try:
      sg = SendGridAPIClient(os.getenv('SENDGRID_API_KEY'))
response = sg.send(message)        print(response.status_code)
print(response.body)        print(response.headers)     except
Exception as e:         print(e.message)
```

7.2 Database Schema


Service Details - IBM Cloud
IBM Db2 on Cloud
https://bpe61bfd0365e9u4psdglite.db2.cloud.ibm.com/crn%3Av1%3Abluemix%3Apublic%3Adashdb-for-transactions%3Aus-
IBM Db2 on Cloud
Data objects
Saved objects
Filter objects
JZL90633
* Untitled - 1
Syntax assistant
Run all
1 create table Cound_Values(DONOR_COUNT int,REQUEST_COUNT int);
2 create table Donors(USERNAME varchar(100),EMAIL varchar(100),AGE int,MOBILE_NO varchar(100),PASSWO
3 select * from DONORS;
4 select * from Count_Values;
5 insert into COUNT_VALUES(DONOR_COUNT,REQUEST_COUNT)values(10,5);
6 Drop table Cound_Values;
7 create table Count_Values(DONOR_COUNT int,REQUEST_COUNT int);
History
30°C
ENG
22:12
18-11-2022
https://bpe61bfd0365e9u4psdglite.db2.cloud.ibm.com/crn:v1:bluemix:public:dashdb-for-transactions:us-south:a/671fc0a603894987a63f92ef5cb3f3ff:c4d36de5-4648-4097-b8c6-6824ae7896cb::/console/index.html#


Service Details - IBM Cloud
IBM Db2 on Cloud
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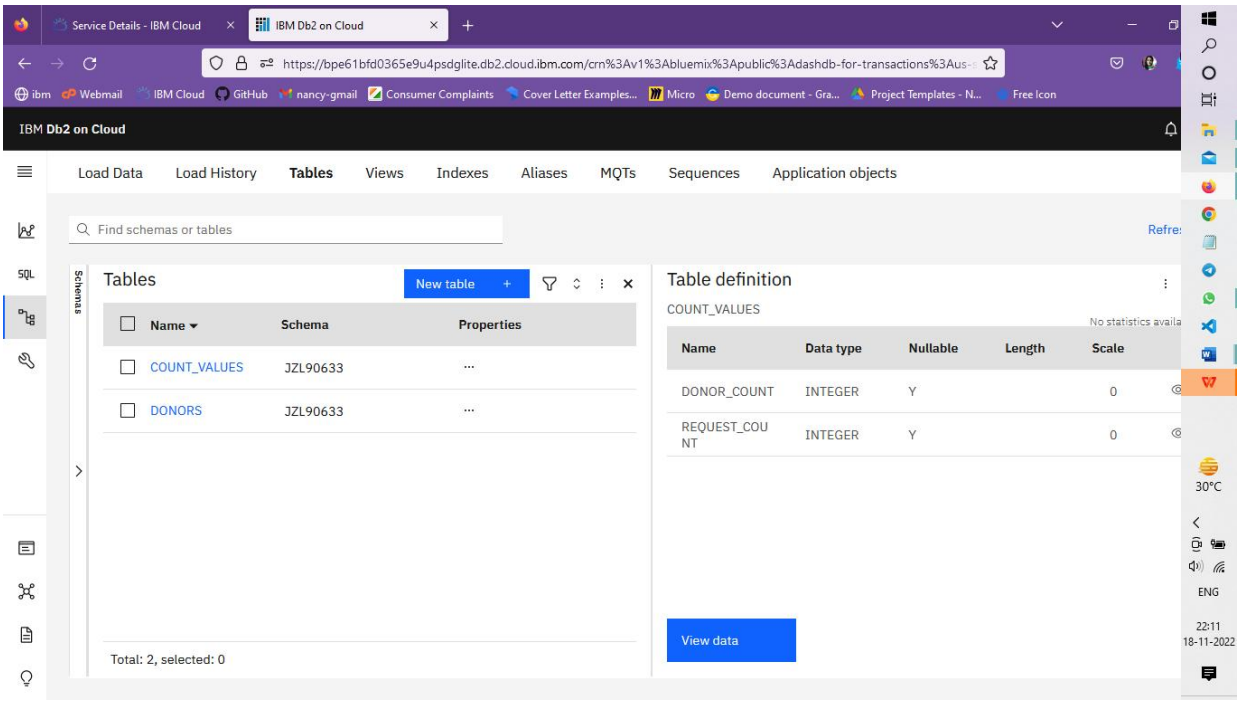
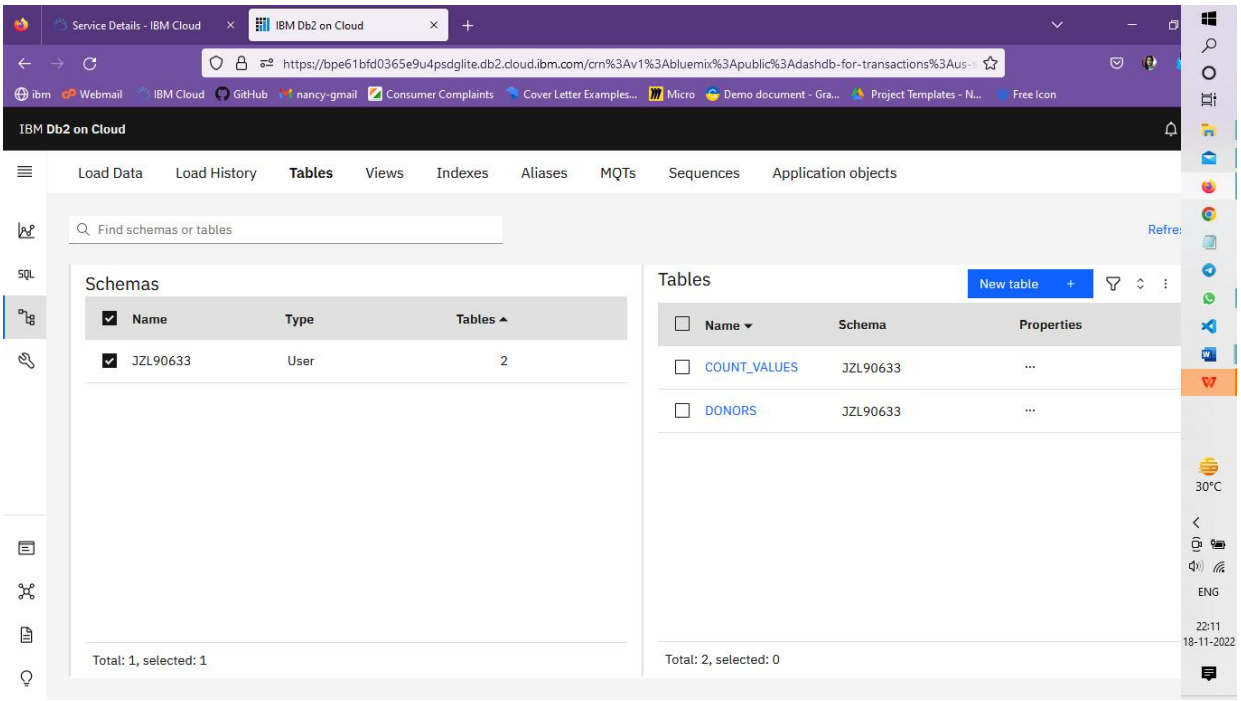
IBM Db2 on Cloud
Load Data
Load History
Tables
Views
Indexes
Aliases
MQTs
Sequences
Application objects
Find schemas or tables
Schemas
Name
Type
Tables
JZL90633
User
2
Total: 1, selected: 0
AQI 77
ENG
22:11
18-11-2022


Service Details - IBM Cloud
IBM Db2 on Cloud
IBM Db2 on Cloud
Load Data
Load History
Tables
Views
Indexes
Aliases
MQTs
Sequences
Application objects
