

**HX8001 - PROFESSIONAL READINESS FOR INNOVATION,
EMPLOYABILITY AND ENTREPRENEURSHIP**

PLASMA DONOR APPLICATION

Project Report Submitted by

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1.INTRODUCTION

1.1 Project Overview

A 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 IBM cloud services. The services used is IBM DB2, with the help of these IBM cloud services, it eliminates the need of configuring the servers and reduces the infrastructural costs associated with it and helps to achieve serverless computing. For instance, during COVID 19 crisis the requirement for plasma increased drastically as there was no vaccination found in order to treat the infected patients, with plasma therapy the recovery rates were high but the donor count was very low and in such situations it was very important to get the information about the plasma donors. Saving the donor information and notifying about the current donors would be a helping hand as it can save time and help the users to track down the necessary information about the donors.

1.2 Purpose

As we all know, the traditional methods of finding plasma, one has to find out for oneself by looking at hospital records and contacting donors have been recovered, sometimes may not be available at home and move to other places. In this type of scenario, the health of those who are sick becomes disastrous. Therefore, it is not considered a rapid process to find plasma. The main purpose of the proposed system, the donor who wants to donate plasma can simply upload their covid19 traced certificate and can donate the plasma to the blood bank, the blood bank can apply for the donor and once the donor has accepted the request, the blood bank can add the units they need and the hospital can also send the request to the blood bank that urgently needs the plasma for the patient and can take the plasma from the blood bank.

2. LITERATURE SURVEY

2.1 Existing problem

There are many people who are willing to donate plasma and who need plasma. But there is not any accessible way to help them to find plasma donation centers in real-time. So, the problem is not the lack of donors, but finding the right sponsor at the right time. If someone needs plasma, they seek plasma first from family members, then from hospitals and the nearest plasma bank. If they can't process plasma in these ways, it's very difficult for them to contact another for a short-term plasma draw. This is a problem that I want to solve through this application. Instead of just providing plasma to people in need with an outdated list of regular plasma donors who may or may not be available to help, This application reaches the right people the moment users find out.

2.2 References

Several experiments have been carried out over the years by different groups of researchers. Here are some of the following groups:

1. Denuis O'Neil (1999). "Blood component" Archived from the original on June 5, 2013. Normally, a certain amount of human body weight comes from blood. For adults, it is 4-6 liters of blood. This essential liquid plays an important role in transporting oxygen and nutrients to cells and removing carbon dioxide, ammonia and other waste products. Blood is a very common tissue composed of over 4000 different types of components.
2. Ways to keep your plasma healthy, Original Archived November 1, 2013, Accessed November 11, 2011. Plasma donation is one of the most accepted practices for saving lives, while earning a few dollars. The whole process can take some time, but it's well worth it once you experience it a few times. Accepting money in exchange for plasma is welcome. It's a move when you feel like you're not just a hero, but you're adding value to yourself. The term "healthy" does not mean only in the absence of disease. It also means that you are healthy enough.
3. Ripathis S, Kumar V, Prabhakar A, Joshi S, Agarwal A (2015). "Microscale Passive Plasma Separation: A Review of Design Principles and

Microdevices," J. Micromech Micro 25 (8): 083001; Plasma separation is of great importance in the fields of diagnosis and healthcare. Due to the lagging transition to microscale, these recent trends are a rapid shift towards shrinking complex macro processes.

