

PLASMA DONOR APPLICATION

NALAIYA THIRAN PROJECT BASED LEARNING
ON
PROFESSIONAL READINESS FOR INNOVATION,
EMPLOYABILITY AND ENTREPRENEURSHIP

A PROJECT REPORT

Submitted by

TEAM ID: PNT2022TMID37763

ASWINI.G	410119106004
POONGOTHAI.K	410119106047
SRIMATHI.S	410119106063
YUVARANI.J	410119106071(TEAM LEADER)

BACHELOR OF ENGINEERING
IN
ELECTRONICS AND COMMUNICATION ENGINEERING
ADHI COLLEGE OF ENGINEERING AND TECHNOLOGY
SANKARAPURAM,KANCHIPURAM 631 605.



ANNA UNIVERSITY,CHENNAI 600 025.



**ADHI COLLEGE OF ENGINEERING AND TECHNOLOGY
SANKARAPURAM,KANCHIPURAM 631 605.**



INTERNAL MENTOR:

MS.R.VITHYA

Assistant Professor

Department of Electronics and Communication Engineering
Adhi College of Engineering and Technology,
Kanchipuram-631 605.

INDUSTRY MENTOR

MS.NAVYA

IBM

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ABSTRACT

- In During the COVID 19 crisis, the requirement of plasma became a high priority and the donor count has become low.
- 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.

INTRODUCTION

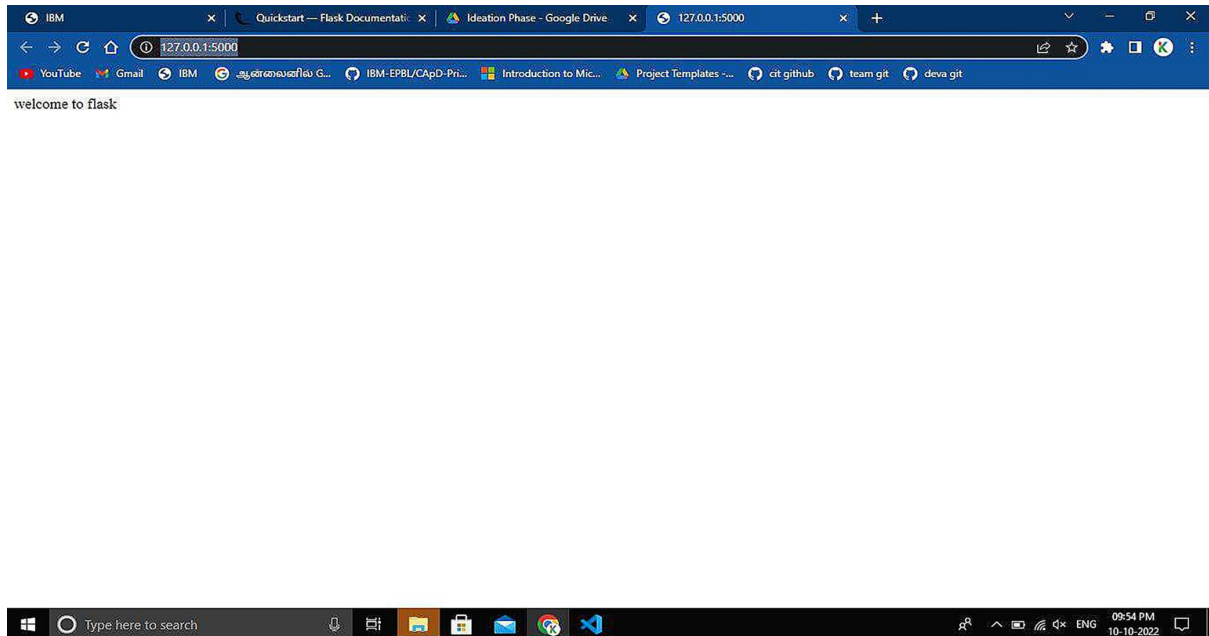
Recent researches show that many people are willing to help someone in need through money, blood and plasma donation, mother's milk donation etc., but they find it difficult to identify and approach the needy people who are not aware of technological innovations, including the use of social media.

OBJECTIVES

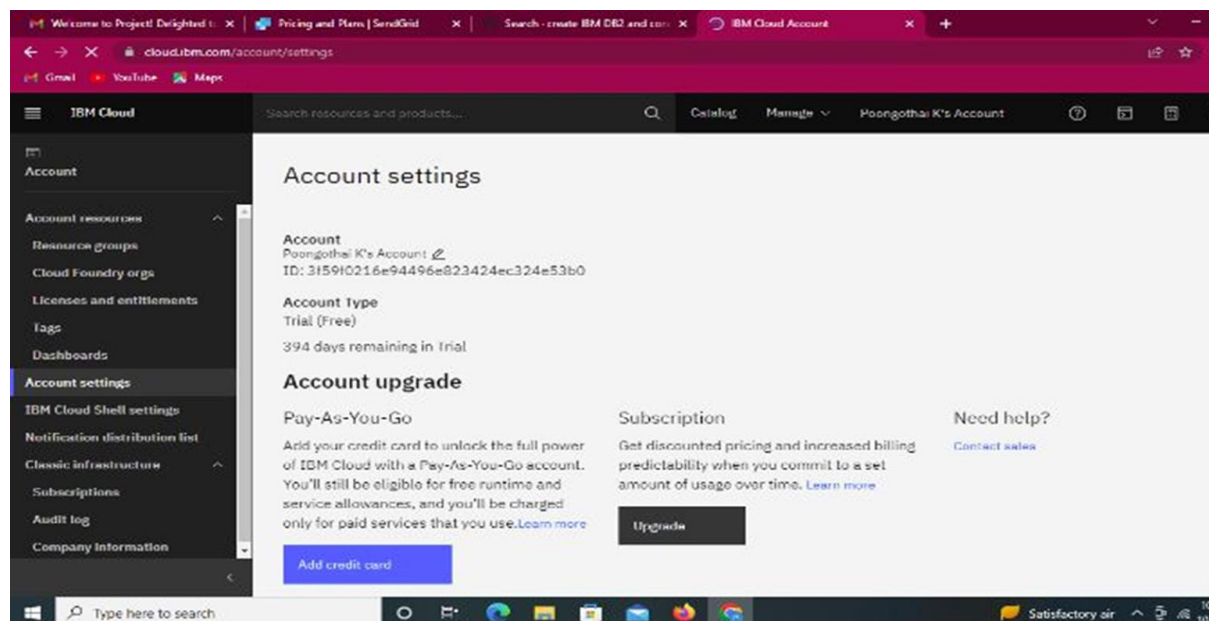
- To develop an application which all act as a helping hand for the patient who was in need of the plasma.
- The main objectives of the proposed solution is to create database to store the donor details and to notify them upon receiving request from patient.
- To develop application which having great responsive user interaction.
- To create a user-friendly application for saving the lives which are in the danger .
- To increase the plasma donors using by minimizing the procedures of plasma donors.