Find schemas or tables
Tables
New table
Name
Schema
Properties
COUNT_VALUES
JZL90633
DONORS
JZL90633
Total: 2, selected: 0
Table definition
COUNT_VALUES
Name
Data type
Nullable
Length
Scale
DONOR_COUNT
INTEGER
Y
0
REQUEST_COUNT
INTEGER
Y
0
View data


Service Details - IBM Cloud
IBM Db2 on Cloud
IBM Db2 on Cloud
Load Data
Load History
Tables
Views
Indexes
Aliases
MQTs
Sequences
Application objects
Find schemas or tables
Schemas
Name
Type
Tables
JZL90633
User
2
Total: 1, selected: 1
Tables
New table
Name
Schema
Properties
COUNT_VALUES
JZL90633
DONORS
JZL90633
Total: 2, selected: 0

8. RESULT

8.1 Authentication Module

- **Sign Up**

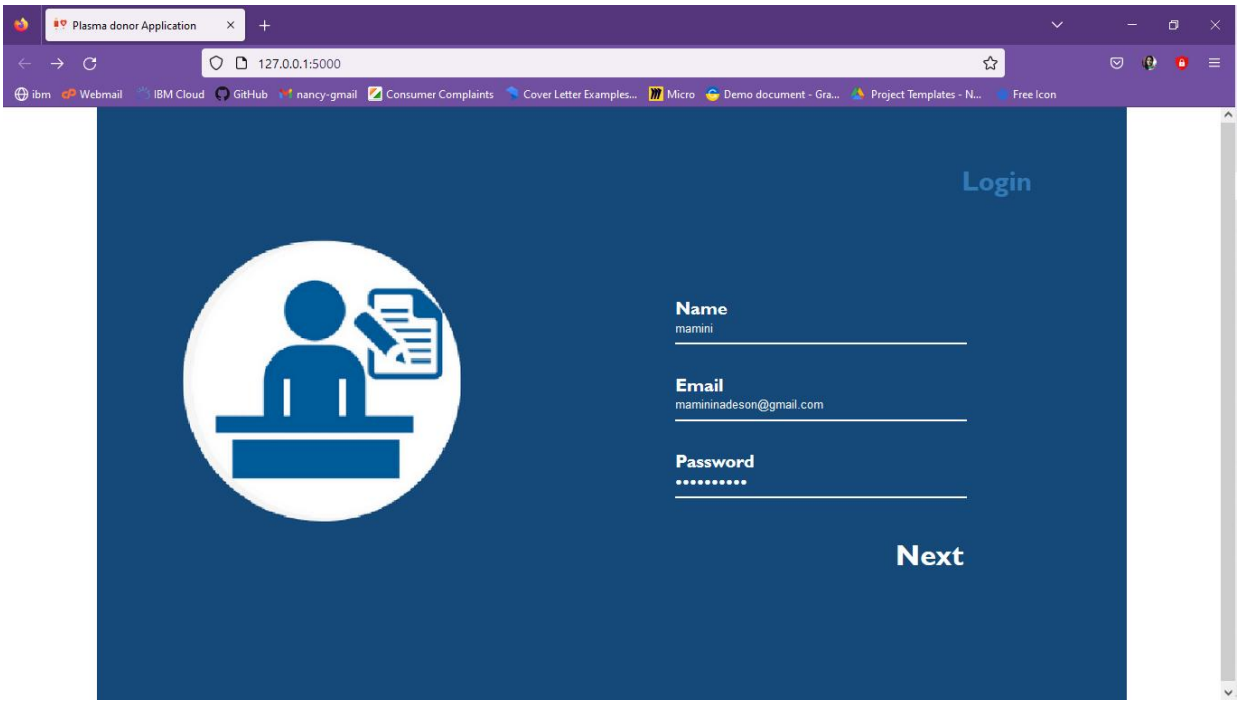
  New user or donor can create an account to use in the blood/plasma donor application and create a password for account verification and create an identity.