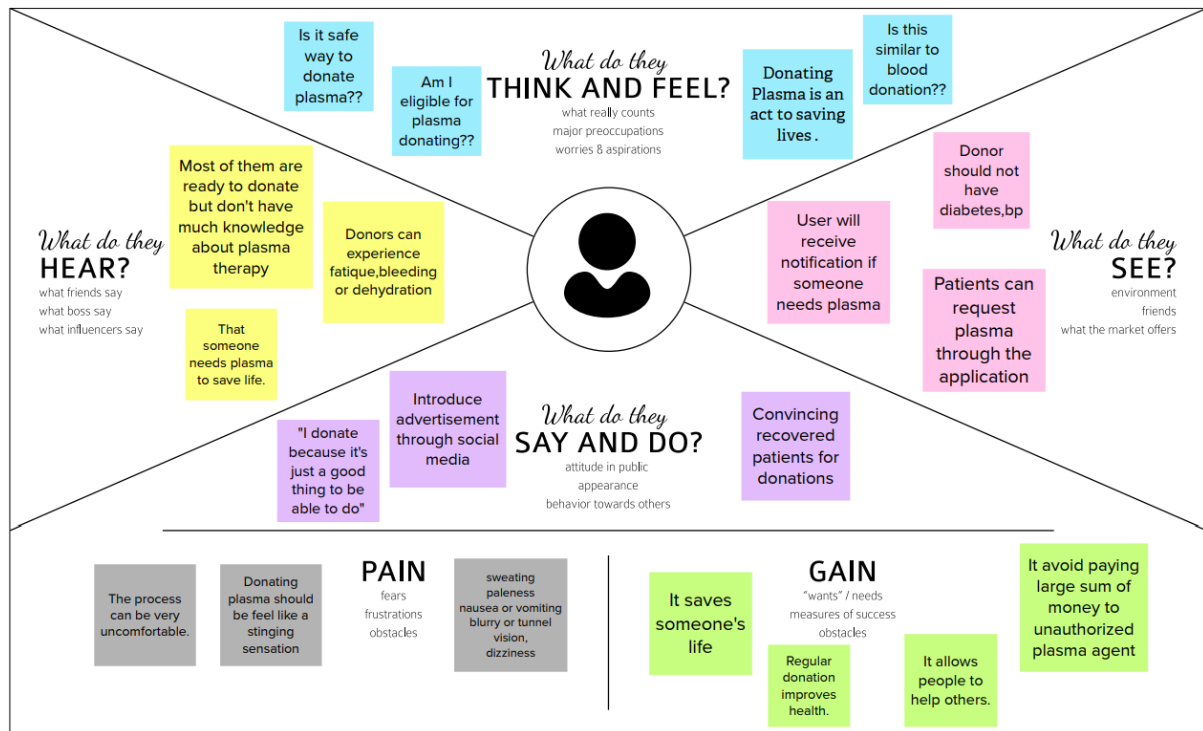
4. In this paper, the author has carried out analysis based on the opportunities presented by serverless computing. They emphasize that serverless services are a more affordable approach for many network services and it is more user friendly as a serverless approach will relieve the customers from the intricacies of deployment. These services will help to improve the new business opportunities.
5. Author conducted a survey of existing serverless platform in this paper from source projects, industry, academia, use cases, and key characteristics and has described the challenges and the open problems associated with it. Authors work presented a hands on experience of serverless technologies using different services from different cloud provides such as Amazon, Google, IBM, Microsoft Azure.
6. In this paper three demonstrators for IBM Bluemix OpenWhisk were presented. They exhibit event-based programming triggered by weather forecast data, speech utterances and Apple WatchOS2 application data. And also demonstrated a chatbot using IBM Bluemix OpenWhisk that calls on the IBM Watson services which include dates, weather, alarm services, news and musictutor.
7. In this paper serverlessOS was designed. It comprises components such as
 1. desegregation model that leverages desegregation for abstraction but it will enable resources to move fluidly between servers for the performance.
 2. The second key component is cloud orchestration layer which helps to manage fine-grained resource placement and allocation throughout the application lifetime with the help of global and local decision making
 3. And the third component is an isolation capability which enforces data and resource isolation.
8. In this paper an efficient resource management system for serverless computing framework was proposed which aims to enhance resource with a focus on memory allocation among the containers and the design which was added on top of an open- source serverless platform, openLambda and it is based memory needs events are triggered

