

PLASMA DONOR APPLICATION

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|--------------|------------------------------------|
| Date | 18 November 2022 |
| Team ID | PNT2022TMID03282 |
| Project Name | Project - PLASMA DONOR APPLICATION |

TEAM MEMBERS:

Joshua Jeberson A - Team Leader

Narasiman L – Team Member 1

Ravikumar S – Team Member 2

Yogeshwaran V – Team Member 3

1.INTRODUCTION

1.1Project Overview

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 (<https://covid19.who.int/>). 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.

1.2 Purpose

The main goal of our project is to design a user-friendly web application that is like a scientific vehicle from which we can help reduce mortality or help those affected by COVID19 by donating plasma from patients who have recovered without approved antiretroviral therapy planning for a deadly COVID19 infection, plasma therapy is an experimental approach to treat those COVID-positive patients and help them recover faster. Therapy, which is considered reliable and safe. If a particular person has fully recovered from COVID19, they are eligible to donate their plasma.

2.LITERATURE SURVEY

2.1 Existing problem

There are two types of process in the existing system:

the blood donation process by donors, and the blood request process by hospitals.

In both processes, an administrator is in charge of managing the blood inventory in the blood bank.

Blood Donation Process by Donors

When a new donor comes to donate blood, they are required to fill out their personal information during the registration process before making a donation . After the donation, the donor is given a donor identification card with their name, blood type and a barcode to be used as a reference for future donations . The barcode is used to retrieve the donor's record containing their personal information, medical history and donation information, including blood results . Only blood bank administrators have the authority to access the donor's records, since the system is only available for their use within the organization. This makes it difficult for donors to make changes to their personal information within the system. That is, for donors to update their personal information, such as their phone number, mailing address, or e-mail, they cannot update the information by At the back the card is a table that contains number of donations, date, location, and the blood collector's signature. Existing donors can submit their donor ID cards to retrieve their personal information and donation records and start the blood donation process, and they will be given a new card after they have donated blood for a total of eight times. Having a donor ID card may be a tangible reminder to people that they are helping lives as a blood donor; however, possessing a physical card comes with drawbacks such as loss or damage. To ensure donors can still identify themselves with the system, other credentials, such as username and password, can be used as a safeguard if their donor ID card is lost or damaged. If the donated blood is disqualified, the donor will be notified through postal mail that their blood component is reactive to viruses , meaning that there is a positive result of the blood being infected, and the organization will also inform

the donor to perform another blood test at the blood bank to confirm the result of blood. If the blood is qualified, the administrator then will deposit the blood into the inventory for future requests.

Blood Request Process by Hospitals

Hospitals can request for blood by calling in or e-mailing the blood bank the type of blood and the quantity that is in need. The administrator is responsible in checking the availability of the blood type according to the request. If the requested blood type is available, the administrator will withdraw the blood from the inventory and transfer it to the hospital. However, if the requested blood is unavailable, the administrator will send an e-mail to inform the hospital

2.2 References

[1]. A WEB-BASED BLOOD BANK SYSTEM FOR MANAGING RECORDS OF DONORS AND RECEIPTS

“2022 International Conference on Computational Intelligence and Sustainable Engineering Solutions (CISES) Manvir Kaur, Nahida Nazir, Navneet Kaur, Syed Faraz Ali, Chirag Agarwal, Ujjwal Dubey, Varun Gupta, Abid Sarwar, Manik Rakhra, Omdev Dahiya.”

The Online Blood Donation Management System, the purpose of which is to act as a bridge between a person who needs blood, a patient, and a blood donor. The design of an automatic blood system has become an integral part for saving the human lives, who need the blood under different situations. Since, there are various drawbacks of the pre-existing system like privacy issues for the donors, which are getting reflected directly on the interface. Thus, we have designed a robust system that will create a connection between different hospitals, NGOs, and blood banks to help the patient in any difficult situation

[2]. DEVELOPING A PLASMA DONOR APPLICATION USING FUNCTION-AS-A-SERVICE IN AWS

“Aishwarya R Gowri Jain University, Department of MCA, computer science 2021”

Plasma is a liquid portion of the blood, over 55% of human blood is plasma. Plasma is used to treat various infectious 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 fight the infection. In this project plasma donor application is being developed by using AWS services. The services used are AWS Lambda, API gateway, DynamoDB, 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.

[3]. BLOOD BAG: A WEB APPLICATION TO MANAGE ALL BLOOD DONATION AND TRANSFUSION PROCESSES

“2017 International Conference on Wireless Communications, Signal Processing and Networking (Wisp NET) Rehab S. Ali ,Tamer F. Hafez, Ali Badawey Ali, Nadia AbdAlsabour”

Many lives could be lost due to the difficulty in obtaining a proper blood bag, Therefore, this work aims to help citizens fulfil their needs for a safe and reliable blood group by searching for and locating a specific blood group. In this paper, we illustrate the problem of the blood bags shortage which is represented in the uncontrolled blood banks and parallel markets, lack of awareness and confidence, disappearance of the rare blood groups, and the difficulty in finding a specific blood group. Hence, we proposed the Blood Bag web-based application that is connected to a centralized database to gather and organize the data from all blood banks and blood donation campaigns. The proposed application organizes and controls the whole critical processes related to blood donation, testing and storage of blood bags, and delivering it to the patient.

[4].DETERMINANTS OF PLASMA DONATION: A REVIEW OF THE LITERATURE 2021

“Antoine Beurel ,Florence Terrade,J.-P. Lebaudy ,Bruno Danic”

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. This article aims to review the main motivations and deterrents to whole blood donation, and to compare them with those that we already know concerning plasma donation. Current evidence shows similarities between both behaviours, but also differences that indicate a need for further research regarding plasma donation.

[5]. A STUDY OF PRIVATE DONATION SYSTEM BASED ON BLOCKCHAIN FOR TRANSPARENCY AND PRIVACY

“2020 International Conference on Electronics, Information, and Communication (ICEIC) Junho Jeong,Donghyo Kim,Yangsun Lee,Jin-Woo Jung,Yunsik Son”

Donation is largely divided into sponsorship by individuals such as corporations and public administration. In the individual sponsorship, it is common to donate to a donation organization and to support the aid recipients by donation organization. Many people are reluctant to support to this donation because of the lack of transparency. In addition, many donation organizations lack transparent and formal administration due to lack of working capital. Therefore, this paper proposes a method to enhance personal transparency by enhancing the transparency of donation organizations and protecting the privacy of sponsors using blockchain that is a Hyperledger fabric.

[6].WEB BASED ONLINE BLOOD DONATION SYSTEM
“ 2021 3rd International Conference on Advances in Computing,
Communication Control and Networking (ICAC3N) Rohit Kumar,Rajan
Kumar,Manik Tyagi”

This paper depicts a high level program to close the hole between blood givers and individuals needing blood. The Online Blood donation Administration Framework application is an approach to synchronize blood donation centres with emergency clinics with the assistance of the Web. It is a web application where enlisted clinics can check the accessibility of the necessary Blood and can send a blood solicitation to the closest blood donation centre or comparable contributor as per the blood and can be controlled online through where fundamental. Blood donation centre can likewise send a solicitation to another blood donation centre that isn't accessible.

2.3 Problem Statement Definition

During the COVID 19 crisis, the requirement of plasma became a high priority and the donor count has become low. Saving the donor information and helping the needy by notifying the current donors list, would be a helping hand. In regard to the problem faced, an application is to be built which would take the donor details, store them and inform them upon a request. The proposed system implements a cloud based web application as a solution to this problem. The web application is implemented using Python flask and Docker software. The details of the donors are fetched using a form filling structure and later embedded with the cloud storage. The receiver of the plasma has to make a request for a particular blood group in the application itself. The applicable donor and receiver are connected anonymously and the blood is donated. The donor and receiver are connected through a unique id which keeps the identity of both donor and receiver hidden.