- **Sign In**

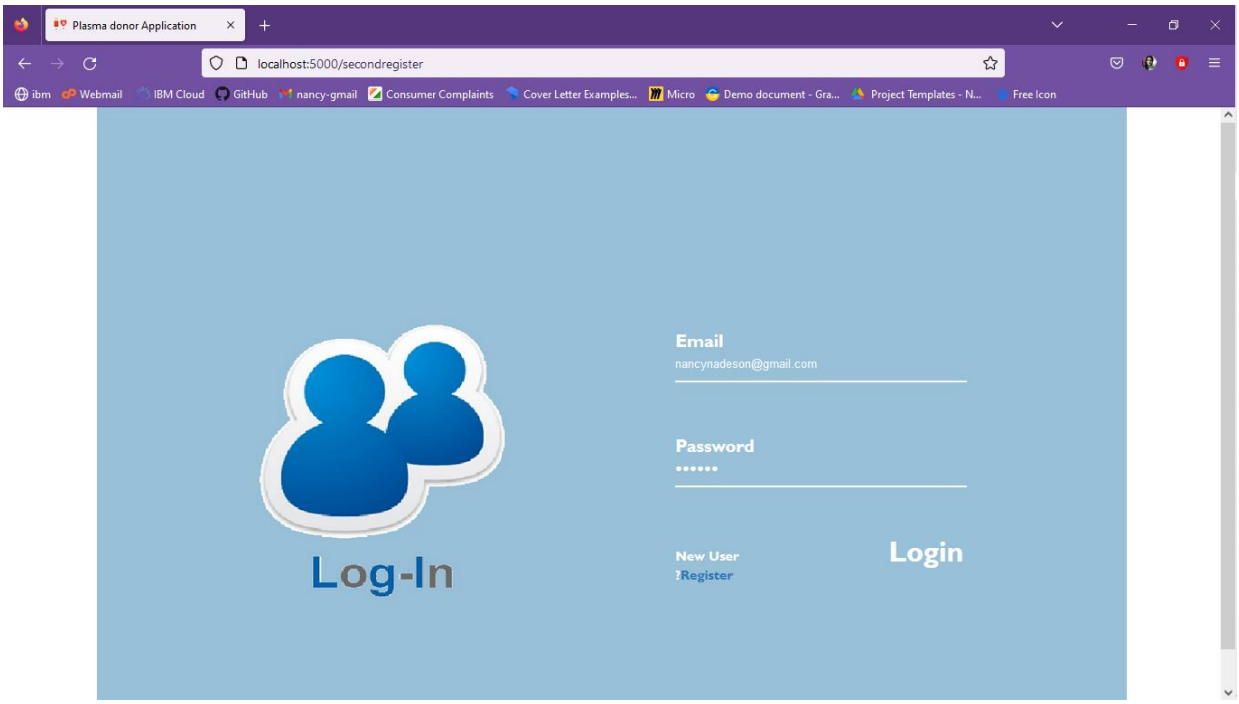
  Donor Sign In to the account for viewing or editing location details and any other personal information.

- **Account Verification**

  If donor changes their password or if they forget the password then we have to verify their account using mail verification.



