PLASMA DONOR APPLICATION

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1. INTRODUCTION

1.1 PROJECT OVERVIEW

COVID-19 catastrophe is affecting the entire planet, and there is still no vaccination. However, there is another proven method by which we might aid COVID19 victims or lessen mortality: by donating recovered patients' plasma. Plasma therapy is an experimental method to treat COVID-19 positive patients and aid in their quicker recovery in the absence of an approved antiviral treatment regimen for a fatal COVID19 infection. The blood bank may see who has uploaded the certificate and request plasma from the donor after the donor uploads their COVID-19 certificate into the recommendation system, which also allows the hospital to register, log in, and search for and get plasma.

1.2 PURPOSE

Our project's major purpose is to create a web application that can aid in lowering mortality or assisting individuals in need of plasma donations. A helping hand would be provided by saving the donor information and notifying the list of current donors about the needy.

2. LITERATURE SURVEY

2.1 EXISTING PROBLEM

As we all know, the conventional methods of finding plasma require one to independently confirm the information by consulting hospital records and contacting recovered donors, who occasionally may not be present at home and may relocate. The health of those who are ill in this kind of situation deteriorates drastically. Finding plasma is not regarded as a quick process as a result.

2.2 REFERENCES:

[1] Shah, D. Shah, D. Shah, D. Chordiya, N. Doshi and R. Dwivedi, "Blood Bank Management and Inventory Control Database Management System", Procedia Computer Science, vol. 198, pp. 404-409, 2022.

[2] A. Ali, I. Jahan, A. Islam and S. Parvez, "Blood donation management system", American Journal of Engineering Research, vol. 4, no. 6, pp. 123-136, 2015.

[3] G. Y. Izadeen, A. M. Abdulazeez, D. Q. Zeebaree, D. A. Hasan and F. Y. Ahmed, "Data Integration Using Data Mining and SMS Reminder for Automation of Blood Donation", 2021 IEEE International Conference on Automatic Control & Intelligent Systems (I2CACIS), pp. 299- 304, 2021, June.

[4] K. S. Wagh, S. Mangrulkar, T. Nagawade, A. Ingewar and R. Pende, "RED DROP: Optimisation of Blood Donor Using Genetic Algorithm", 2019.

[5] M. N. Noorshidha and G. Aghila, "Convalescent Plasma Therapy: Data driven approach for finding the Best Plasma Donors," 2021 International Conference on Artificial Intelligence and Smart Systems (ICAIS), 2021, pp. 432-439, doi: 10.1109/ICAIS50930.2021.9396012.

[6] GJ. Gorse, MM. Donovan and GB. Patel, "Antibodies to coronaviruses are higher in older compared with younger adults and binding antibodies are more sensitive than neutralizing antibodies in identifying coronavirus-associated illnesses", Journal of medical virology, vol. 92, no. 5, pp. 512-517, May 2020.

[7] C. Ferri, JH. Orallo and R. Modroiu, "An experimental comparison of performance measures for classification", Pattern Recognit. Lett, vol. 30, pp. 27-38, 2020.

2.2 SURVEY

The major contribution of Human Sciences in the understanding of the whole blood donation behaviour has been through the study of individuals' motivations and deterrents to donate. However, if whole blood donation has been very widely studied in the last sixty years, we still know very little about plasma donation in voluntary non-remunerated environments.

Yet, the need for plasma-derived products has been strongly increasing for some years, and blood collection agencies have to adapt if they want to meet this demand. In the initial period of the outbreak, there was no proper channel for inviting plasma donors.

As the cases went high, the demand for plasma grew, and very few recovered patients were willing to donate. An appropriate and efficient method is necessary for not just finding donors but the most efficient one. Studies and research show that the level of antibodies is influenced by many donor-related factors, such as the severity of the disease, age, and many more. It is not easy to set a rule-based system for the prediction of antibody level. Hence, the best and feasible way is to use data-driven methods.

Aman Shah et al. (2021) described a technique for administering a blood bank database using a Microsoft Structured Query Language Server to assist blood bank supervisors in delivering better service to blood donors while minimizing waste. The method aims to efficiently act as an intermediary between donor, blood bank, and receiver by constructing an adequate database [1].