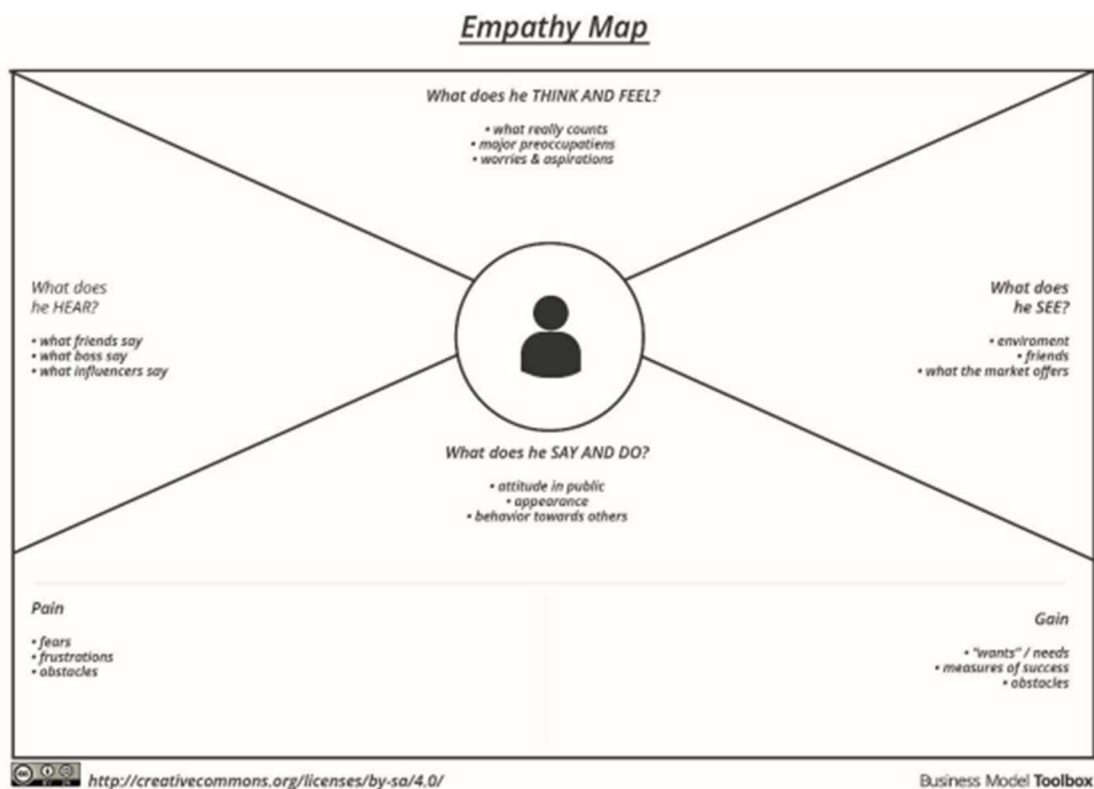
3.IDEATION & PROPOSED SOLUTION

To find the nearest available potential plasma donor and to maintain optimal level of blood bank reserves and a connecting platform for blood donors and blood banks. The proposed system implements a cloud based web application as a solution to this problem. The information of the donors fetched using registration

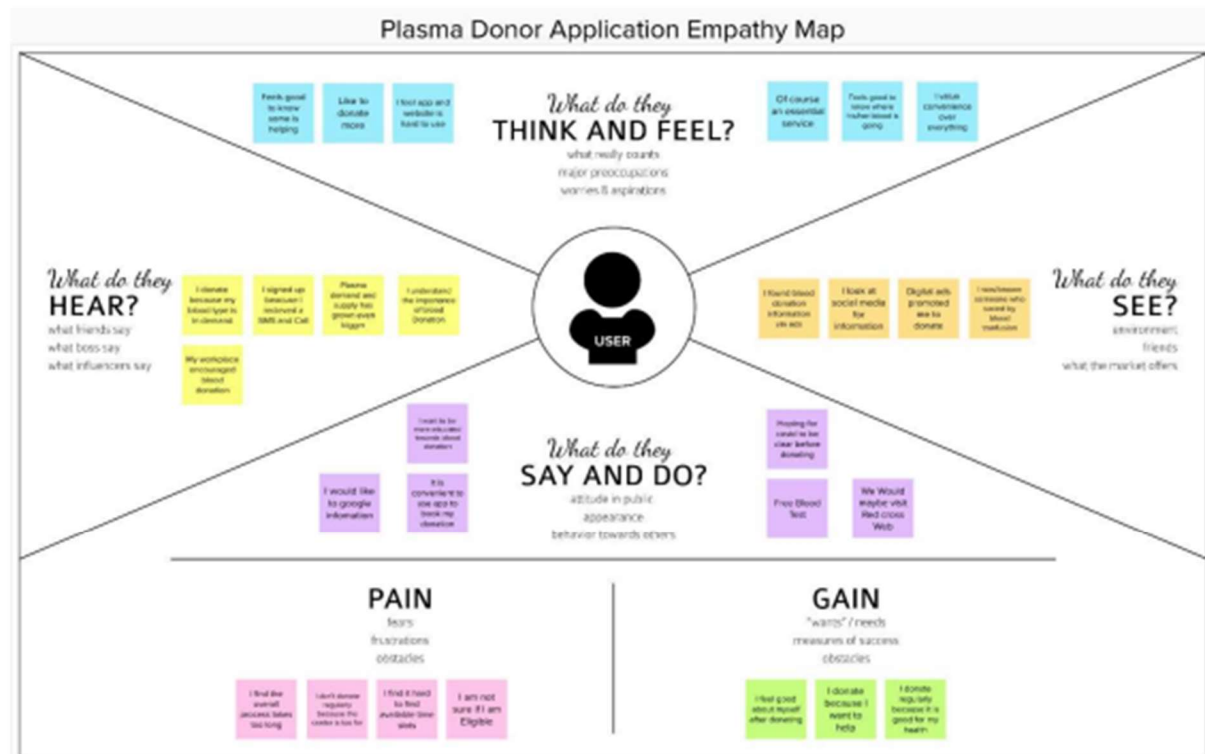
form filling structure. When the administrator needs blood donor he fetched the information from the cloud and make request to the donor based on the location. If donor accept his request he will sent the acknowledgment to the administrator.

3.1 Empathy Map Canvas

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes. It is a useful tool to helps teams better understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.



Plasma Donor Application



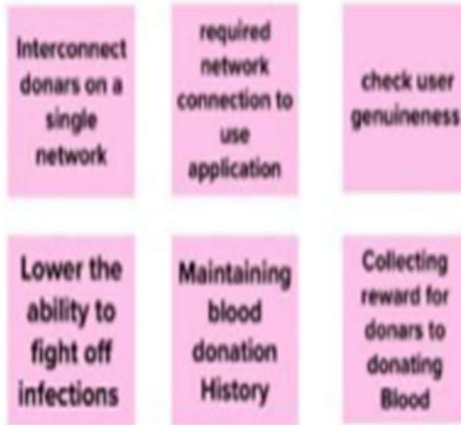
3.1 Ideation & Brainstorming

Brainstorm & Idea Prioritization Template: Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

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.

Step-1: Team Gathering, Collaboration and Select the Problem Statement

Ravikumar S



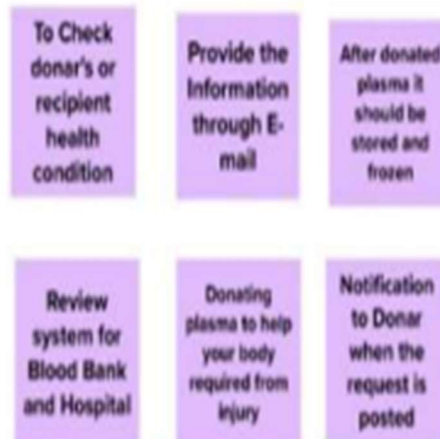
Joshua Jeberson A



Narasiman L



Yogeshwaran V



Step-2: Brainstorm, Idea Listing and Grouping



Step-3: Idea Prioritization



3.1 Proposed Solution

| S.No. | Parameter | Description |
|-------|--|--|
| 1. | Problem Statement (Problem to be solved) | To find the nearest available potential plasma donor and to maintain optimal level of blood bank reserves and a connecting platform for blood donors and blood banks. |
| 2. | Idea / Solution description | The proposed system implements a cloud based web application as a solution to this problem. The information of the donors fetched using registration form filling structure. When the administrator needs blood donor he fetched the information from the cloud and make request to the donor based on the location. If donor accept his request he will sent the acknowledgment to the administrator. |
| 3. | Novelty / Uniqueness | It provides a reliable platform to connect local blood donors with patients and hence reduce human error when employees keeps the record. |
| 4. | Social Impact / Customer Satisfaction | The software is very user friendly. Different types of users including requester, donor and administrator. |
| 5. | Business Model (Revenue Model) | This application can be linked with blood bank and blood donation camps everywhere. |
| 6. | Scalability of the Solution | As this is a web application and uses cloud storage, any further enhancements in technology can be incorporated within this application. |