Registration



Login page

8.2 Service Provider Module

- **Add New Donor**

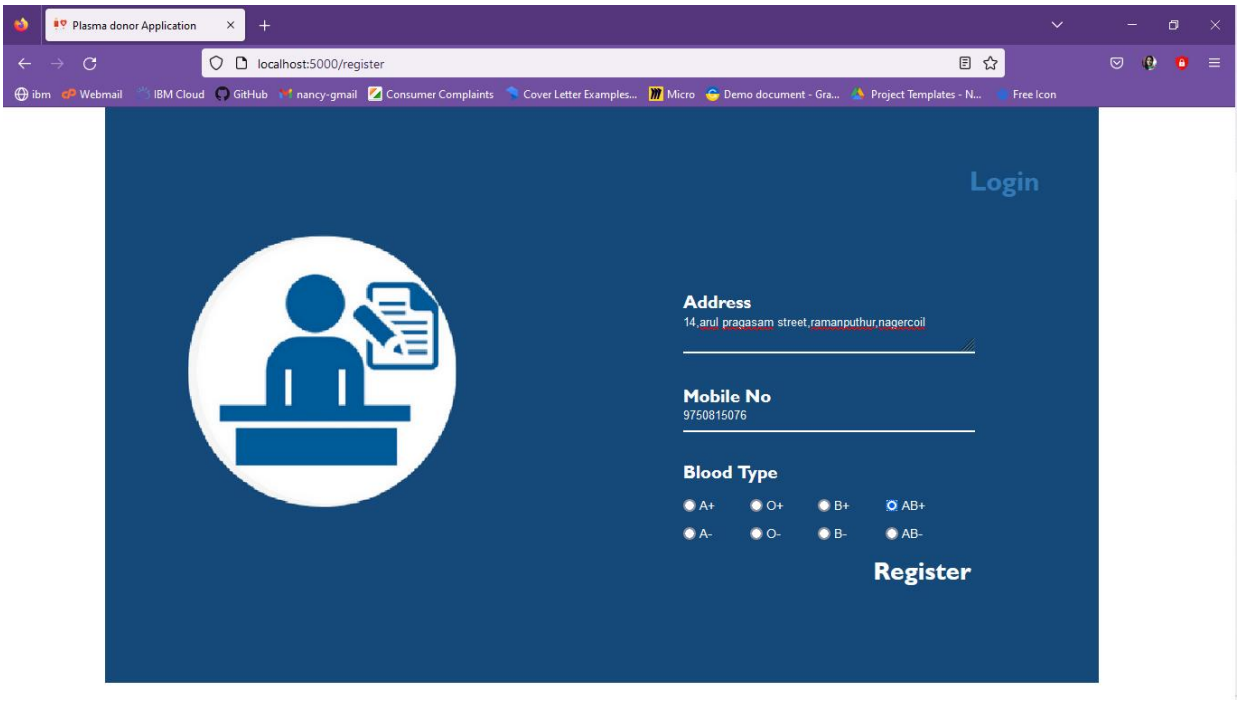
  User can be able to register to add donor details.

- **List All Donor**

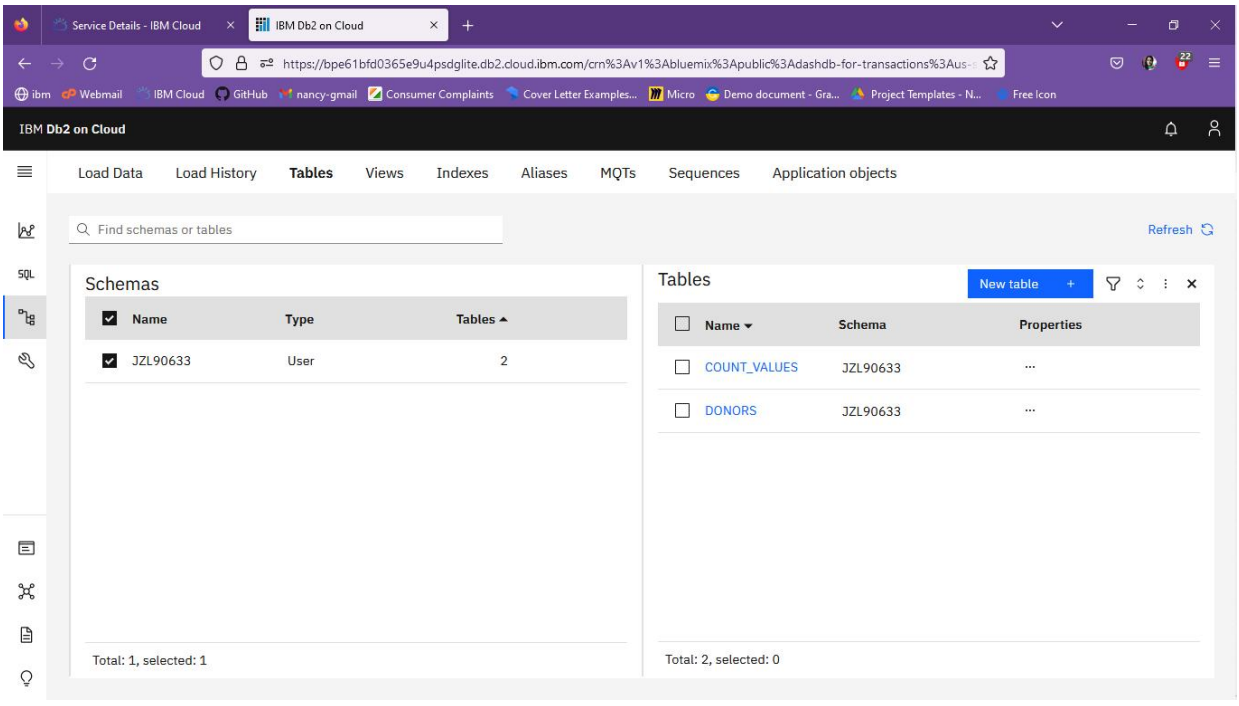