Devanjan K. Srivastava et al. (2021) presented a dynamic website based on the Blood Donation Management System, with the overall system comprised of a combination of webbased user interfaces and SQLite databases. Anyone with a web browser and an internet connection may access a Django-powered website from any location. The suggested system would allow people to register as blood donors and make themselves available anytime their blood type is needed, as well as a search feature to find others who are willing to donate. After a donor registers, their health-related information is updated in the blood management system database, which is accessible to everyone [2].

Guhdar Youcif Izadeen et al. (2021) proposed a data-integration-based blood bank supervision approach that integrates SMS Reminders, which provide emergency support for people who don't even have internet connectivity.

The database maintains blood banks that include all of the appropriate data regarding applicants and recipients [3] KS Wagh et al. (2019) presented a dynamic website with a mobile application based on blood donor optimization utilizing chromosomal coding, the fitness function, and the genetic operator, which provides a method for interaction between the patient and the blood donor to make blood more accessible.

The genetic algorithm is used to optimize the donor based on the closest location and to choose the fittest donor, which is based on the parent-offspring paradigm, and some other constraints are imposed on the donor that must be satisfied by the donor[4].

Aderonke Anthonia Kayode (2019) suggested a web- and Android-based blood bank information retrieval system in which a web app updates publicly available blood info and a mobile software search for blood supply among enrolled blood banks. The system includes a component that allows registered blood banks to use the app to submit a request for blood donation to enrolled blood donors.

The blood bank information system was developed in response to a need to facilitate locating blood supplies or an interested donor easier and more time-efficient [5].

Lilik et al. (2018) created an E-Blood Bank App for Organizing and Ordering Blood Donations, which provides real-time bloodstock information and links it to the Blood Transfusion Unit.

Akkas et al. (2015) proposed an interactive Blood Donation Management System, which is a web application with an accompanying mobile application that is intended to serve as a communication medium between patients and blood donors using Visual Studio and My SQL techniques. The mobile application constantly updates a donor's location because Google Maps is integrated with this application to determine a donor's exact location.

The donor could register via email or mobile number, and if there is a request, he/she may receive a notification on the phone near his/her location as suggested by Google Maps [6] Ming Jiang et al. (2005) developed a blood information management system based on Radio Frequency Identification, which provides a vital service to medical institutions by offering high-quality blood via a systemized blood management process.
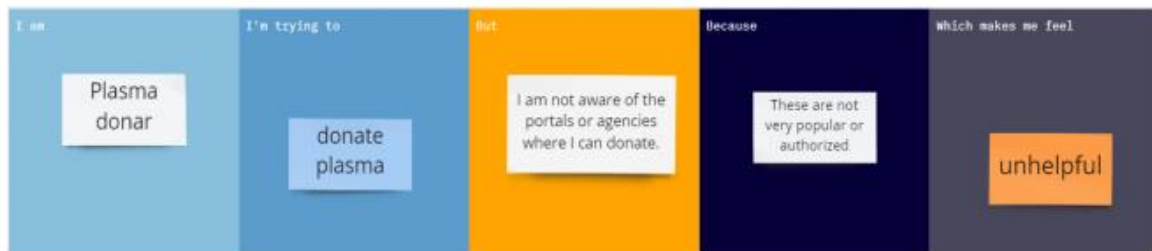
Radio Frequency Identification (RFID) and Fingerprint Identification are used to reduce human errors, and also a fingerprint sensor is used to improve the credibility of the donor identification process.

The traditional method of identifying blood donors is unreliable because the barcode on the blood bag contains less information and cannot be reused, and the bloodmobile cannot transmit real-time data to the blood centre or the lab. The smart label was created to replace the standard blood information system's commonly used barcodes [7]. We propose a cloud based application that provides a real-time solution to the problem of plasma donation.