2.3 Problem Statement Definition

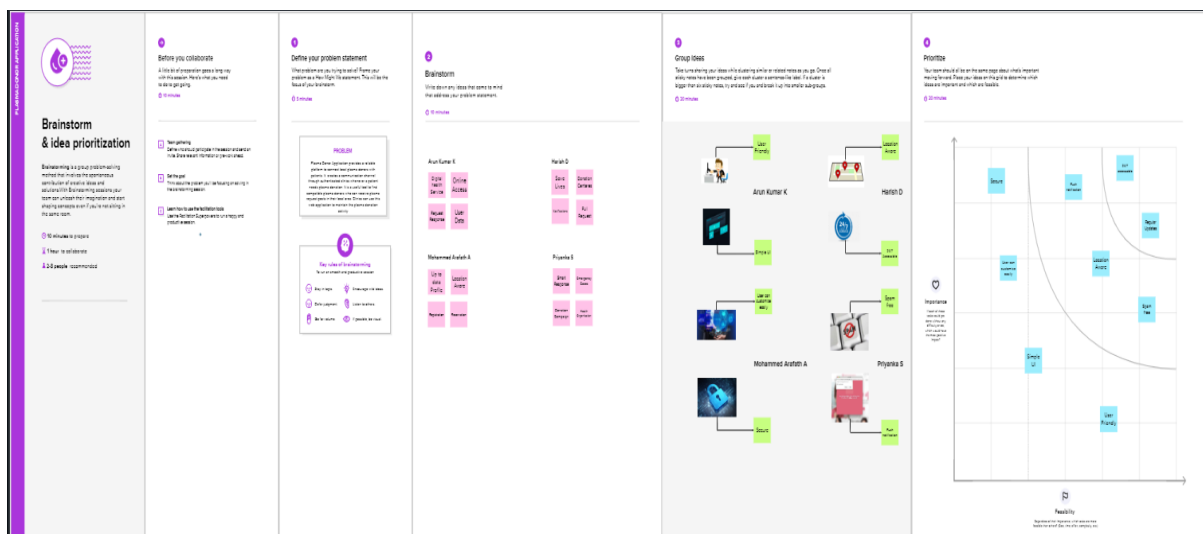
This system aims at connecting the donors & the patients by an online application. By using this application, the users can either raise a request for plasma donation or requirement. Similar to blood donors there also exist plasma donors where there exists problems like in case of emergency needs the most important life saver necessity is plasma , Plasma Banks are the main providers of plasma who receives blood from various donors, monitors the plasma groups database of emergencies and makes them available to the hospital whenever needed. The major problem faced by the main plasma providers and the need is the availability of donors at the right time. We hereby took a step forward to build a system to create a network of people who can help each other in need. We propose an application where the plasma banks can timely update the plasma Stock availability and donor and register themselves to the donor and the user can find plasma availability nearby him/her. The urgent time of a plasma requirement, users can quickly check for plasma banks, hospitals or donors as per requirement matching a particular or related and reach out to them through the App.

3.IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas



3.2 Ideation & Brainstorming



3.3 Proposed Solution

| S.No. | Parameter | Description |
|-------|--|--|
| 1. | Problem Statement (Problem to be solved) | It deals with notifying the concerned donor upon request by the patient in need of Plasma. The project provides quick access to donors for an immediate requirement of plasma. In case of an emergency, plasma procurement is always a major problem which consumes a lot of time. This helps serve the major time-lapse in which a life can be saved! |
| 2. | Idea / Solution description | Web application is built to store donor details and provide to the patients on need. When a patient gives request it will search donor based on their blood group and nearby location and suggest to the patient. And it allows hospitals to find suitable donor. |
| 3. | Novelty / Uniqueness | Real time location based on filtering. While searching for donor, the app will sort according to the location. Chat bot will allow users to ask queries and doubts, it will respond accordingly. Each and every user who is registered as donor will be verified. It is created on the basis that everyone can easily access to it and it has very simple user interface so there is no problem for the people who have less knowledge i.e., in simple language. |
| 4. | Social Impact / Customer Satisfaction | Can find donor very fast and prioritizing donor who is nearby patients location. It will be minimalistic website so that it will |

| | | |
|----|--------------------------------|---|
| | | consume less user's data and can load faster. Donor can find hospital easily where plasma is needed; If this process takes place continuously, we can build a healthy society. |
| 5. | Business Model (Revenue Model) | Ad based model and some promotional notifications. Provides some additional services like health check-up, blood test and record management. |
| 6. | Scalability of the Solution | It is designed to respond quickly upon user's request. It can be easily modified according to the usage of the user and it updates automatically for the donor's history for the donation period. It can be work in the full efficiency when there are many number of users access to the application at a time without any issues. |