  User can be able to view all Donor who all use our Plasma Donor Application.

- **Edit Customer Plan Details**

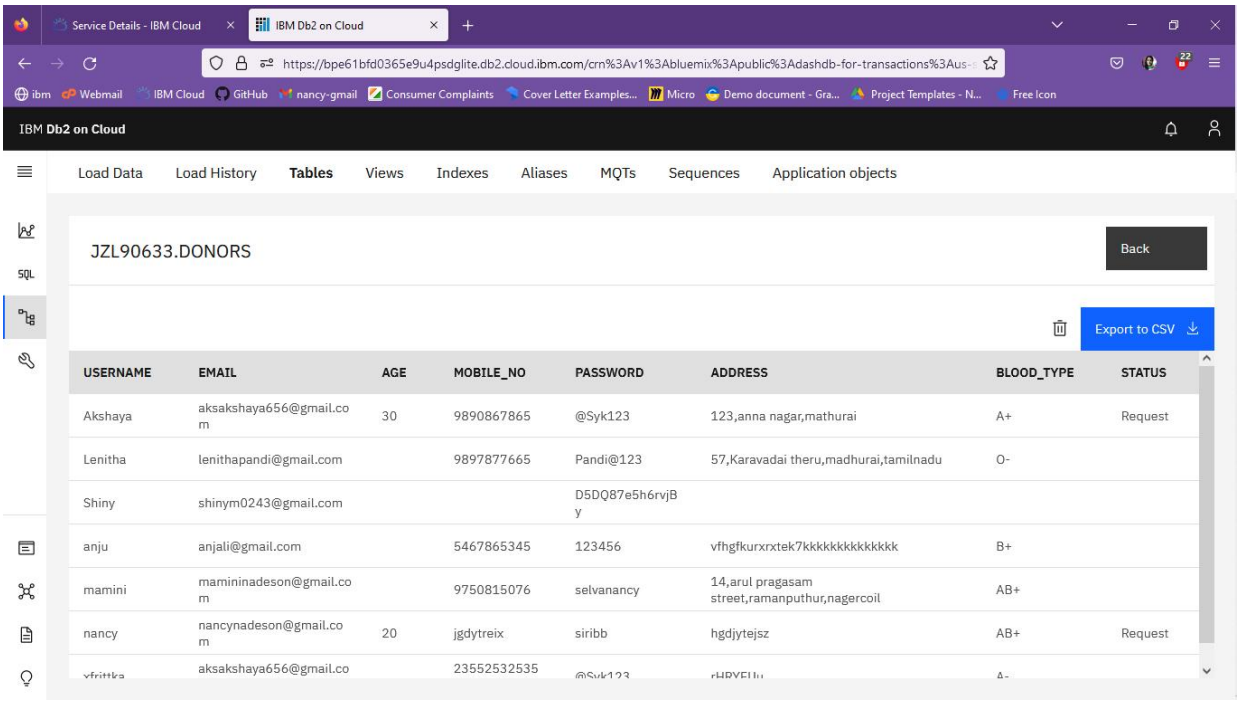
  User can be able to edit the existing Donor details as the Donor wish.