2.3 PROBLEM STATEMENT DEFINITION

The need for plasma surged significantly during the COVID 19 crisis since there were no vaccines available to treat the infected patients. Finding a plasma donor in such a case was extremely difficult, and determining which donors are eligible to donate plasma as well as whether they had previously been infected and have recovered was a difficult effort. We are putting forth a concept in which we will connect the plasma donor and requester in a novel approach in order to create an application that is user-friendly and has more features for better servicing the public.
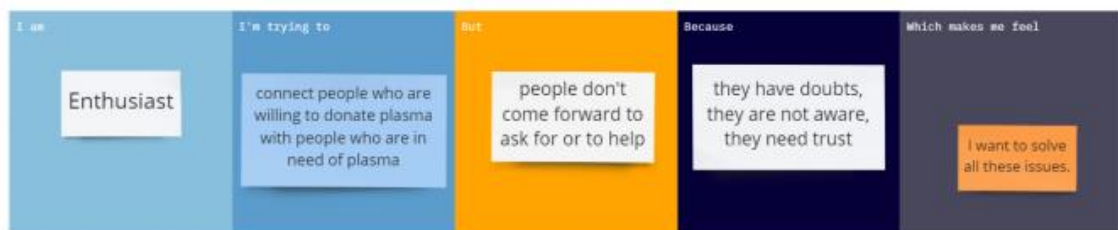
PROBLEM STATEMENT 1:

I am	I'm trying to	But	Because	Which makes me feel
Plasma donar	donate plasma	I am not aware of the portals or agencies where I can donate.	These are not very popular or authorized.	unhelpful

PROBLEM STATEMENT 2:

I am	I'm trying to	But	Because	Which makes me feel
Plasma recipient	get plasma	I am not known of the donors who are willing to donate	there are no common means of communication between the donar and recipient	needy

PROBLEM STATEMENT 3:

I am	I'm trying to	But	Because	Which makes me feel
Enthusiast	connect people who are willing to donate plasma with people who are in need of plasma	people don't come forward to ask for or to help	they have doubts, they are not aware, they need trust	I want to solve all these issues.

PROBLEM STATEMENT 4:

I am	I'm trying to	Because	but	Which makes me feel
Plasma donar	donate plasma to the people who are in need	donating plasma saves many lives	I am not able to find a legit place to donate	dependant