SETTING UP APPLICATION ENVIRONMENT

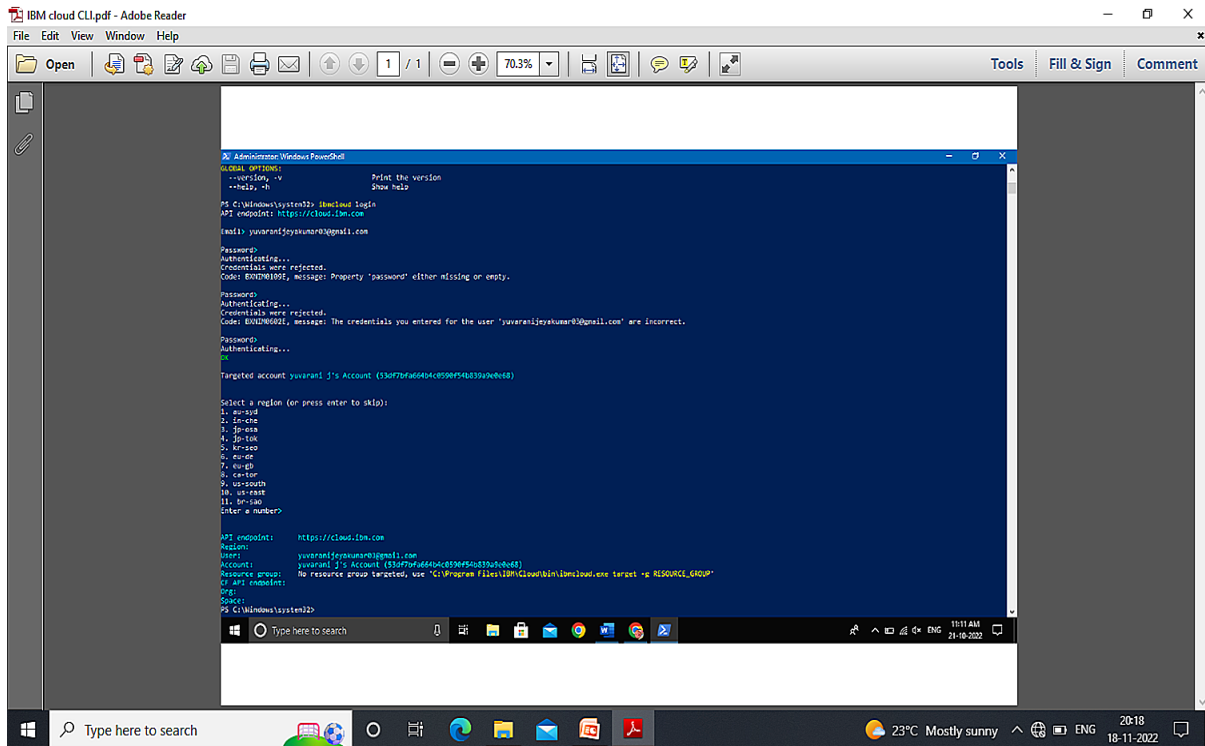
3.1 FLASK PROJECT



3.2 IBM CLOUD ACCOUNT



3.3 IBM CLOUD CLI



```
PS C:\Windows\system32> ibmcloud --version
Print the version
--version -v
--help -h

PS C:\Windows\system32> ibmcloud login
API endpoint: https://cloud.ibm.com
Email: yuvansijayakumar@gmail.com

Password:
Authenticating...
Credentials were rejected.
Code: E0127009F, message: Property 'password' either missing or empty.

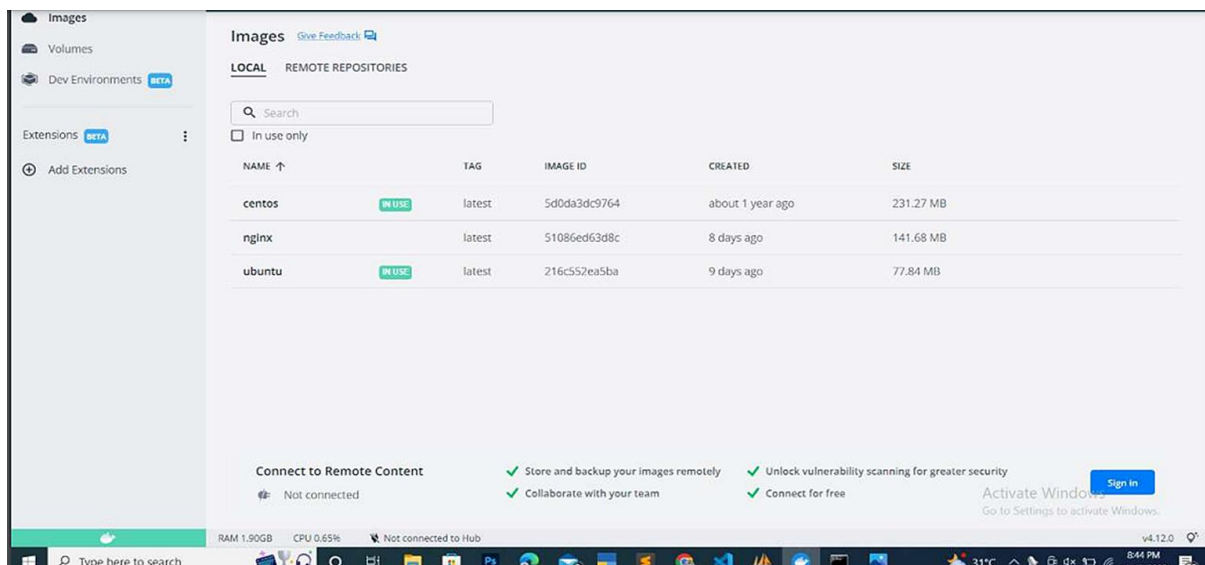
Password:
Authenticating...
Credentials were rejected.
Code: E01270002, message: The credentials you entered for the user 'yuvansijayakumar@gmail.com' are incorrect.

Password:
Authenticating...
Targeted account yuvansijayakumar@gmail.com (3307bfa66404c899f54839a9e0e08)

Select a region (or press enter to skip):
1. eu-sud
2. eu-nor
3. eu-wes
4. eu-sou
5. eu-nor
6. eu-sou
7. eu-sou
8. eu-sou
9. eu-sou
10. eu-sou
11. eu-sou
Enter a number>

API endpoint: https://cloud.ibm.com
Region: us-south
User: yuvansijayakumar@gmail.com
Account: yuvansijayakumar@gmail.com (3307bfa66404c899f54839a9e0e08)
Resource group: No resource group targeted, use 'C:\Program Files\IBM\Cloud\bin\ibmcloud.exe target -g RESOURCE_GROUP'
PS C:\Windows\system32>
```