3.2 Problem Solution fit

| | | | | |
|------------------------|--|---|---|---------------------------|
| Define CS, fit into CC | 1. CUSTOMER SEGMENT(S) CS The main customers for our project are: <ul style="list-style-type: none"> Persons who need plasma Patients Hospital Management | 6. CUSTOMER CONSTRAINTS CC <ul style="list-style-type: none"> Device availability Network connection Knowledge about application usage | 5. AVAILABLE SOLUTIONS AS <ul style="list-style-type: none"> Plasma donors and recipients have to be in contact within a common platform Make the awareness about plasma donation | Explore AS, differentiate |
| | 2. JOBS-TO-BE-DONE / PROBLEMS J&P <ul style="list-style-type: none"> Information needs to be collected about physical qualification of person who can give plasma donation for shortlisting the registration Data collected from users must properly and securely stored. Proper instruction must be given for the donors while donating the 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? <ul style="list-style-type: none"> Only few people know about the importance of plasma donation and so the lack of plasma donors is the root cause. | 7. BEHAVIOUR BE What does your customer do to address the problem and get the job done? <ul style="list-style-type: none"> Find the right donor for plasma donation This application works with the help of data that are stored in database of donors | |

| | | | | |
|-------------------------|---|---|--|-------------------------|
| Identify strong TR & EM | 3. TRIGGERS TR What triggers customers to act? <ul style="list-style-type: none"> Need of plasma triggers people to use this application | 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 <ul style="list-style-type: none"> Connects plasma recipients and donors through the common platform Spread the awareness about the plasma donation | 8. CHANNELS of BEHAVIOUR CH <div> 8.1 ONLINE What kind of actions do customers take online? <ul style="list-style-type: none"> While users online they can register their details for donating as well as requesting and can check for the nearest plasma donor </div> <div> 8.2 OFFLINE What kind of actions do customers take offline? <ul style="list-style-type: none"> Cloud works only with the internet connection so the offline users can only view their application. </div> | Identify strong TR & EM |
| | 4. EMOTIONS: BEFORE / AFTER EM How do customers feel when they face a problem or a job and afterwards? <ul style="list-style-type: none"> People are mostly aware about blood donation and its importance and less aware about plasma donation This application helps to spread the awareness on plasma donation | | | |

4.REQUIREMENT ANALYSIS

4.1 Functional requirement

| FR No. | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task) |
|--------|----------------------------------|--|
| FR-1 | User Registration | Registration through Form Registration through Gmail Registration through LinkedIN |
| FR-2 | User Confirmation | Confirmation via Email Confirmation via OTP |
| FR-3 | Certification | We will present the donor with a certificate of appreciation and validation after their plasma donation. |
| FR-4 | Statistical data | The users will benefit from the numbers on the page that describe the availability of plasma. |
| FR-5 | User Plasma Request | By completing the request form on the page, users can submit a request to donate plasma. Upon submission of the request, they will receive an email |
| FR-6 | Searching/reporting requirements | Users can look up information on camps and other subjects using the search box. |
| FR-7 | Virtual Assistants | A software agent known as a virtual assistant can perform duties or offer services on behalf of a human in response to requests or commands. The system will react to user enquiries with essential details about plasma and the donation of plasma. |

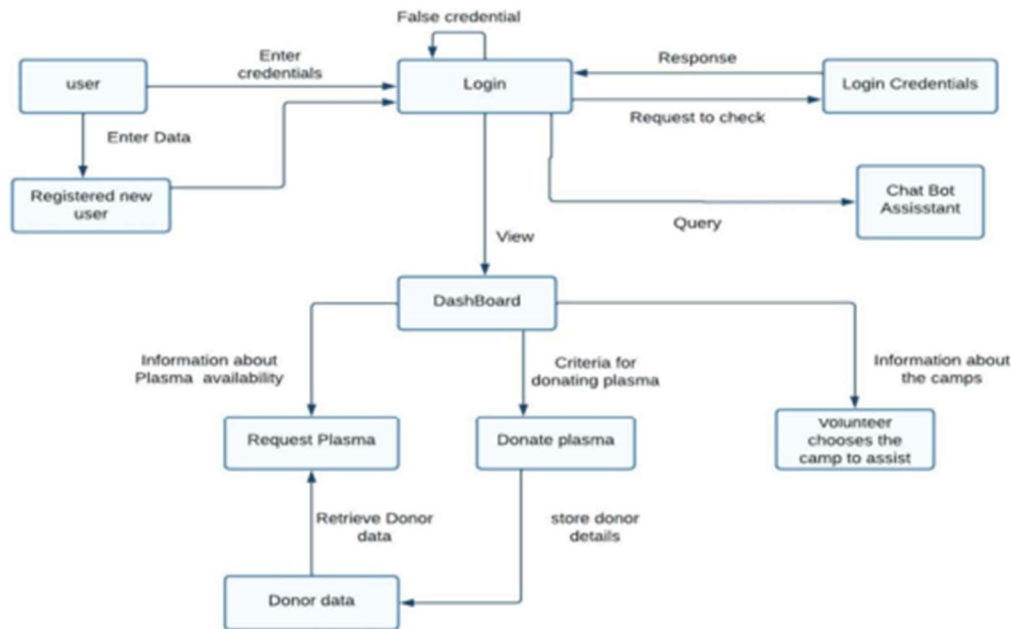
4.2 Non-Functional requirements

| FR No. | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task) |
|--------|----------------------------------|---|
| FR-1 | User Registration | Registration through Form Registration through Gmail Registration through LinkedIN |
| FR-2 | User Confirmation | Confirmation via Email Confirmation via OTP |
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| | | |
|------|--------------------|--|
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|------|--------------------|--|