3. IDEATION & PROPOSED SOLUTION

3.1 EMPATHY MAP CANVAS
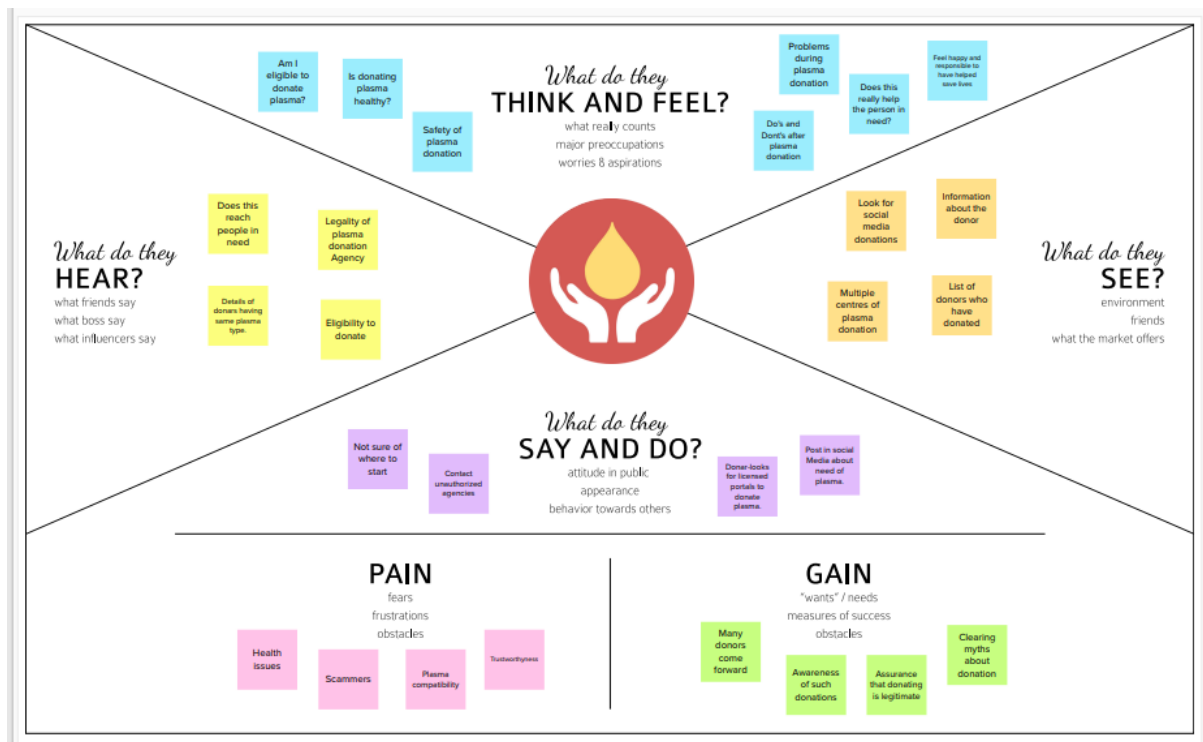
3.2 PROPOSED SOLUTION

S.No.	Parameter	Description
	Problem Statement (Problem to be solved)	During the Covid 19 crisis, the requirement for plasma emerged high. People who require plasma don't know where to enquire. People who are willing to donate don't know the people in need. In regard to this problem faced, an application is to be built, which will connect the donor and the recipient.
	Idea / Solution description	A Plasma Donor Application will answer our problem statement and sort most of our problems. The donor's data will be collected and stored in the database. The recipient who is in need can register for a requirement of plasma Once registration is complete, an email will be sent to all donor of the same plasma type. Statistics are displayed and updated often for different blood types. It includes information on the locations of the events as well as specifics about plasma donation camps. E-certificates are available.

	Novelty / Uniqueness	Plasma donation available blood group data statistics are presented in an easy-to-use graphical format. If you're not sure if Plasma is available near you, you can request it. Users will soon receive an email notification if Plasma is less available or more widely available. If you have completed your plasma donor application and would like to donate your plasma, you can make an appointment. If you complete your session on time, you will receive an electronic certificate of your plasma donation. These are the novel components included.
	Social Impact / Customer Satisfaction	The customer gets the donor as quick as possible so that we can possibly save the lives of people.
	Business Model (Revenue Model)	There is a free application available for plasma donors. It is easily accessible and available to everyone. During the COVID 19 crisis, there was a large surge in the need for plasma, however there aren't many donors available. Finally, developing an app in collaboration with the government can help those in need of plasma. No revenue is generated because plasma donor application is considered as service for the society.
	Scalability of the Solution	In terms of scalability, this software helps users locate the closest blood donation facility, determine their eligibility to donate blood, receive notifications when an urgent blood donation call comes in, and schedule a convenient appointment. By ingeniously informing the appropriate donors of the need for blood donations, it will be simpler to find a nearby acceptable donor at the appropriate moment.

3.3 PROBLEM SOLUTION FIT

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) **CS** Who is your customer? i.e. working parents of 0-5 y.o. kids • Users of age between 18 and 65 • People willing to donate plasma • Individuals in need of plasma	6. CUSTOMER CONSTRAINTS **CC** What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices. • Network connectivity. • Shortage of plasma. • Only registered users can donate and get information related to plasma	5. AVAILABLE SOLUTIONS **AS** Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking	Explore AS, differentiate
Focus on J&P, tap into BE, understand RC	2. JOBS-TO-BE-DONE / PROBLEMS **J&P** Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides. • The customer will be able to get the donor details and availability upon immediate request without any delays - CHATBOTS • The statistics should be updated often. • Create awareness of the Do's and Dont's, before and after plasma	9. PROBLEM ROOT CAUSE **RC** What is the real reason that this problem exists? What is the back story behind the need to do this job? i.e. customers have to do it because of the change in regulations. • Technological growth has not been implemented in these web applications. • Due to the pandemic, plasma donation has been reduced, therefore the downfall.	7. BEHAVIOUR **BE** What does your customer do to address the problem and get the job done? i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace). • The camps which will be conducted will help the users to clarify the doubts If the donor is not sure of the consequences they can consult the doctors in the nearby hospitals which will be suggested in the website	Focus on J&P, tap into BE, understand RC