3.4 DOCKER CLI INSTALLATION



3.5 CREATE AN ACCOUNT IN SENDGRID

The screenshot shows a web browser window with the URL `app.sendgrid.com/guide`. The page is titled "Welcome, POONGOTHAI!" and includes a navigation sidebar on the left with links to Dashboard, Email API, Marketing, Design Library, Stats, Activity, Suppressions, and Settings. The main content area features a blue banner that reads "Send your first emails with Twilio SendGrid". Below this, a section titled "Create a sender identity" explains that a sender identity is the "from" email address and provides instructions on how to create one. A blue button labeled "Create a Single Sender" is visible, along with a link to "Authenticate a domain instead". An illustration of two people running is shown on the right side of the page. The browser's address bar shows the URL, and the Windows taskbar at the bottom displays the date and time as 20:21 on 18-11-2022.

sendgrid.pdf - Adobe Reader

File Edit View Window Help

Open 1 / 1 143% Tools Fill & Sign Comment

Welcome to Project! Delight: X IBM SendGrid Calc/calc/calc/_pycache_ IBM Cloud Account

app.sendgrid.com/guide

Gmail YouTube Maps

POONGOTHAI Kan

Dashboard

Email API

Marketing

Design Library

Stats

Activity

Suppressions

Settings

Welcome, POONGOTHAI!

To get up and running quickly, please follow the steps outlined below.

Send your first emails with Twilio SendGrid

Create a sender identity

Before sending email, you'll need to create a sender identity. There are two ways to do this, but we recommend creating a Single Sender to get set up quickly and test your email integration.

Create a Single Sender Authenticate a domain instead

Your sender identity is the "from" email address your recipients will see in their inbox. [Learn more](#) about this.

Your Business <jane.doe@your_business.com>


23°C Mostly sunny 20:21 18-11-2022

4.IDEATION PHASE

4.1 BRAINSTROM

STEP 1:

Template



Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

⌚ 10 minutes to prepare
⌚ 1 hour to collaborate
👤 2-8 people recommended

Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

⌚ 10 minutes

Team gathering

Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

Set the goal

Think about the problem you'll be focusing on solving in the brainstorming session.

Learn how to use the facilitation tools

Use the Facilitation Superpowers to run a happy and productive session.

[Open article](#)

1 Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

⌚ 5 minutes

problem statement

to propose an application where the blood banks can timely update the blood stock availability and donor and register themselves to donor and user can find blood availability near by him/her

Key rules of brainstorming

To run an smooth and productive session

🗣️ Stay in topic

👂 Defer judgment

🗣️ Go for volume

💡 Encourage wild ideas

👂 Listen to others

👁️ If possible, be visual

2 Brainstorm

Write down any ideas that come to mind that address your problem statement.

⌚ 10 minutes

Problem 1

ANALYTIC DESIGN

USER SECURITY

PERSONALIZATION

REQUEST OPTION

EMERGENCY

PROTECTIVE

Problem 2

PROBLEM PROBLEM

FAST PROFILE

CONTACT OPTION

USER PROBLEM

SEARCH PROBLEM

USER PROBLEM

Problem 3

FAST PROFILE OF BLOOD

ADVANTAGE AND REQUEST THE APP

ADD TO REACH RURAL PLACES

PROBLEM

GPS OPTION

CONNECTED THROUGH SOCIAL MEDIA

Problem 4

FAST PROFILE OF BLOOD

FAST PROFILE

ACCEPT OPTION

PROBLEM

PROBLEM

PROBLEM

Tip

You can select a sticky note and for the second (or third or fourth) to start drawing

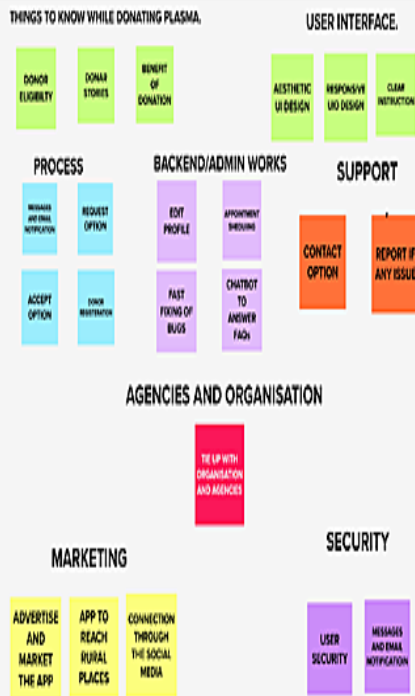
STEP 2:

3

Group Ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

20 minutes

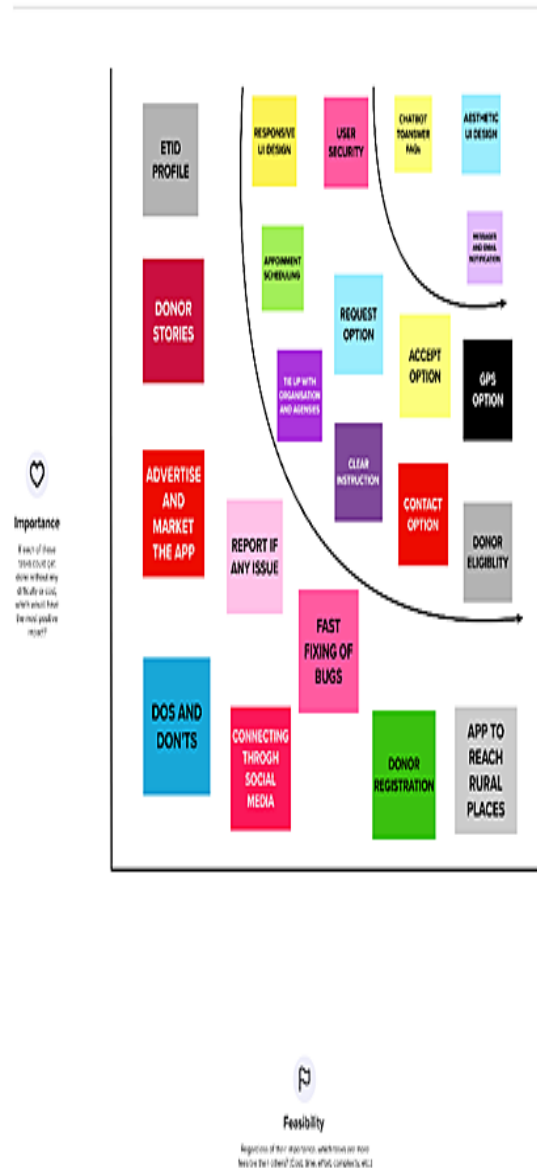


4

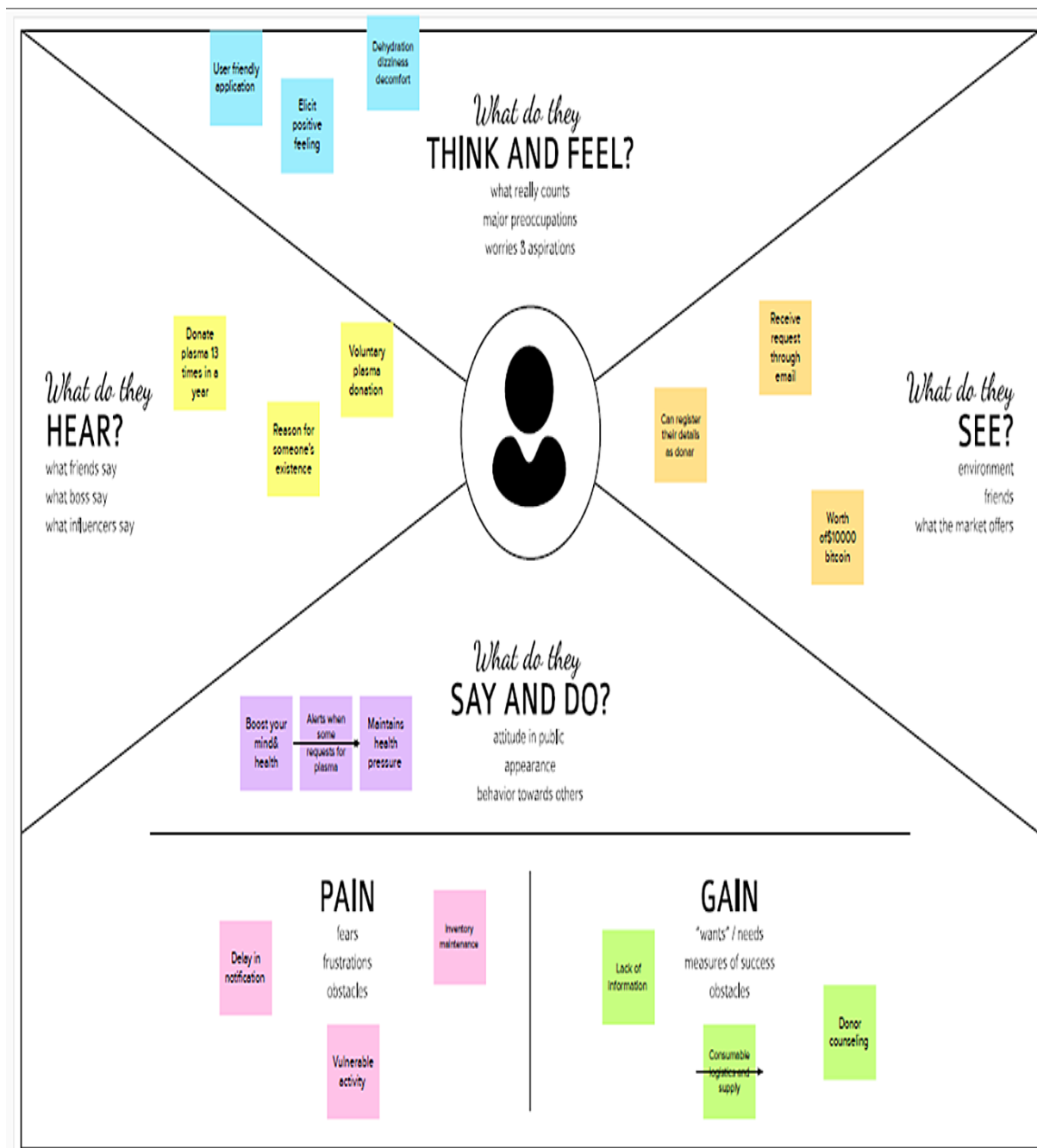
Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

20 minutes



4.2 EMPATHY MAP



4.3 LITERATURE SURVEY

YEAR	AUTHOR	TITLE	DESCRIPTION
2022	Devi Guntoju, Tejaswini Jalli ,Sreeja Uppala, Sanjay Malliseti	Instant plasma donor recipient connector web application	This system is closed for general plasma donation and mainly focused on COVID-19 patients for plasma donation
2021	Periyannayagi, A Manikandan, M Muthukrishnan, and M Ramakrishnan	Bdoor App-Blood Donation Application using Android Studio	The android mobile user will not be able to insert or view details if the server goes down. Thus, there is a disadvantage of single point failure
2020	Rishab Chakrabarti, Asha Darade, Neha Jadhav,	Lifesaver E-Blood Donation App using cloud	The user given details are maintained unverified.

5. PROJECT DESIGN PHASE-I

5.1 PROPOSED SOLUTION

1.PROBLEM STATEMENT

- Plasma is used for the treatment of many serious health problems.
- Saving the contributor data and telling 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.

2.IDEA/SOLUTION DESCRIPTIONS

- This proposed system aims at connecting the donors & the patients by an online application.
- Application contains two roles:
 - Admin
 - 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 send to the user. After successful registration user will be directed to home page. They will be asked to press whether they will be donor or receiver.
- After filling the donation form he/she will 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.
- Admin:
 - Admin can login using their credentials. Admin can add volunteers.