5. PROJECT DESIGN

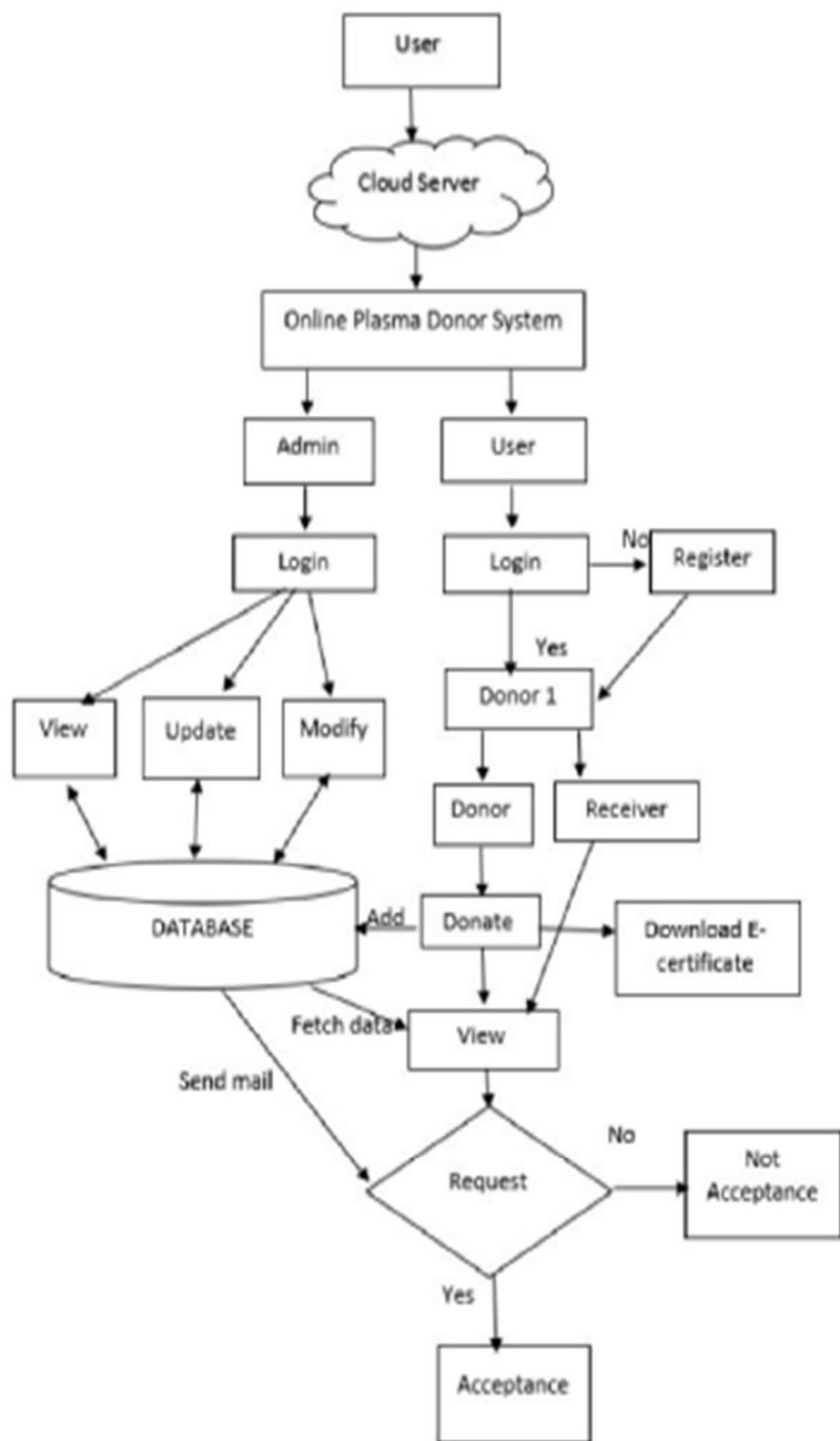
5.1 Data Flow Diagrams



5.2 Solution & Technical Architecture

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.



5.3 User Stories

| User Type | Functional Requirement (Epic) | User Story Number | User Story / Task | Acceptance criteria | Priority | Release |
|-------------------------|-------------------------------|-------------------|--|--|----------|----------|
| Customer (Mobile user) | Registration | USN-1 | I can sign up for the application as a user by providing my email address, a password, and a password confirmation. | I can access my account / dashboard | High | Sprint-1 |
| | | USN-2 | After registering for the application, I as a user will receive a confirmation email. | I can receive confirmation email & click confirm it | High | Sprint-1 |
| | | USN-3 | I can sign up for the application as a user using Gmail. | Through Gmail, I may receive confirmation emails. | Medium | Sprint-1 |
| | Login | USN-4 | I can access the application as a user by providing my email address and password. | . I can access my user profile and look at the information in the dashboard. | High | Sprint-1 |
| | Dashboard | USN-5 | I can send the appropriate requests to donate and obtain plasma as a user. | I can respond to all questions about our application. | High | Sprint-1 |
| Customer (Web user) | Login | USN-6 | I can sign up and use the application as a user and view my profile by providing my email address and password. | I can access my user profile and look at the information in the dashboard. | High | Sprint-1 |
| | Dashboard | USN-7 | I can send the appropriate requests to donate and obtain plasma as a user. | I can get the right notifications by email. | High | Sprint-1 |
| Customer Care Executive | | USN-8 | I can try to respond to users' inquiries and issues as a customer service representative. | I can see their issues and respond to their inquiries. | Medium | Sprint-2 |
| Administrator | | USN-9 | As a website administrator, I can assist with user-facing features like a website's look, navigation, and media usage. | I have the ability to modify the navigation and design to make them more userfriendly. | Medium | Sprint-3 |
| | | USN-10 | I can work with the technical aspect of | I can assist with tasks like server | Medium | Sprint-1 |

| User Type | Functional Requirement (Epic) | User Story Number | User Story / Task | Acceptance criteria | Priority | Release |
|-----------|-------------------------------|-------------------|--|--|----------|----------|
| | | | websites as an administrator. | programming, setting up web hosts, ensuring users have access, and debugging problems. | | |
| Chatbot | Dashboard | USN - 11 | Additionally, the customer service representative's chatbot might attempt to respond to users' queries and concerns. | I can respond to all questions about our application. | Medium | Sprint-3 |

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

Product Backlog, Sprint Schedule, and Estimation

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|----------|-------------------------------|-------------------|---|--------------|----------|---------------------------------------|
| Sprint-1 | Registration | USN-1 | As a user, I can register for the application by entering my email, password, and confirming my password. | 9 | High | Ravikumar S Narasiman L |
| Sprint-2 | Email Confirmation | USN-2 | As a user, I will receive confirmation email once I have registered for the application | 2 | High | Joshua Jeberson A Yogeshwaran V |
| Sprint-1 | Gmail registration | USN-3 | As a user, I can register for the application through Gmail | 2 | Medium | Ravikumar S Narasiman L |
| Sprint-1 | Login | USN-4 | As a user, I can log into the application by entering email & password | 3 | High | Joshua Jeberson A |
| Sprint-2 | Dashboard | USN-5 | As a user, I can able to know the information about plasma donation and register for the donation. | 5 | High | Joshua Jeberson A Yogeshwaran V |

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---------------|--------------------------------------|--------------------------|--|---------------------|-----------------|----------------------------------|
| Sprint-3 | Request and Accept | USN-6 | As a user, I can request and accept for the donation. | 5 | Medium | Joshua Jeberson A |
| Sprint-3 | Display | USN-7 | As a user, I can see available nearby donation centres. | 8 | High | Ravikumar S |
| Sprint-3 | Location | USN-8 | As a user, I can able to reach the centre by using GPS location. | 8 | Medium | Ravikumar S Yogeshwaran V |
| Sprint-4 | Interaction | USN-9 | As a user, I can able to ask queries and clear my doubts using chatbot. | 8 | Low | Yogeshwaran V Narasiman L |
| Sprint-4 | Confirmation for acceptance | USN-10 | As a user, I can receive confirmation email once I have accepted for the donation. | 5 | Medium | Joshua Jeberson A Ravikumar S |
| Sprint-4 | User Details | USN-11 | As an admin, I should store the details of the user and maintain the application. | 5 | High | Joshua Jeberson A |

6.2 Sprint Delivery Schedule

Project Tracker and Velocity :

| 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 | 14 | 29 Oct 2022 |
| Sprint-2 | 20 | 6 Days | 31 Oct 2022 | 05 Nov 2022 | 07 | 05 Oct 2022 |
| Sprint-3 | 20 | 6 Days | 07 Nov 2022 | 12 Nov 2022 | 21 | 12 Nov 2022 |
| Sprint-4 | 20 | 6 Days | 14 Nov 2022 | 19 Nov 2022 | 18 | 14 Nov 2022 |

Velocity:

Average velocity of Sprint-1: $AV = 1.3$

Average velocity of Sprint-2: $AV = 1.2$

Average velocity of Sprint-3: $AV = 3.5$

Average velocity of Sprint-4: $AV = 3$

6.3 Reports from JIRA

Backlog

The backlog view lists issues that your team plans to work on (in the Backlog or Sprint lists), as well as the issues currently on your team's board (in the Board list).