Identify strong TR & EM	3. TRIGGERS **TR** What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news. • n case of emergencies. • Ease of access and requirement of blood type	10. YOUR SOLUTION **SL** If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour. • The user and the donor both register all relevant information. • An email message will be issued after registration is complete.	8. CHANNELS of BEHAVIOUR **CH** **8.1 ONLINE** What kind of actions do customers take online? Extract online channels from #7 • Users get their e-certificates after donating plasma Get details regarding the camps • Registering themselves to donate plasma	Identify strong TR & EM
	4. EMOTIONS: BEFORE / AFTER **EM** How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, in control - use it in your communication strategy & design. **Emotions Before** / **Emotions After** No clarity about the availability of donors for the required blood type. / The user will be able to get the required details of the donor for particular blood type. Not sure about the health issues of the donor / The customer will be able to know the medical condition of the donor, whether the donor is healthy or not? Not able to find nearest donor available / Helps in finding the nearest donor donors	The user can send a request for a blood group in need or donate plasma. 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. We have chatbots to answer all queries of the donors or users and make sure they are comfortable with the process. The page is transparent about all the tie- ups with other organisations. E-certificates will be provided for their good deed of plasma donation	**8.2 OFFLINE** What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development. • People can consult with the doctors regarding their health and eligibilty to donate plasma	

4. REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENTS

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form (WebApp) , Form, Gmail
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Certification	Presenting a certificate of appreciation and authentication to the donor post donation.
FR-4	Statistical data	The availability of plasma is given in the page as stats, which will be helpful for the users(recipient).
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 - chatbots	A virtual assistant is a software 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.

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.
NFR-6	Scalability	The application has the ability to handle growing numbers of users and load without compromising on performance and causing disruptions to user experience.

5. PROJECT DESIGN

5.1 DATA FLOW 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.

Simplified:
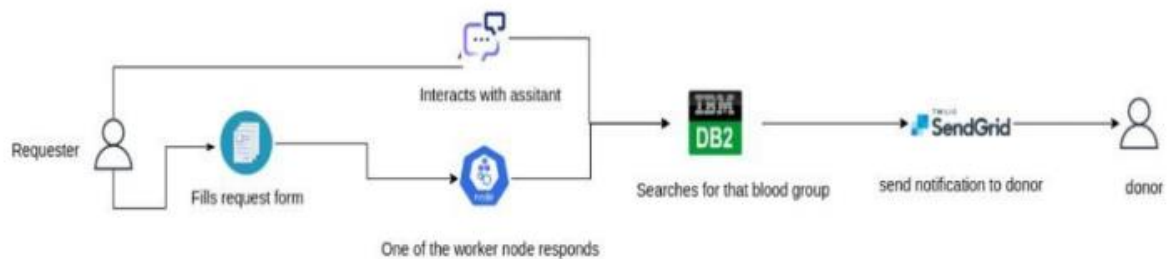
1. The user interacts with the bot or fills a form
2. One of the worker node is assigned to hadle the job
3. information about the donor is searched in the database
4. A notifcation is generated to inform the request details