3.4 Problem Solution fit

Project Title: Plasma Donor Application

Project Design Phase-I - Solution Fit

Team ID: PNT2022TMID29588

| | | | | |
|------------------------|---|--|--|---------------------------|
| Define CS, fit into CC | 1. CUSTOMER SEGMENT(S) <small>CS</small> <ul style="list-style-type: none"> ➤ Users of age between 18 and 65. ➤ People willing to donate plasma. ➤ Individuals in need of plasma. ➤ Hospitals in search for plasma or donors for their patients. | 6. CUSTOMER CONSTRAINTS <small>CC</small> <ul style="list-style-type: none"> ➤ Only registered users can donate and get information related to plasma. ➤ Availability of plasma types. ➤ Donors within nearest location. | 5. AVAILABLE SOLUTIONS <small>AS</small> <ul style="list-style-type: none"> ➤ Asking their friends and families for donating their plasma. ➤ Posting their situation in the social media. ➤ Plasma availability - Not up-to-date. | Explore AS, differentiate |
| | 2. JOBS-TO-BE-DONE / PROBLEMS <small>J&P</small> <ul style="list-style-type: none"> ➤ The customer will be able to get the donor details and availability upon immediate request without any delays – CHATBOTS. ➤ Lack of information about donor. ➤ The details of the donors to be maintained properly. ➤ Create awareness of the Do's and Don'ts, before and after plasma donation. | 9. PROBLEM ROOT CAUSE <small>RC</small> <ul style="list-style-type: none"> ➤ Due to the pandemic, plasma donation has been reduced, therefore the downfall. ➤ Saving the donor information and helping the needy by notifying the current donors list, would be a helping hand. ➤ Technological growth has not been implemented in these web applications. | 7. BEHAVIOUR <small>BE</small> <ul style="list-style-type: none"> ➤ 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. ➤ Finding the available donors within their nearest location. ➤ Volunteer donors come forward to help the needy. | |

| | | |
|---|--|---|
| 3. TRIGGERS TR <ul style="list-style-type: none"> ➤ Seeing the donors count becomes low. ➤ In case of emergencies. ➤ Ease of access and requirement of blood type. | 10. YOUR SOLUTION SL <ul style="list-style-type: none"> ➤ The user and the donor both register all relevant information. An email message will be issued after registration is complete. 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. ➤ 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 tieups with other organisations. E-certificates will be provided for their good deed of plasma donation | 8. CHANNELS of BEHAVIOUR CH <ul style="list-style-type: none"> ➤ Register their information with the application. ➤ Making plasma request via the application. ➤ Arranging the required medical infrastructure for the donation process. ➤ Donating the plasma. ➤ People can consult with the doctors regarding their health and eligibility to donate plasma. |
| 4. EMOTIONS: BEFORE / AFTER EM <ul style="list-style-type: none"> ➤ Before: Confused, Anxious, Exhausted, Helpless, Scared. ➤ After: Relaxed, Motivated, Blessed. | | |

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 |
| FR-2 | User Confirmation | Confirmation via Email |
| FR-3 | 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-4 | Statistical data | The availability of plasma is given in the page as stats, which will be helpful for the users to locate the donor or to find plasma needed patient. |
| FR-5 | 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. |
| FR-6 | Creating donor profile | Volunteer Donor able to create their donor file by providing their medical information and past donations in the form to maintain regular intervals. |
| FR-7 | Virtual donor cards | Active donor will get a virtual donor card represents their donation activity. |
| FR-8 | Certification | After the donor donates plasma, we will give them a certificate of appreciation and authentication |