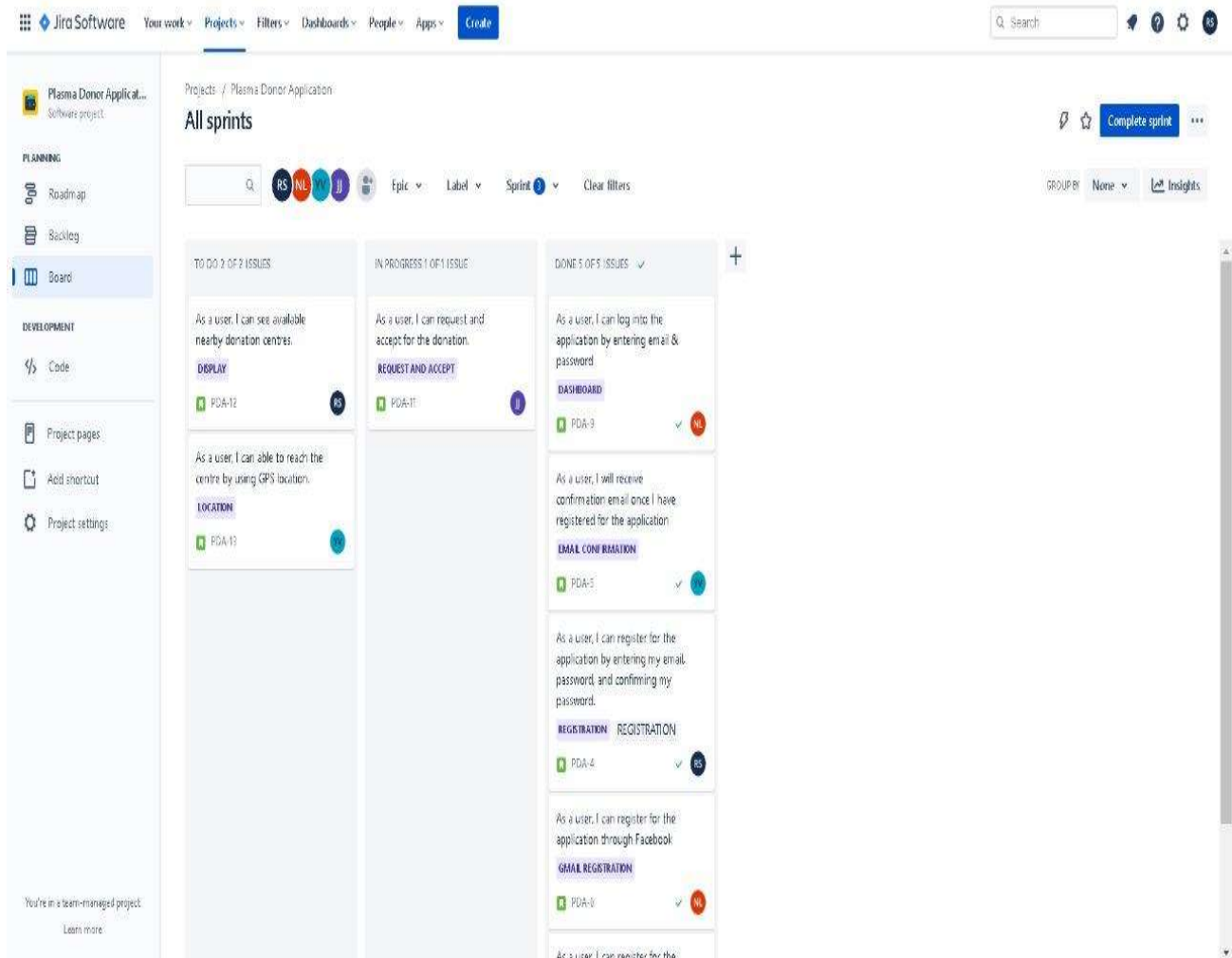
The screenshot shows the Jira Software interface for a project named 'Plasma Donor Application'. The left sidebar contains navigation links for 'Roadmap', 'Backlog', 'Board', and 'Code'. The main content area is titled 'Backlog' and displays three sprints:

- PDA Sprint 1** (24 Oct - 29 Oct, 3 issues):
 - PDA-4: As a user, I can register for the application by entering my email, password, and confirming my password. **REGISTRATION** (TO DO)
 - PDA-6: As a user, I can register for the application through Facebook. **EMAIL REGISTRATION** (TO DO)
 - PDA-10: As a user, I can register for the application through Gmail. **LOGIN** (TO DO)
- PDA Sprint 2** (27 Oct - 5 Nov, 2 issues):
 - PDA-9: As a user, I can log into the application by entering email & password. **DASHBOARD** (TO DO)
 - PDA-5: As a user, I will receive confirmation email once I have registered for the application. **EMAIL CONFIRMATION** (TO DO)
- PDA Sprint 3** (7 Nov - 12 Nov, 3 issues):
 - PDA-11: As a user, I can request and accept for the donation. **REQUEST AND ACCEPT** (TO DO)
 - PDA-12: As a user, I can see available nearby donation centres. **DISPLAY** (TO DO)
 - PDA-13: As a user, I can able to reach the centre by using GPS location. **LOCATION** (TO DO)

Each sprint list includes a '+ Create issue' button at the bottom.

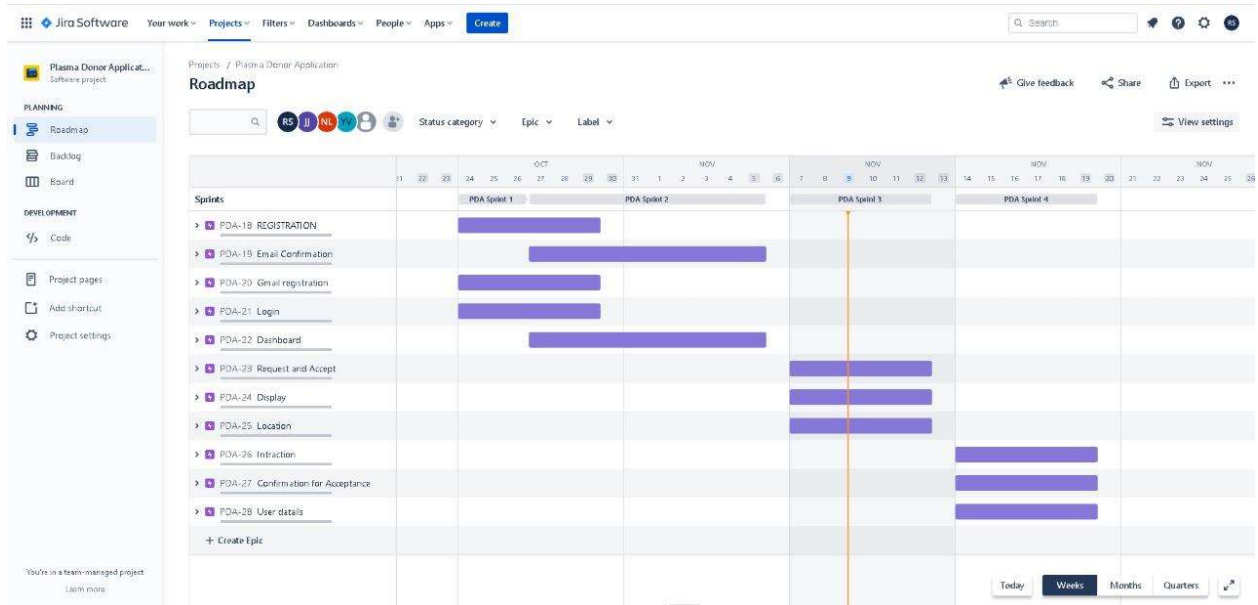
Board

A board displays your team's work as cards you can move between columns. In Jira Software, cards and the tasks they represent are called “issues”. Usually, your board reflects your team's process, tracking the status of work as it makes its way through your team's process.