5.2 DATA FLOW DIAGRAM:
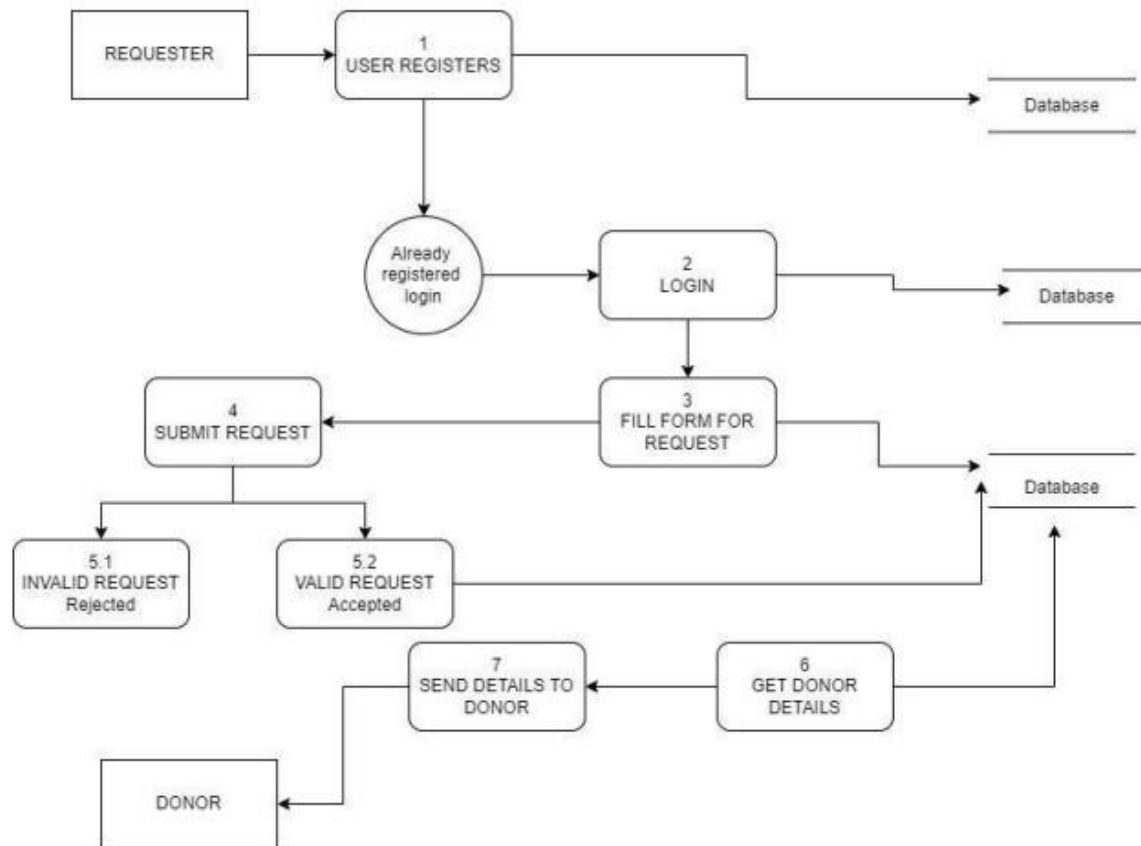
5.3 SOLUTION ARCHITECTURE

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

   • Find the best tech solution to solve existing business problems.

   • Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.

   • Define features, development phases, and solution requirements.

   • Provide specifications according to which the solution is defined, managed, and delivered.

5.4 CUSTOMER JOURNEY MAP:

5.5 TECHNOLOGICAL STACK:

Plasma Donor Application Technology Architecture
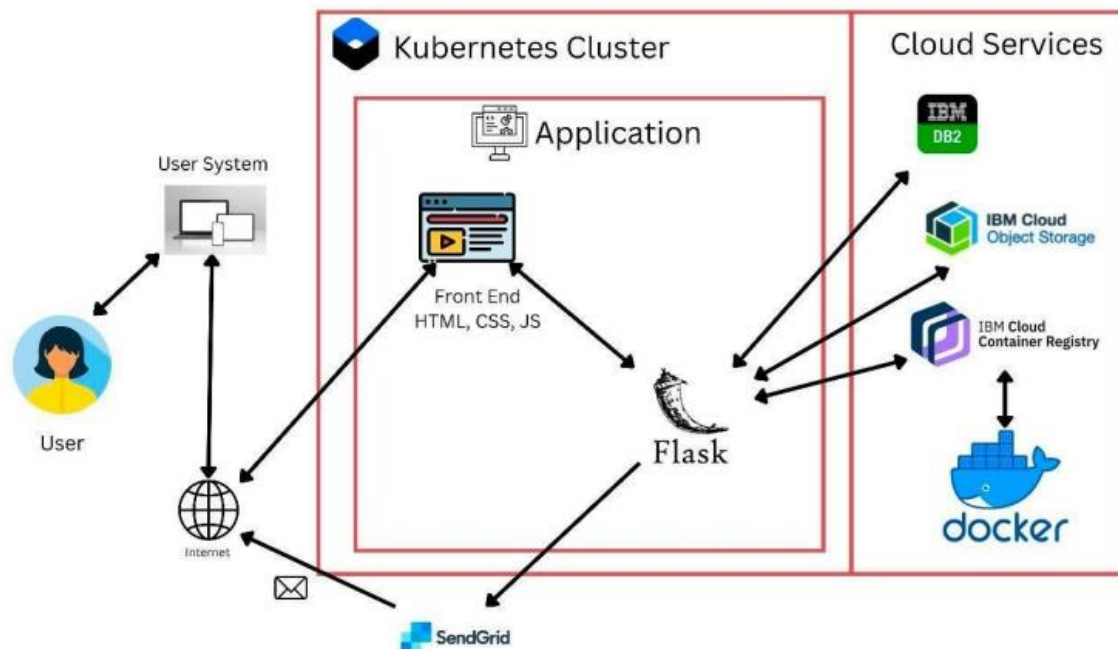
Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	For performing user onboarding functions such as Login and Dashboard	HTML, CSS, JavaScript
2.	Verifying and filtering matching donors	Database operations to get data and perform operations and give user the appropriate details	Python
3.	IBM Watson	Chatbot to enable instant help for user	Watson Assistant by IBM
4.	Database	Stores all data including donor and user information	MySQL, NoSQL.
5.	Cloud Database	Cloud is used to store all the data in the database for elasticity and security	IBM DB2, IBM Cloudant.
6.	File Storage	File storage requirements have to be met here	IBM Cloud object storage
7.	External API: To send email SendGrid	Notifying users through e-mail when required to pass critical information	SendGrid
8.	Infrastructure (Server / Cloud)	For Application Deployment in Cloud	IBM - Docker – container, Cloud Foundry, Kubernetes container