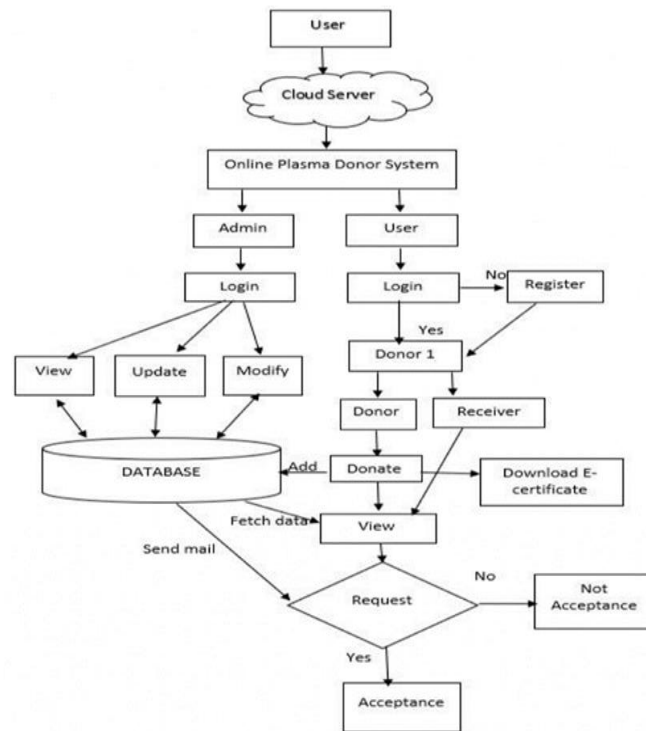
3.SCALABILITY OF THE SOLUTION:

- This application helps users to find plasma donors by sitting in home itself instead of searching donors everywhere.
- When there is a 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.

5.2 PROBLEM SOLUTION FIT

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS <ul style="list-style-type: none"> Donors who want to donate their plasma. Seekers or needy who are in the need of plasma. 	6. CUSTOMER CONSTRAINTS CC <ul style="list-style-type: none"> Easy finding of donors Availability of plasma types Donors within their nearest location 	5. AVAILABLE SOLUTIONS AS <ul style="list-style-type: none"> Asking their friends and family for donating their plasma Posting the situation in the social media Contacting nearest blood banks and NGO's 	Explore AS, differentiate
	2. JOBS-TO-BE-DONE / PROBLEMS J&P <ul style="list-style-type: none"> Helps the needy or plasma seeker to find the donors available to their nearest location. Provide a platform to volunteer donors to help the needy. Lack of information about the donors. The details of donors to be maintained properly. 	9. PROBLEM ROOT CAUSE RC <ul style="list-style-type: none"> 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. 	7. BEHAVIOUR BE <ul style="list-style-type: none"> Finding the available donors within their nearest location. Volunteer donors come forward to help the needy. 	
Identify strong TR & EM	3. TRIGGERS TR <ul style="list-style-type: none"> Seeing the donors count become low. Emergency situation of plasma need. 	10. YOUR SOLUTION SL <p>In regard to the problem faced, a web-based application is to be built which would take the donor details, store them and inform them upon a request.</p>	8. CHANNELS of BEHAVIOUR CH <ul style="list-style-type: none"> Register their information with the application Making plasma request via the application 	Extract online & offline CH of BE
	4. EMOTIONS: BEFORE / AFTER EM <p>Confused, Anxious, Exhausted, Helpless, Scared, Relaxed, Motivated, Blessed</p>		6.2 OFFLINE <ul style="list-style-type: none"> Arranging the required medical infrastructure for the donation process. Donating the plasma. 	

5.3 SOLUTION ARCHITECTURE



6. PROJECT DESIGN PHASE-II

6.1 CUSTOMER JOURNEY

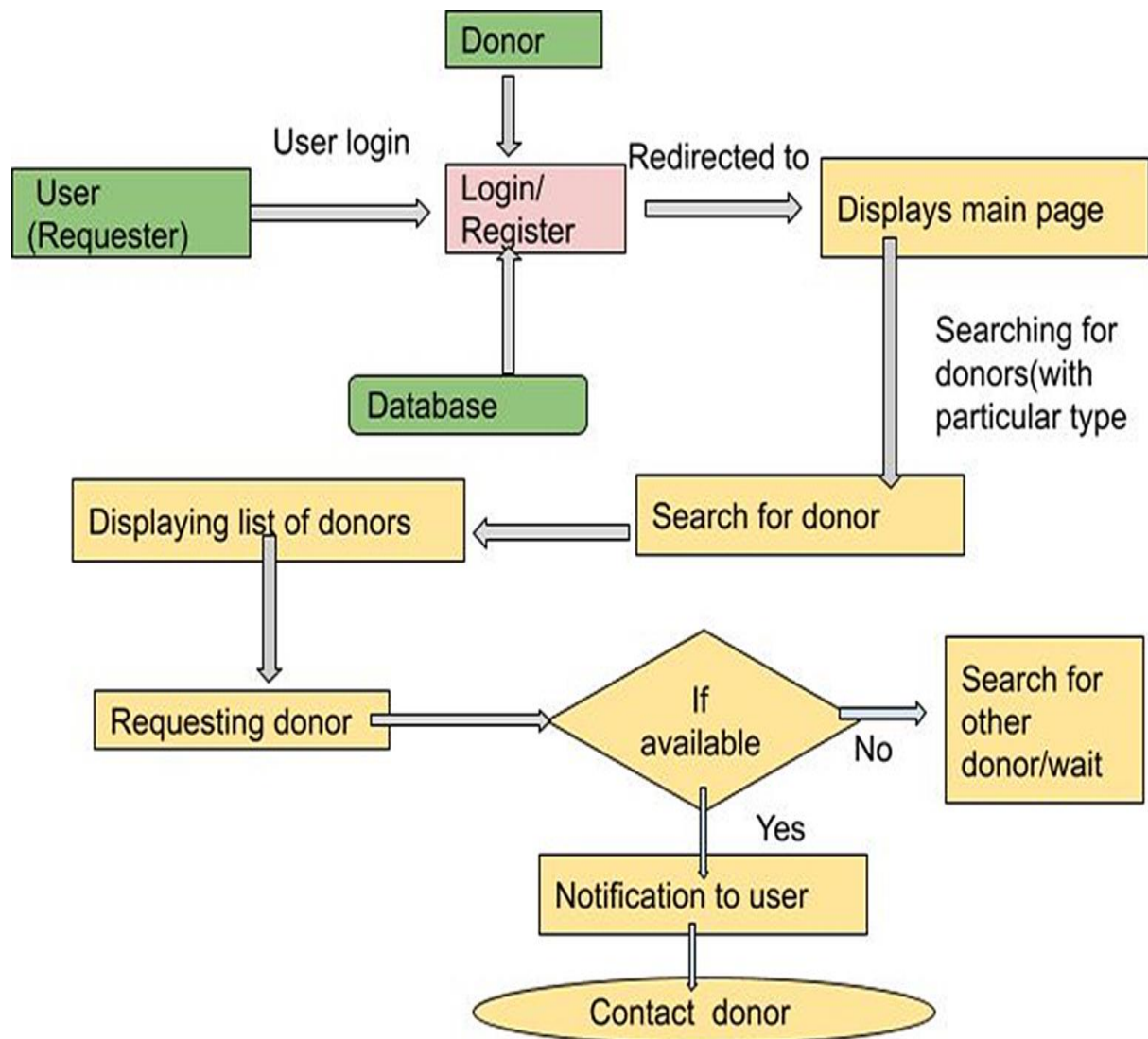
Journey Steps Which step of the experience are you describing?	Discovery Why do they even start the journey?	Onboarding and First Use How can they feel successful?	Sharing Why would they invite others?
Actions What does the customer do? What information do they look for? What is their context?	Starts to register for plasma donation Checks the availability of plasma donors Knows about plasma donation	Search for plasma donors by blood groups Explore the web application Finds nearby Plasma Donation Centre.	Fast fixing of bugs Explore the aesthetic UI Design Clear instruction
Needs and Pains What does the customer want to achieve or avoid? <i>Tip: Reduce ambiguity, e.g. by using the first person narrator.</i>	Fear of donating plasma Fear of data leakage	Helpful to get proper information Less man power Donors can avoid last minute stress and tension.	Helpful for Donors, Seekers and Donation centres. Safer and user-friendly.
Touchpoint What part of the service do they interact with?	Customer Feedback Provides contact option and news of healthy lifestyle by certified medical practitioners.	Donors will get a date and time slot assigned for donation in a nearby centre. There will be no bias among the available donors. As soon as the request is made, the list of available donors is shown.	Simple and clear Interface. Open source and chatbot for answering FAQs.
Customer Feeling What is the customer feeling? <i>Tip: Use the emoji app to express more emotions</i>			
Backstage			
Opportunities What could we improve or introduce?	Make android and IOS application	Try to improve our accuracy	Try to increase our process speed.
Process ownership Who is in the lead on this?	User & Developer	User & Developer	User & Admin