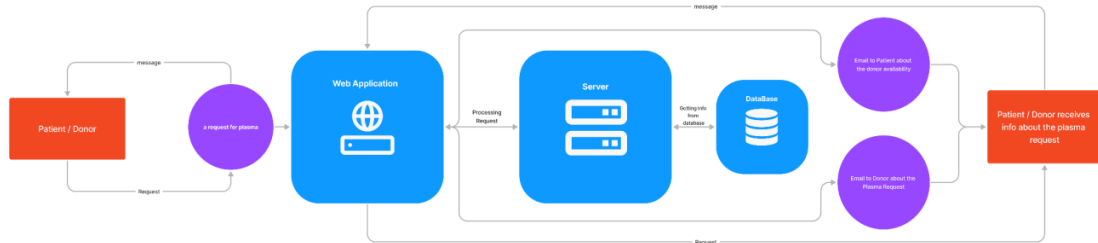
4.2 Non-Functional Requirements

| NFR No. | Non-Functional Requirement | Description |
|---------|----------------------------|---|
| NFR-1 | Usability | User must feel easy to perform all the operation supported by the system and it should contain the user friendly UI and UX. |
| NFR-2 | Security | The system must be in the way the authorized user can only access to the application in order to avoid the spam. . It must be secured with email Id and password. |
| NFR-3 | Reliability | The system has the ability to work all the times without failures apart from network failure. A donor can have the faith on the system. The authorities will keep the privacy of all donors in a proper manner. |

| | | |
|-------|--------------|---|
| | | It gave the reliable information to the user, because the register donors are well reliable person. So reliability is high. |
| NFR-4 | Performance | The system has the ability to work all the times without failures apart from network failure. A donor can have the faith on the system. The authorities will keep the privacy of all donors in a proper manner. It gave the reliable information to the user, because the register donors are well reliable person. So reliability is high. |
| NFR-5 | Availability | The system, including the online components, should be available 24/7. It is available for each and everyone with the authorized credentials. Made publicly available a new dataset formed by a set of plasma donor s profiles and a set of patient collected from different search engine sites. |
| 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. The system offers the proper resources for issue solutions and is designed to protect sensitive information during all phases of operation. |

5. PROJECT DESIGN

5.1 Data Flow Diagram



5.2 Solution & Technical Architecture

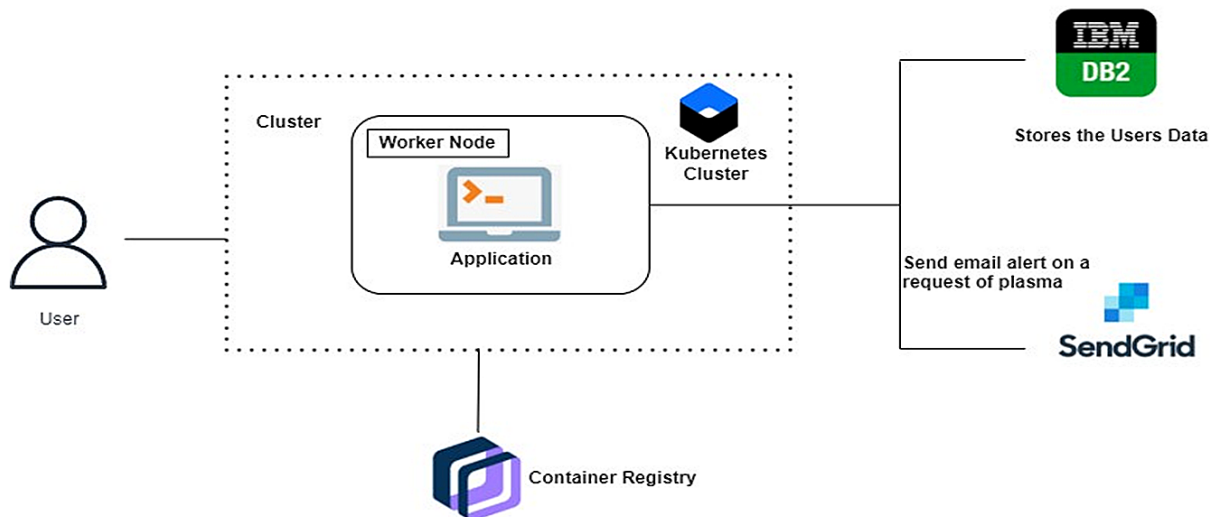


Table-1: Components & Technologies:

| S.No | Component | Description | Technology |
|------|----------------|---|---|
| 1. | User Interface | User interacts with user friendly web interface that directs them to functions of the | HTML, CSS, JavaScript / Angular Js / React Js |

| | | | |
|-----|---------------------------------|--|--|
| | | application such as registration, booking appointments etc. | |
| 2. | Application Logic-1 | Web application framework upon which application is designed | Flask (Python) |
| 3. | Application Logic-2 | Storing details of users (donors, doctors, patients etc.) | IBM DB2 |
| 4. | Application Logic-3 | Email alert is sent in request of plasma | SendGrid |
| 5. | Database | Data Type, Configurations etc. | MySQL, NoSQL, etc. |
| 6 | Cloud Database | Database Service on Cloud | IBM DB2, IBM Cloudant etc. |
| 7. | File Storage | File storage requirements | IBM Block Storage or Other Storage Service or Local Filesystem |
| 8. | External API-1 | Platform to build containerised applications | Docker. |
| 9 | External API-2 | To store, manage and deploy container images | IBM Container Registry |
| 10. | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud | Local, Cloud Foundry, Kubernetes, etc. |

Table-2: Application Characteristics:

| S.No | Characteristics | Description | Technology |
|------|--------------------------|--|------------------------------------|
| 1. | Open-Source Frameworks | Flask (Python) is an open source framework used to develop web applications, Kubernetes is an open-source container orchestration system for automating software deployment, scaling, and management | |
| 2. | Security Implementations | Kubernetes cluster and IBM container registry are used for encryption of data. | IBM Container Registry, Kubernetes |
| 3. | Scalable Architecture | Kubernetes is used for deployment, scaling and management | Kubernetes |
| 4. | Availability | All time availability is provided by cluster | Kubernetes |
| 5. | Performance | Docker improves performance of application | Docker |

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 | As a user, I can register for the application by | I can access my account / dashboard | High | Sprint-1 |

| | | | | | | |
|---------------------|--|-------|--|--|--|----------|
| | | | entering my email, password, and confirming my password. | | | |
| | | 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 SMS | I can register & access the dashboard with OTP login | Low | Sprint-2 |
| | | USN-4 | As a user, I can register for the application through Gmail | | Medium | Sprint-1 |
| | Login | USN-5 | As a user, I can log into the application by entering email & password | | High | Sprint-1 |
| | Dashboard | | 1. When I log into the dashboard, my profile is displayed. 2. All my previous records are displayed. 3. Drive information, patients request etc are displayed. | | 1. High 2. Medium 3. High | Sprint-2 |
| Customer (Web user) | 1. Location 2. Requests 3. Responses 4. Message | | 1. Search for nearby donation centre. 2. Send request to donor. 3. Accept/reject request from recipient. | | 1. High 2. High 3. High 4. Medium | |

| | | | | | | |
|-------------------------|--|--|---|--|---------------------|----------|
| | | | 4. Display nearby donors. 5. Chat/call option. | | 5. High | |
| Customer Care Executive | | | 1. A chatbot for clarifying any doubts regarding the account. 2. Redirect to a person for further assistance. | | 1. Medium 2. Medium | Sprint-3 |
| Administrator | | | 1. Verify the details of donor and the recipient. 2. Confirm for account creation/donation if all the documents are verified. | | 1. High 2. High | Sprint-3 |