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Using flask as open source framework to deploy the backend features and basic app navigation.	Flask
2.	Security Implementations	Stable architecture with secure application services and its functionalities.	IAM Controls, SHA-256, Encryptions
3.	Scalable Architecture	Extensible architecture with 3-tier, micro -services.	IBM cloud and Flask with front end
4.	Availability	Availability maintained by use of Kubernetes and load balancers, and also with distributed servers.	IBM DB2, Docker, Kubernetes, Cloud Object storage.
5.	Performance	Efficiency of the application in use	IBM Container registry

5.6 USER STORIES:

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Donor/ Receiver/ Hospital	Registration	USN-1	As a user, I can register for the application by entering my email or mobile no, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through different SSO's.	I can register using the sso.	Low	Sprint-2
	Login	USN-4	As a user, I can log into the application by entering email & password	I can login to the dashboard.	High	Sprint-1
Receiver	Dashboard	USN-5	As a receiver, I can create request for a plasma	I can create requests	High	Sprint -1
Donor	Dashboard	USN-6	As a donor, I can check the plasma the requests posted.	I can see requests	High	Sprint -1
Administrator	Login	USN -1	As an admin, I can log in to the admin panel.	I can login to the admin panel.	High	Sprint -1
	Verification	USN - 2	As an admin , I need to verify the users and hospitals.	I can verify users	Medium	Sprint -1
	Dashboard	USN - 3	As an admin ,I can create requests and place them on priority.	I can create requests	High	Sprint -2

6. PROJECT PLANNING & SCHEDULING

6.1 SPRINT PLANNING & ESTIMATION:

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	The user can register for the application by entering my email, password, and confirming my password.	3	High	Akshara M S Ramya S Harini E R Keerthana A
Sprint-1	Email verification	USN-2	The user will receive confirmation email once he/she have registered for the application	4	High	Akshara M S Ramya S Harini E R Keerthana A
Sprint-1		USN-3	The user can register for the application through Gmail	3	Medium	Akshara M S Ramya S Harini E R Keerthana A
Sprint-1	Login	USN-4	The user can log into the application by entering email & password	4	High	Akshara M S Ramya S Harini E R Keerthana A
Sprint-1	Dashboard	USN-5	The user can view their profile once they log in to the application	3	High	Akshara M S Ramya S Harini E R Keerthana A

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-2	Authentication System	USN-6	Admins authenticate users using flask application	3	Medium	Akshara M S Ramya S Harini E R Keerthana A
Sprint-2	Certification	USN-7	Donor(User) will receive a virtual certificate after successful donation.	2	Medium	Akshara M S Ramya S Harini E R Keerthana A
Sprint-2	Request for Plasma	USN-8	A Plasma request can be made by the recipient in need	4	High	Akshara M S Ramya S Harini E R Keerthana A
Sprint-2	Verification of Details	USN-9	The donor details will be verified by the system administrators.	4	High	Akshara M S Ramya S Harini E R Keerthana A
Sprint-3	Acceptation of request	USN-10	The verified donor will be displayed an image of plasma request for the specific plasma type	3	Medium	Akshara M S Ramya S Harini E R Keerthana A
Sprint-3	Transferring Information	USN-11	The donor and the recipient will be able to transfer information including personal details and location	4	Medium	Akshara M S Ramya S Harini E R Keerthana A
Sprint-3	Integrating chatbot	USN-12	Users can use the chatbot for simple help queries	4	High	Akshara M S Ramya S Harini E R Keerthana A
Sprint-3	Integration with sendgrid	USN-13	Verification and confirmation mail for both donor and recipient	4	High	Akshara M S Ramya S Harini E R Keerthana A