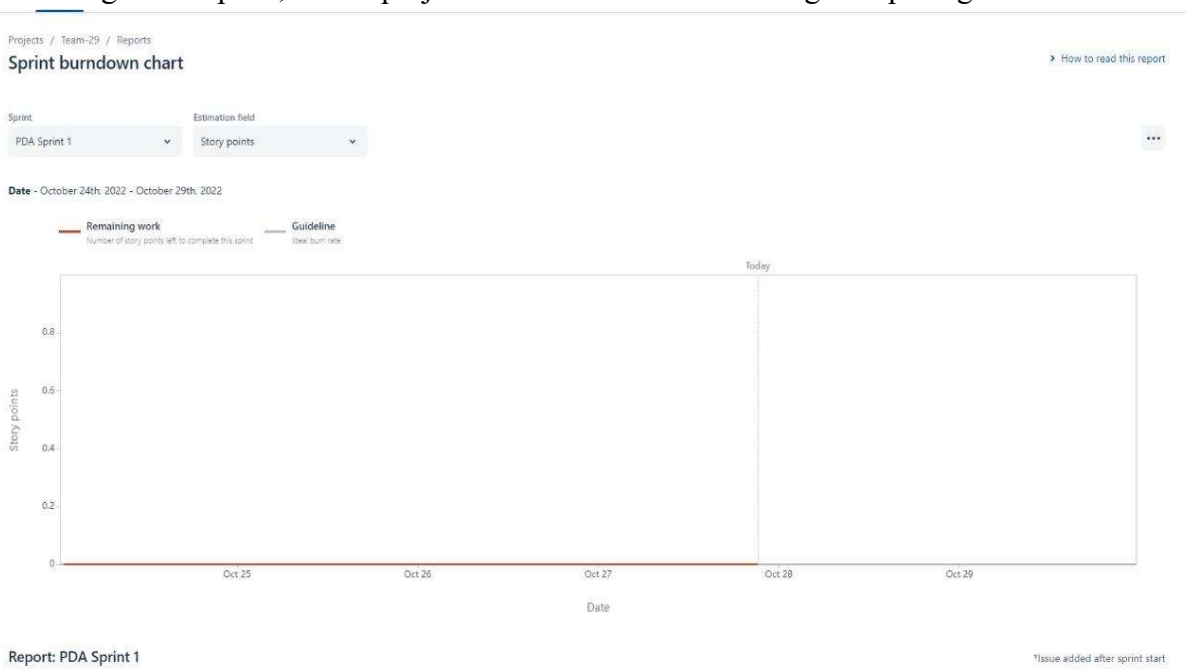
Roadmap

Roadmaps in Jira Software are team-level roadmaps useful for planning large pieces of work several months in advance at the Epic level within a single project. Simple planning and dependency management features help your teams visualize and manage work better together.



Sprint Burndown Chart

This report shows the amount of work to be done in a sprint. It can be used to track the total work remaining in the sprint, and to project the likelihood of achieving the sprint goal.



7.CODING & SOLUTIONING

7.1.Feature 1

- Register: User can register using personal details. The example like(email, User Name, Password) and its check is valid as per the regulation.

```
function validpassword(password){
    document.getElementById("pass_err").innerHTML="";
    if (password != "") {
        var passwordfor = /^(?=.*\d)(?=.*[!@#$%^&*])(?=.*[a-z])(?=.*[A-Z]).{8,}$ /;
        if(password.match(passwordfor))
        {
            return true;
        }
        else
        {
            document.getElementById("pass_err").innerHTML="Password should be > 8
letters, with at least a symbol, upper and lower case letters and a number "
            return false;
        }
    }
    else{
        document.getElementById("pass_err").innerHTML="Passowrd Should not be
empty"
        return false;
    }
}
```

And its check user is already Signup or not

```
def add_user():
    if request.method == 'POST':
        try:

            name = request.form['name']
            email = request.form['email']
            password = request.form['pass']

            sql = "select * from register where email = '"+email+"'"
            stmt = ibm_db.exec_immediate(conn, sql)
            user = ibm_db.fetch_assoc(stmt)
            if user:
```



```

        msg = "Account already exists"
    else:
        sql = "insert into register values(?,?,?)"
        param = name, email, password,
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.execute(stmt, param)
        msg = "You're successfully signed up!"

    except Exception as e:
        print("exception occurred!",e)
        msg = e

    finally:
        return render_template('post_signup.html', msg = msg)

```

and its stored the values in the database.

- Login: User can login into his account using email id and password. And its check the Username and Password are Correct.

```

def validate_user():
    if request.method == 'GET':
        try:
            args = request.args
            email = args.get('email')
            password = args.get('password')

            sql = 'select * from register where email='+ '\''+email+'\''
            stmt = ibm_db.exec_immediate(conn, sql)
            dictionary = ibm_db.fetch_assoc(stmt)
            print("executed")
            print(dictionary)
            if dictionary != False:
                if(dictionary["PASSWORD"]== password):
                    print("success")
                    resp =
make_response(render_template("post_signin.html"))
                    resp.set_cookie('email', dictionary["EMAIL"])
                    resp.set_cookie('name',dictionary["NAME"])
                    print("success")
                    return resp

```

```

        else:
            return "Incorrect Password"
    else:
        return "User does not exists"

except Exception as e :
    print("error",e)
    return repr(e)

```

- Request for Plasma: User can raise request for plasma request Form.

And the form contains the user details like email, name, age, district, Mobile number, State, Address. And its has to be Saved in the database.

```

def create_request():
    if request.method == 'POST':

        name = request.form['name']
        email = request.form['email']
        phone = request.form['phone']
        bloodgroup = request.form['bloodgroup']
        date = request.form['date']
        address = request.form['address']
        district = request.form['district']
        state = request.form['state']
        age = request.form['age']

        insert_sql = "INSERT INTO plasmarequest VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?, ?)"
        prep_stmt = ibm_db.prepare(conn, insert_sql)
        ibm_db.bind_param(prep_stmt, 1, name)
        ibm_db.bind_param(prep_stmt, 2, email)
        ibm_db.bind_param(prep_stmt, 3, phone)
        ibm_db.bind_param(prep_stmt, 4, bloodgroup)
        ibm_db.bind_param(prep_stmt, 5, date)
        ibm_db.bind_param(prep_stmt, 6, address)
        ibm_db.bind_param(prep_stmt, 7, district)
        ibm_db.bind_param(prep_stmt, 8, state)
        ibm_db.bind_param(prep_stmt, 9, age)
        ibm_db.execute(prep_stmt)

```

and its Same as the Donation form Also.

```
def add_donor():
    if request.method == 'POST':
        name = request.form['name']
        email = request.form['email']
        phone = request.form['phone']
        bloodgroup = request.form['bloodgroup']
        date = request.form['date']
        address = request.form['address']
        district = request.form['district']
        state = request.form['state']
        age = request.form['age']

        sql = "insert into donorform values(?,?,?,?,?,?,?,?,?,?)"
        param = name, email, phone, bloodgroup, date, address, district, state, age,
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.execute(stmt, param)
        msg = "You're successfully registered as donor"
```

•We divided the state into four region . after your submit the form it will check which region are you and Show the nearest Plasma Donation Centers .

// Sample Snippet

```
if district=='chennai' or district == 'vellore' or district == 'thiruvallur' or
district=='kanchipuram':
    return render_template('North.html', msg="Data saved
successfully")
    elif district=='cuddalore' or district == 'villupuram' or district ==
'trichy' or district=='mayiladudurai' or district=='thanjavure':
    return render_template('East.html', msg="Data saved
successfully")
    elif district=='erode' or district == 'coimbatore' or district ==
'thruppur' or district=='karur' or district=='theni':
    return render_template('West.html', msg="Data saved
successfully")
    elif district=='madurai' or district == 'kanyakumari' or district ==
'thoothukudi' or district=='ramanathapuram' or district=='dindugal':
    return render_template('South.html', msg="Data saved
successfully")
    else:
    return render_template('index.html', msg="Data saved
successfully")
```

7.2.Feature 2: Implementing API for Better Experience

Google Map API:

After Submitting the Donation form or Plasma Request form it will Show the Nearest Plasma Donation Center In Your Region. And API show the Direction to reach the Plasma Donation Center Also.

```
<iframe
src="https://www.google.com/maps/embed?pb=!1m18!1m12!1m3!1d161850.75723254704!2d8
0.12338952584659!3d13.044166078065723!2m3!1f0!2f0!3f0!3m2!1i1024!2i768!4f13.1!3m3
!1m2!1s0x3a526585b92e04b7%3A0x75f086ca71abc4d1!2sChennai%20Blood%20Centre-
%20Plasma%20blood%20bank%2CSingle%20Donor%20Platelet%20Centre!5e0!3m2!1sen!2sin!4
v1668429143701!5m2!1sen!2sin" width="600" height="450" style="border:0;"
allowfullscreen="" loading="lazy" referrerpolicy="no-referrer-when-
downgrade"></iframe>
```

Watson Assistant Chatbot API:

The Chatbot used to enhance the website and the some users can use it as how to use the website.

```
<script>
  window.watsonAssistantChatOptions = {
    integrationID: "dd6e4126-85e3-4df8-a97b-18c4afe5213e", // The ID of this
integration.
    region: "eu-gb", // The region your integration is hosted in.
    serviceInstanceID: "6dd6aee3-6aac-4af4-a77d-1f7757a5a1ed", // The ID of
your service instance.
    onLoad: function(instance) { instance.render(); }
  };
  setTimeout(function(){
    const t=document.createElement('script');
    t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/"
+ (window.watsonAssistantChatOptions.clientVersion || 'latest') +
"/WatsonAssistantChatEntry.js";
    document.head.appendChild(t);
  });
</script>
```