miro

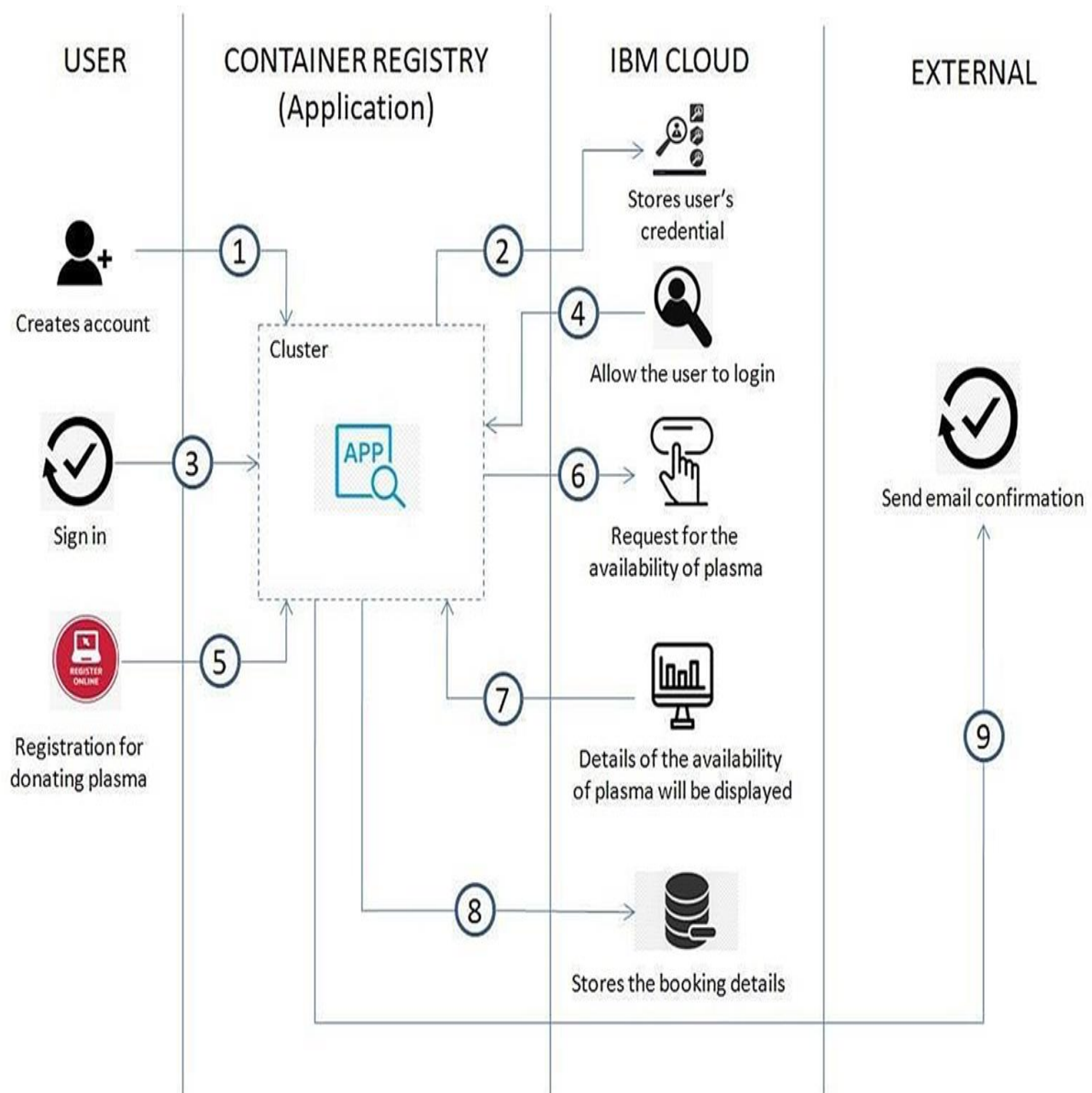
6.2 FUNCTIONAL REQUIREMENT

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-8	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.