Donor Details



Details Table in Cloud



Donor Details in database

8.3 Screen Layouts

The Donors can register their account using their email ID. Once registered, The Donor can sign-up by using his\her respective password. The login page for Plasma Donors is shown in the figure, which contains the E-mail and Password field. The profile of the Donor, where he/she needs to enter the required details. After registration Donor can maintain according to his availability. The registration page with Full Name, Email Address, Last donated date, Password, Contact Details, Blood Group, Location and all other details, which is illustrated. The details of the available donors can be displayed and viewed by other users.

9. ADVANTAGES & DISADVANTAGES

Advantages

- **Speed**

  This website is fast and offers great accuracy as compared to manual registered keeping.

- **Maintenance**

  Less maintenance is required

- **User Friendly**

  It is very easy to use and understand. It is easily workable and accessible for everyone.

- **Fast Results**

  It would help you to provide plasma donors easily depending upon the availability of it.

Disadvantages

- **Internet**

  It would require an internet connection for the working of the website.

- **Auto- Verification**

  It cannot automatically verify the genuine users.

10. CONCLUSION

Although the government is carrying out Covid vaccination campaigns on a large scale, the number of vaccines produced is not enough for all the population to get vaccinated at present. And with the corona positive cases rising every day, saving lives has become the prime matter of concern. As per the data provided by WHO more than 3 million people have died due to the coronavirus. However, apart from vaccination, there is another scientific method by which a covid infected person can be treated and the death risk can be reduced. This plasma therapy is an experimental approach to treat corona positive patients and help them recover. This plasma therapy is considered to be safe & promising. A person who has recovered from Covid can donate his/her plasma to a person who is infected with the coronavirus.

This system proposed here aims at connecting the donors & the patients by an online application. By using this application, the users can either raise a request for plasma donation or requirement. Both parties can Accept or Reject the request. User has to Upload a Covid Negative report to be able to Donate Plasma. This

system is used if anyone needs a Plasma Donor Blood and Plasma donation is a kind of citizen's social responsibility in which an individual can willingly donate blood/plasma via our app. This Application has been created with the concept and has sought to make sure that the donor gives blood/plasma to community. This model is made user friendly so anybody can view and maintain his/her account. This application will break the chain of business through blood/plasma and help the poor to find donor at free of cost. This project will help new blood/plasma banks improve their services and progress from traditional to user-friendly frameworks.

11. FUTURE SCOPE

Plasma Application can be developed to further improve user accessibility via integrating this application with various social networks application program interfaces (APIs). Consequently, users can login and sign up using various social networks. This would increase number of donors and enhances the process of blood donation.

User interface (UI) can be improved in future to accommodate global audience by supporting different languages across countries. Data scraping can be done from different social networks and can be shown in the Blood/Plasma Request Feeds. Appointments can be synchronized with Google and Outlook calendars for the ease of users.

Donor and Beneficiary Stories feature aims to create a sense of belonging to the community. Donors will be able to view and share personal experiences about their donation; Beneficiaries can share their experiences of receiving blood transfusion which contributed to their improved health and lives.

Live Check-in Process feature aims to provide a better experience with regards to the waiting time when the user is in the process of donation. We hypothesise that a more efficient experience will help the user look forward to his blood/plasma donation appointments.

12. APPENDIX

- **GitHub and Source code Link:** https://github.com/IBM-EPBL/IBM-Project-48134-

- **Project Demo Link:** https://drive.google.com/file/d/11CQPn76i6-icPBfADUIibygkTXzR9ctN/view?usp=drivesdk