Sendgrid Email API:

After submitting the Plasma Donation form or Request form . the User can get Mail from the Admin . Regarding the Confirmation from the Admin side.

```
today's_fed_rate = random.randrange(20000,30000)
```

```

now =datetime.datetime.now()
now2 = now.strftime("%Y-%m-%d")
def sendgrid_emails():
    message = Mail(from_email='ravisaravanan209@gmail.com',
                    to_emails=email,
                    subject='You Applied for Plasma Booking !!!' + now2,
                    html_content="Thanks for Plasma Booking<br/>"\
                                "Hi "+name+"<br><br> We Know Your Emergency<br>"\
                                "Your Reference number " + str(todays_fed_rate)
                                + "<br><br><br>"\
                                "Your Details are send to the Nearest plasma Donor
                                centre From Your Location. For Furthur deatails You may contact the Plasma
                                Donation Centre.<br>and the details provided in the website.<br><br><br><br>"\
                                " Thanks!<br>"\
                                "Plasma Donor Service")
    sg = SendGridAPIClient("API")
    response = sg.send(message)
    print(response.status_code, response.body)
sendgrid_emails()

```

8.TESTING

8.1.Test Cases

| Test Case_ID | Feature Type | Component | Test Scenario | Pre-Requirement | Steps To Execute | Test Data | Expected Result | Actual Result | Status |
|---------------------|--------------|-----------|---|-----------------|--|---|--|---------------------|--------|
| Registration_TC_001 | Functional | Homepage | Verify user is able to register in the front page | | 1.Click the page and go 2.Register in the front page for donor as a user 3.Verify whether the user can register or not | Username : Ravikumar S email:ravisaravanan209@gmail.com pwd:12345 | Username already exists | Working as expected | Fail |
| Registration_TC_002 | Functional | Homepage | Verify user is able to register in the front page | | 1.Click the page and go 2.Register in the front page for donor as a user 3.Verify whether the user can register or not | Username:Ravikumar S email:ravisaravanan209@gmail.com | Register should display and the registration has been done | Working as expected | Pass |
| LoginPage_TC_001 | Functional | Home Page | Verify user is able to see the Login/Signup popup when user clicked | | 1. click go 2.Click on My Account dropdown button 3.Verify login/Singup popup displayed or not | | Login/Signup popup should display | Working as expected | Pass |

| | | | | | | | | | |
|--------------------|------------|-------------------|--|--|---|---|---|---------------------|------|
| | | | login page | | | | | | |
| LoginPage_TC_OO2 | UI | Home Page | Verify the UI elements in Login/Signup popup | | 1. click go 2. Click on My Account dropdown button 3. Verify login/Signup popup with below UI elements: a. Username text box b. password text box c. Login button d. New customer? Create account link | | Application should show below UI elements: a. Username text box b. password text box c. Login button with orange colour d. New customer? Create account link | Working as expected | Pass |
| LoginPage_TC_OO3 | Functional | Home page | Verify user is able to log into application with Valid credentials | | 1. click go 2. Click on My Account dropdown button 3. Enter Valid username in Email text box 4. Enter valid password in password text box 5. Click on login button | Username: Narasiman password: 12345 | User should navigate to user account homepage | Working as expected | Pass |
| LoginPage_TC_OO4 | Functional | Login page | Verify user is able to log into application with Invalid credentials | | 1. click go 2. Click on My Account dropdown button 3. Enter Invalid username/email in Email text box 4. Enter valid password in password text box 5. Click on login button | Username: Joshua password: Joshua@99 | Application should show 'Incorrect email or password' validation message. | Working as expected | Fail |
| Donor Registration | Functional | Registration page | Verify the donor can able to register and give the covid | | 1) Date of positive covid test 2) Date of negative covid test 3) Date of negative covid test | 20/12/2022 20/12/2022 17/11/2022 | Donor has been to registered before 14 days or they should | Working as expected | Fail |

| | | | | | | | | | |
|--------------------|------------|-------------------|---|--|---|--------------------|---|---------------------|------|
| | | | test within the correct date | | | | not be able to register | | |
| Donor Registration | Functional | Registration page | Verify the donor can able to register and give the covid test within the correct date | | 1)Donor has to do the registration before 14 days | 4/11/2022 | Donor has to be registered before 14 days and the registration has been done and it should be display | Working as expected | Pass |
| Donor Registration | Functional | Registration page | Verify the donor has been already existed or not in DB donor | | Type username and password | Username:Yogi | ket should be already existed | Working as expected | Fail |
| Donor Registration | Functional | Registration page | Verify the donor has been already existed or not in DB donor | | Type username and password | Username:narasiman | New user so registration should be done | Working as expected | Pass |
| Donor Request | Functional | Request Page | The donor has been requested in the plasma donor | | Type the patient name | pname:ravi | This pname is already existed | Working as expected | Fail |
| Donor Request | Functional | Request Page | The donor has been requested in the plasma donor | | Type the patient name | pname: Joshua | The pname is new so request has been done | Working as expected | Pass |

| | | | | | | | | | |
|---------------------------|---------------------------------------|------------------------|---|--|--|--------------------------|--------------------------|---------------------|------|
| Past request | Functional | Past request page | Verify the past request of the donor has been already there | | Type the username for request | username: Ravikumar S | Listed the past request | Working as expected | Pass |
| Past request | Functional | Past request page | Verify the past request of the donor has been already there | | Type the username for request | Username : Joshua | zero past request | Working as expected | Fail |
| Admin bloodgroup request | Functional | Admin request page | Verify the user is not a donor | | Type the request in the donor side | Username : Joshua | Its not a donor | Working as expected | Fail |
| Admin blood group request | Functional | Admin request page | Verify the user blood group is found in Database | | Type the request in the donor side | Username : Ravikumar S | Its a donor | Working as expected | Pass |
| Admin side: All request | In database, request has been there | Admin all request page | Verify the admin all request been displayed | | Type the request in the donor side | Username : Yogeshwaran V | Approved the request | Working as expected | Pass |
| Admin side:All request | In database, request hasnt been there | Admin all request page | Verify the admin all request been displayed | | Type the request in the donor side | Username : Joshua | Not approved the request | Working as expected | Fail |
| Admin All donor | In database donor, no donor is there | Admin all Donor page | Verify the admin all donor has been displayed | | Type the donor request in the donor side | Username : Narasiman L | Approved the request | Working as expected | Pass |

| | | | | | | | | | | |
|-------------|-----|-----------------------------------|----------------------|---|--|--|-------------------|--------------------------|---------------------|------|
| Admin donor | All | In database donor, donor is there | Admin all donor page | Verify the admin all donor has been displayed | | Type the donor request in the donor side | Username : Joshua | Not approved the request | Working as expected | Fail |
|-------------|-----|-----------------------------------|----------------------|---|--|--|-------------------|--------------------------|---------------------|------|

8.2.User Acceptance Testing

User Acceptance Testing (UAT), which is performed on most UIT projects, sometimes called beta testing or end-user testing, is a phase of software development in which the software is tested in the "real world" by the intended audience or business representative.

Defect Analysis:

| Resolution | Severity1 | Severity2 | Severity3 | Severity4 | Subtotal |
|----------------|-----------|-----------|-----------|-----------|----------|
| By Design | 10 | 4 | 2 | 3 | 20 |
| Duplicate | 1 | 0 | 3 | 0 | 4 |
| External | 2 | 3 | 0 | 1 | 6 |
| Fixed | 11 | 2 | 4 | 20 | 37 |
| Not Reproduced | 0 | 0 | 1 | 0 | 1 |
| Skipped | 0 | 0 | 1 | 1 | 2 |
| Won'tFix | 0 | 0 | 0 | 1 | 1 |
| Totals | 24 | 9 | 11 | 26 | 71 |

Test Case Analysis:

| Section | TotalCases | Not Tested | Fail | Pass |
|--------------------|------------|------------|------|------|
| PrintEngine | 7 | 0 | 0 | 7 |
| ClientApplication | 51 | 0 | 0 | 51 |
| Security | 2 | 0 | 0 | 2 |
| OutsourceShipping | 3 | 0 | 0 | 3 |
| ExceptionReporting | 9 | 0 | 0 | 9 |
| FinalReportOutput | 4 | 0 | 0 | 4 |
| VersionControl | 2 | 0 | 0 | 2 |

9.RESULT

9.1 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.