6.3 DATA FLOW DIAGRAMS



6.4 TECHNOLOGY ARCHITECTURE



7. PROJECT PLANNING PHASE

7.1 MILESTONE & ACTIVITY

•PREREQUISITES:

- Python IDLE
- Flask
- IBM Cloud
- Docker

1.IDEATION PHASE

2.PROJECT DESIGN PHASE 1

3.PROJECT DESIGN P HASE 2

4.SETTING UP APPLICATION ENVIRONMENT

5.IMPLEMENTING WEB APPLICATIONS

6.INTEGRATING SENDGRID SERVIC

7.DEPLOYMENT OF APP IN IBM CLOUD

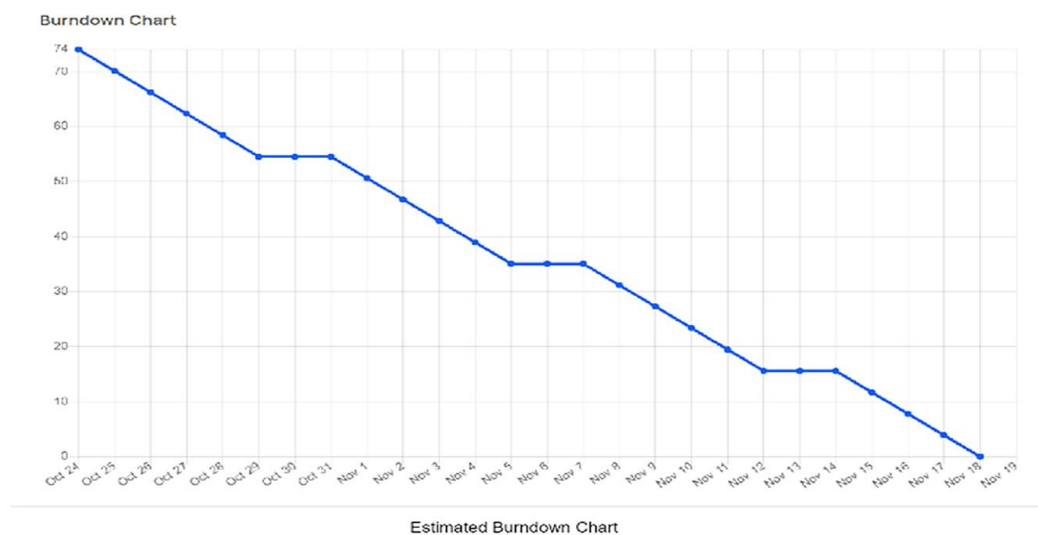
8.PROJECT PLANNING PHASE

9.PROJECT DEVELOPMENT PHASE

7.2 SPRINT DELIVERY PLAN

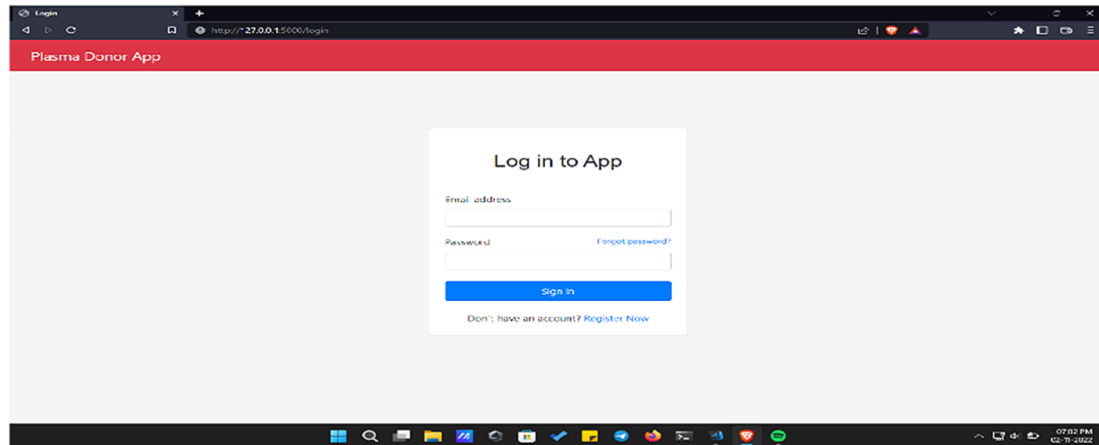
Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)	Average Velocity (AV) = Sprint duration / velocity
Sprint-1	18	6 Days	24 Oct 2022	29 Oct 2022	18	29 Oct 2022	3
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022	3.33
Sprint-3	18	6 Days	07 Nov 2022	12 Nov 2022	18	12 Nov 2022	3
Sprint-4	18	6 Days	14 Nov 2022	19 Nov 2022	18	19 Nov 2022	3