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 | A User can register and create the user account. | 6 | High | Arunkumar K Mohammed Arafath A |
| Sprint-1 | Login | USN-2 | A User can sign-in to the application by entering the registered email id and password. | 6 | High | Harish D Priyanka S |
| Sprint-1 | Admin Register | USN-3 | An admin can register through the admin registry. | 4 | Medium | Mohammed Arafath A Harish D |
| Sprint-1 | Register Admin Via Script | USN-4 | Creating an Admin Account using a python script. As for security reasons we should implement a | 4 | High | Arunkumar K Mohammed Arafath A Priyanka S |

| | | | | | | |
|------------|---|---------|--|---|--------|---|
| | | | separate python script. | | | |
| Sprint-2 | Implementing Authentication System | USN-5 | Creating an authentication system for both admin and users using flask application | 6 | High | Harish D Arunkumar K |
| Sprint-2 | Creating Tables | USN-6 | Creating Db2 account and creating the tables in DB2 in IBM cloud db2 | 4 | Medium | Priyanka S Mohammed Arafath A |
| Sprint - 2 | Creating SSL certificate and integrating with python code | USN - 7 | Creating the SSL certificate to connect db2 via python code. | 6 | High | Arunkumar K Mohammed Arafath A Harish D |
| Sprint - 2 | Creating dashboard | USN - 8 | Admin and Donor can interact with our application | 4 | Medium | Priyanka S |
| Sprint - 3 | Plasma request and donor acknowledge feature | USN - 9 | Admin can create plasma requests which will be shown in the user porta | 6 | High | Mohammed Arafath A Arunkumar K Priyanka S |
| Sprint - 3 | Creating dashboard for admin | USN -10 | Admin dashboard, admin can view the total request has been requested for plasma by the recipient/user. | 6 | High | Harish D Arunkumar K |
| Sprint - 3 | Integrating the Watson chat bot | USN -11 | Users can use the chatbot for basic clarification using the chatbot. | 4 | Medium | Mohammed Arafath A Harish D |
| Sprint - 3 | Integration with SendGrid | USN -12 | The source/verification mail for both user(donar and recipient) . | 4 | Medium | Priyanka S Harish D |
| Sprint - 4 | Docker installation | USN -13 | Installing Docker CLI | 4 | Low | Mohammed Arafath A |
| Sprint-4 | Creating | USN-14 | Setting up the docker | 6 | High | Priyanka S |

| | | | | | | |
|----------|--------------------|--------|---|---|--------|---|
| | docker image | | environmentand creating the docker image file | | | Harish D |
| Sprint-4 | Kubernetes | USN-15 | Creating pods in Kubernetes and uploading it in IBM cloud | 6 | Medium | Arunkumar K Mohammed Arafath A Priyanka S |
| Sprint-4 | End-to-End Testing | USN-16 | Implementing End-to-End testing | 6 | High | Arunkumar K Mohammed Arafath 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 | 20 | 29 Oct 2022 |
| Sprint-2 | 20 | 6 Days | 31 Oct 2022 | 05 Nov 2022 | 20 | 05 Nov2022 |
| Sprint-3 | 20 | 6 Days | 07 Nov 2022 | 12 Nov 2022 | 20 | 12 Nov 2022 |
| Sprint-4 | 20 | 6 Days | 14 Nov 2022 | 19 Nov 2022 | 20 | 19 Nov 2022 |

7. CODING & SOLUTIONING

7.1 FEATURE 1

<https://github.com/IBM-EPBL/IBM-Project-22082-1659803477/tree/main/Project%20Development%20Phase/Sprint%201/Application%20UI>

7.2 FEATURE 2

<https://github.com/IBM-EPBL/IBM-Project-22082-1659803477/tree/main/Project%20Development%20Phase/Sprint%202>