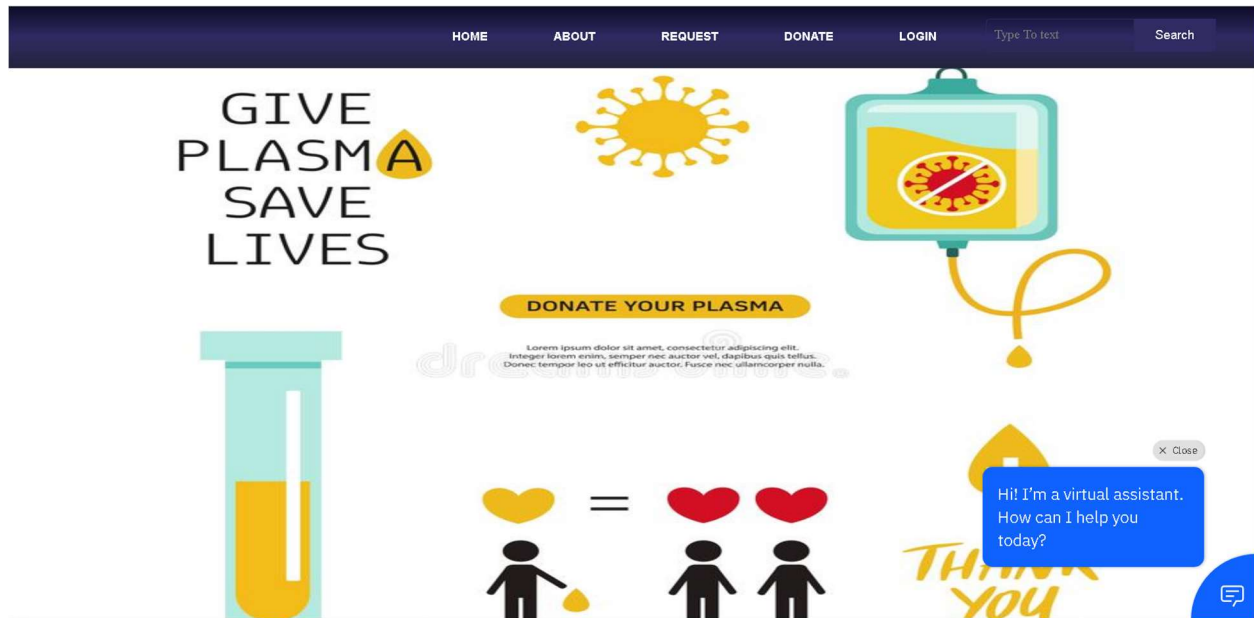
9.2 Service Provider Module

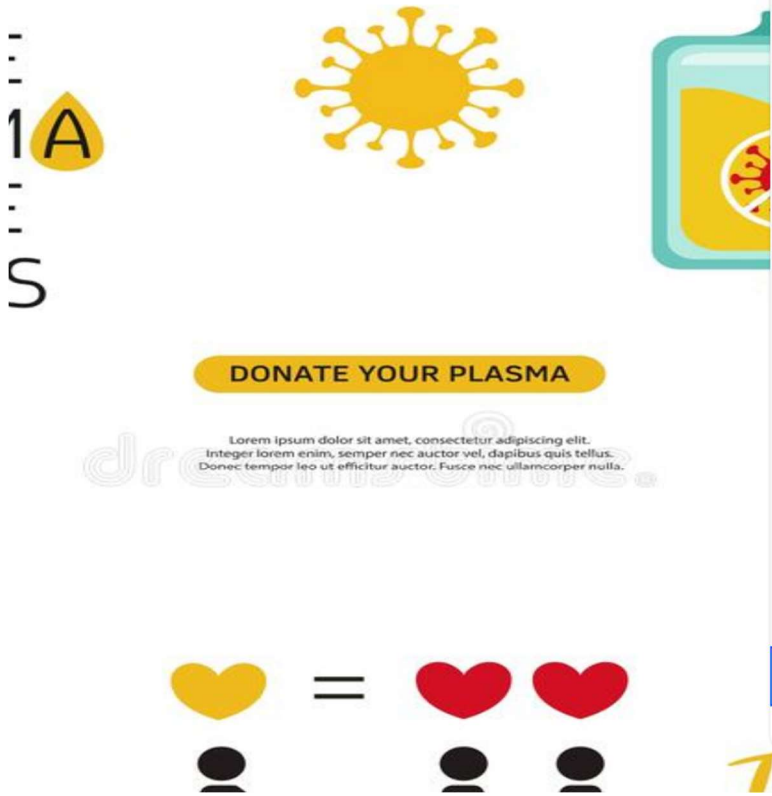
- Add New Donor User can be able to register to add donor details.

• 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

9.3 OUTPUT





Watson Assistant

Blood seeker
Blood Donor

Blood Donor

Hi,How can I help you?

Requirements
Payment
Health Issues

Requirements

- Plasma donors should be at least 18 years old.
- Plasma donors should weigh at least 110 pounds or 50 kilograms.
- Must pass a medical examination.
- Complete an extensive medical history screening.
- Test non-reactive for transmissible viruses including hepatitis and H?

[Click here](#)

Built with **IBM Watson®** ⓘ

You Applied for Plasma Donation !!!2022-11-15 Inbox x



ravisaravanan209@gmail.com via sendgrid.net
to me ▾

Thanks for Blood donating
Hi Ravikumar S

Your Reference number 29453
Your Details are send to the Nearest plasma Donor centre From Your Location.

Thanks!
Plasma Donor Service

↩ Reply ➦ Forward

HOMEABOUTREQUESTDONATELOGOUT

Type To textSearch

PLASMA DONOR

FULL NAME

Ravikumar S

EMAIL ID

ravisaravanan209@gmail.com

PHONE NUMBER

9361474697

BLOOD GROUP

A+

DATE

11/25/2022

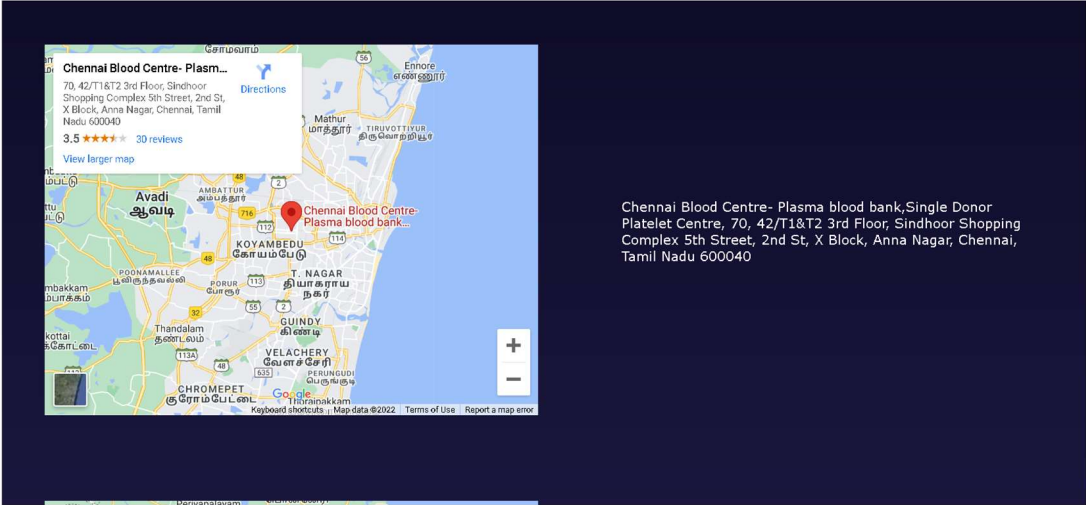
ADDRESS

39, School Street

DISTRICT

HOMEABOUTREQUESTDONATELOGIN

Type To textSearch



Sign up

Full name

Email

Password

Sign up

Click here to [Login](#)

Sign up

Click here to [Login](#)

Email

Password

Login

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.

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.

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.

APPENDIX

Source Code

GitHub

<https://github.com/IBM-EPBL/IBM-Project-593-1658308768>

Project Demo Link