Burndown vs Estimated Burndown



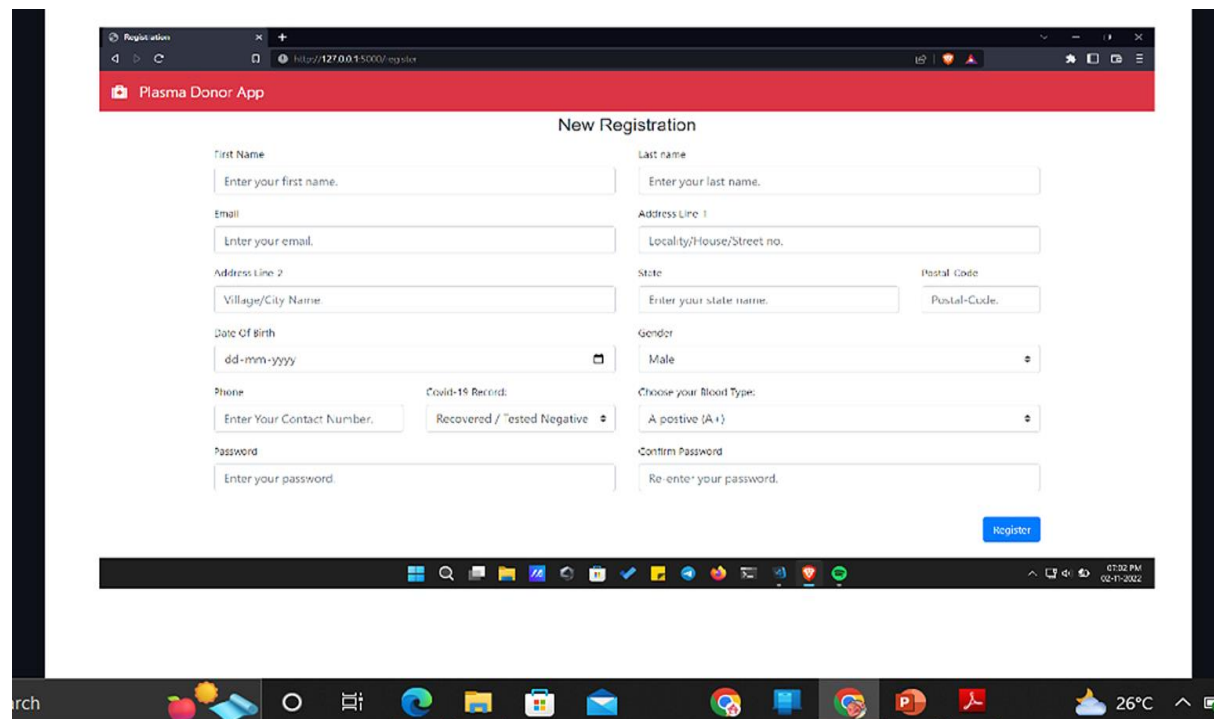
11.PROJECT PHASE DEVELOPMENT

Log in Page of the Web Application by Sprint -1



The screenshot shows a web browser window with the URL <http://127.0.0.1:5000/login>. The page has a red header bar with the text "Plasma Donor App". The main content area is light gray and contains a white box titled "Log in to App". Inside this box, there are two input fields: "Email address" and "Password". Below the "Password" field is a link that says "Forgot password?". At the bottom of the box is a blue button labeled "Sign in". Below the box, there is a link that says "Don't have an account? Register Now". The browser's taskbar at the bottom shows various application icons and the system clock indicating 07:02 PM on 02-11-2022.

11.2 SPRINT 2



The screenshot shows a web browser window with the URL <http://127.0.0.1:5000/register>. The page has a red header bar with the text "Plasma Donor App". The main content area is white and contains a form titled "New Registration". The form has several fields: "First Name" (with placeholder "Enter your first name."), "Last name" (with placeholder "Enter your last name."), "Email" (with placeholder "Enter your email."), "Address Line 1" (with placeholder "Locality/House/Street no."), "Address Line 2" (with placeholder "Village/City Name."), "State" (with placeholder "Enter your state name."), "Postal Code" (with placeholder "Postal-Code."), "Date Of Birth" (with placeholder "dd-mm-yyyy" and a calendar icon), "Gender" (with a dropdown menu showing "Male"), "Phone" (with placeholder "Enter Your Contact Number."), "Covid-19 Record" (with a dropdown menu showing "Recovered / Tested Negative"), "Choose your Blood Type" (with a dropdown menu showing "A positive (A+)"), "Password" (with placeholder "Enter your password."), and "Confirm Password" (with placeholder "Re-enter your password."). At the bottom right of the form is a blue button labeled "Register". The browser's taskbar at the bottom shows various application icons and the system clock indicating 07:02 PM on 02-11-2022.

11.3. SPRINT 3

The patients who seeking the plasma donation can able to make their request by simply submitting the below form.

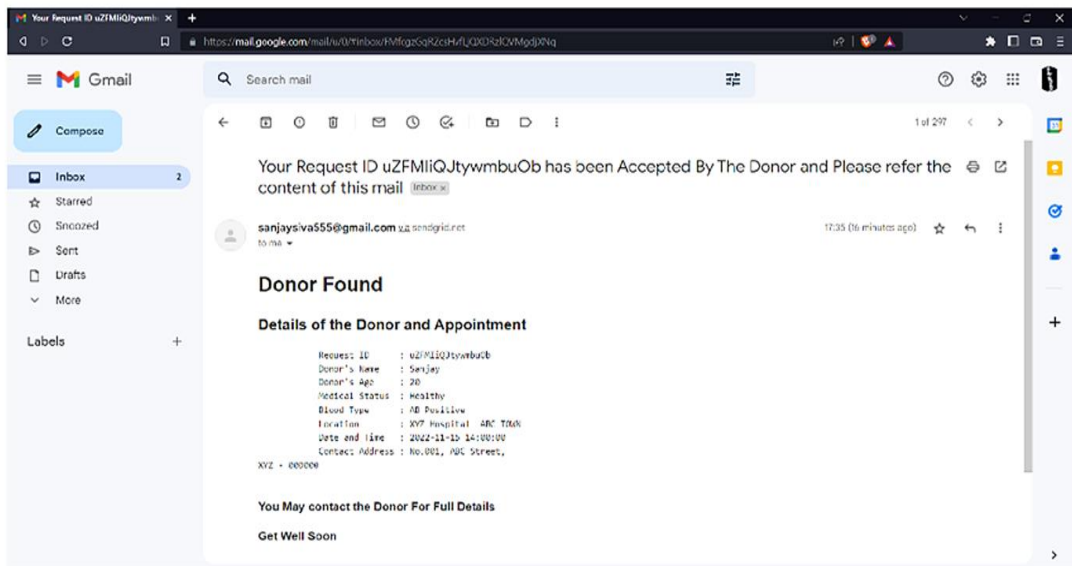
The screenshot shows a web browser window with the URL <http://127.0.0.1:3000/request>. The page title is 'Plasma Donor App'. The main content is a 'Request Form' with the following fields:

- Recipient Name:
- Enter Recipient Full Name:
- Enter Recipient Age:
- Email address:
- Enter Recipient's email address:
- Phone No:
- Enter 10 Digit Phone Number:
- Choose Blood type:
- Location:
- Enter Area Name (eg. City/Town Name):
- Postal Code:
- Enter 6 digit postal code:
- Enter your contact address:

A blue 'Submit' button is located at the bottom right of the form.

11.4. SPRINT 4

The content of the mail includes all the information which are entered by the donor and enough to communicate with the donor.



12. CONSLUTION

In recent days, it is noticed the increase in blood request posts on social media such as Facebook, Twitter, and Instagram. Interestingly there are many people across the world interested in donating plasma when there is a need, but those donors don't have an access to know about the plasma donation requests in their local area. This is because that there is no platform to connect local plasma donors with patients.

13.REFERENCE

- [1] The Optimization of Blood Donor Information and Management System by Technopedia P. Priya¹, V. Saranya², S. Shabana³, Kavitha Subramani⁴
•Department of Computer Science and Engineering,
•Panimalar Engineering College, Chennai,
•India^{1,2,3,4}
- [2] MBB: A Life Saving Application Narendra Gupta¹, Ramakant Gawande² and Nikhil thengadi³ ^{1, 2, 3}
•Final Year, CSE Dept., JDIET, Yavatmal, India.
- [3] AN ANDROID APPLICATION FOR VOLUNTEER BLOOD DONORS by Sultan Turhan.

APPENDIX

- **Source Code (GitHub) link:**

<https://github.com/IBM-EPBL/IBM-Project-31461-1660200656/tree/main/Final-Deliverables>