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-4	Dockerizing	USN-14	Dockerizing the application	3	Medium	Akshara M S Ramya S Harini E R Keerthana A
Sprint-4	Updation	USN-15	Admin can update the donor plasma availability ,push request and maintain the database.	4	High	Akshara M S Ramya S Harini E R Keerthana A

6.2 SPRINT DELIVERY SCHEDULE:

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		
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022		
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022		
Sprint-4	20	6 Days	14 Nov 2022	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=sprint duration/velocity

VELOCITY(Sprint 1 – 4):
AVERAGE VELOCITY = 20/6
AVERAGE VELOCITY = 3.34

BURNDOWN CHART :
• A BurnDown Chart plots the amount of work remaining to perform against the amount of time. In agile software development approaches like Scrum, it is frequently employed. • However, burn down charts can be applied to any project containing measurable progress over time.

7. CODING & SOLUTIONING

7.1 FEATURE 1:

Customer (Mobile user) ((Donor/Recipient) :

- Registration
- Login
- Dashboard

Customer (Web user) ((Donor/Recipient) :

- Registration
- Login
- Dashboard

Administrator :

- Registration
- Dashboard
- Manage Application

Chatbot:

- Address user's queries

7.2 FEATURE 2:

- Highly Scalable
- Users can request certain blood groups at any time, and the concerned blood group donors will be notified of the request.
- Deployed on Ibm Cloud

8. TESTING

8.1 TEST CASES

- ✓ How the user interacts with application
- ✓ Registration with verification and Login to the app.
- ✓ Dashboard with donors and plasma availability details for recipients and requests for donors
- ✓ Chatbot for queries, raising requests and other services
- ✓ Raising request for plasma in the app which is sent to the Donors
- ✓ Application Deployment on Local System / Cloud
- ✓ Send Mail and SMS to notify the Donors on the requests.

8.2 USER ACCEPTANCE TESTING

- ➢ Users can register/login into the application via their Gmail account
- ➢ Users can access their account / dashboard.
- ➢ Donors should update Covid-19 certificate.
- ➢ Users can request for the required plasma
- ➢ Recipients receive notifications when required plasma from donors are available.
- ➢ Chatbot can respond to all the donors and recipient's queries.

9.ADVANTAGES AND DISADVANTAGES

Advantages:

● With our customizable donation web based app ,users can sign up as either donors or patients in need of plasma. So that it is very easy to find donors before it's too late.

● It reduces the time consumed by the process.

● Donors will get motivated about receiving a donor appreciation certificate.

● The chatbot in our application can answer all of the recipient's and donor's queries and the help they need in addition to the customer service representative.

● Plasma donation camps will be available with geolocations to create awareness among users.

● Identifying appropriate donors and notifying the receiver through email when the plasma is ready.

● Plasma can be obtained from a blood bank of the patient's choice. In the event that blood plasma is not available, we also let them know by email.

Disadvantages:

● Lack of plasma donors is the primary issue since only a small number of individuals are aware of how important plasma donation is.

● Users are reluctant to go through the laborious and unnecessary procedure, which makes donating plasma a difficult task.

● The data and history of donations are not managed by donation centers in an effective manner.

10. CONCLUSION

Plasma is a liquid portion of blood; it is a mixture of water, proteins and salts. Antibodies are proteins made by the body in response to an infection. People fully rescued from COVID19 are encouraged to donate plasma, which can help to increase the lifespan of other patients because their plasma contains antigens which helps the affected person to recover faster.Therefore, we can connect the plasma donor and requester very easily using our user-friendly application, which also offers more functions for better serving the public.

11. FUTURE SCOPE

Our website application may contribute to a reduction in mortality and provide assistance to those in need of plasma donations. Saving the donor information and informing the list of active donors about the needy will provide a helping hand. Through partnerships with NGOs and hospitals, the company can monetize our application.

12.APPENDIX

GitHub link

https://github.com/IBM-EPBL/IBM-Project-14524-1659586508

Demo Video link

https://drive.google.com/file/d/1n0Fhsquha1sET2cH3_78a_J4haRKvfB/view?usp=share_link