7.3 FEATURE 3

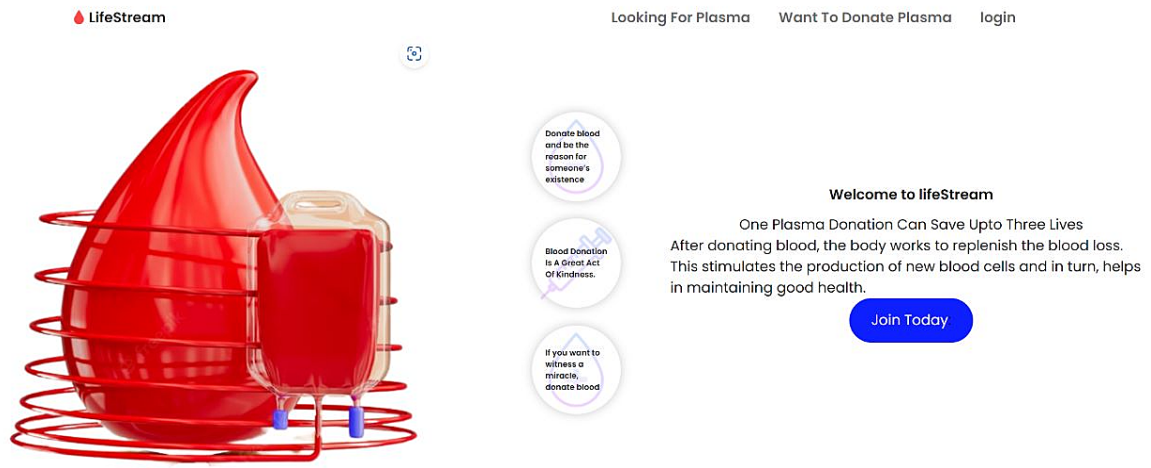
<https://github.com/IBM-EPBL/IBM-Project-22082-1659803477/tree/main/Project%20Development%20Phase/Sprint%203>

7.4 FEATURE 4

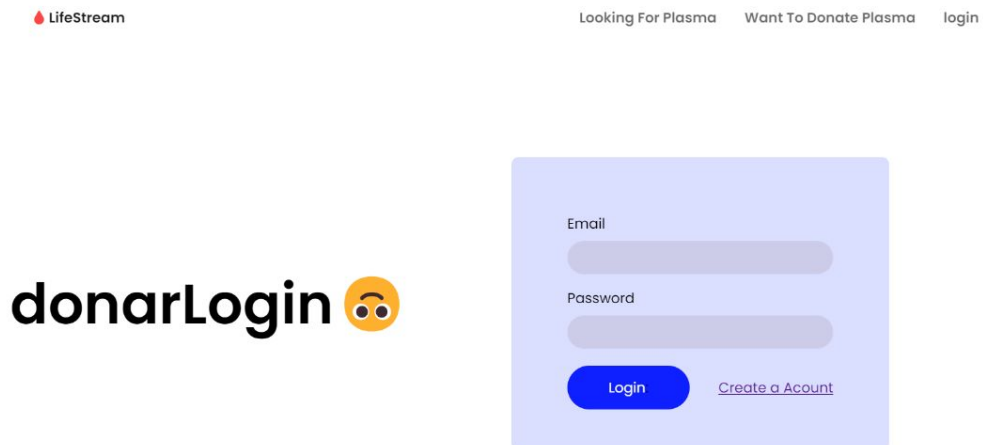
<https://github.com/IBM-EPBL/IBM-Project-22082-1659803477/tree/main/Project%20Development%20Phase/Sprint%204>

8. TEST CASES


8.1 HOME PAGE



8.2 DONOR LOGIN




8.3 ADMIN LOGIN



Looking For PlasmaWant To Donate Plasmalogin

AdminLogin




Email

Password

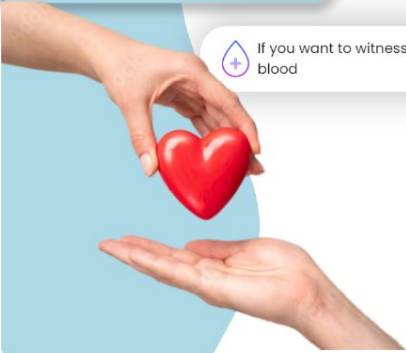
submit

8.4 REQUEST TO BE DONOR



Looking For PlasmaWant To Donate Plasma^{*}logout

Donate blood and be the reason for someone's existence



If you want to witness a miracle, donate blood

Age

State

Tamilnadu

City

Ariyalur

Blood Group

A+,B-

submit


23

8.5 LOOK FOR DONOR

LifeStream

Looking For Plasma

Want To Donate Plasma

 logout

SearchFor Plasma

Tamilnadu

Ariyalur

A+

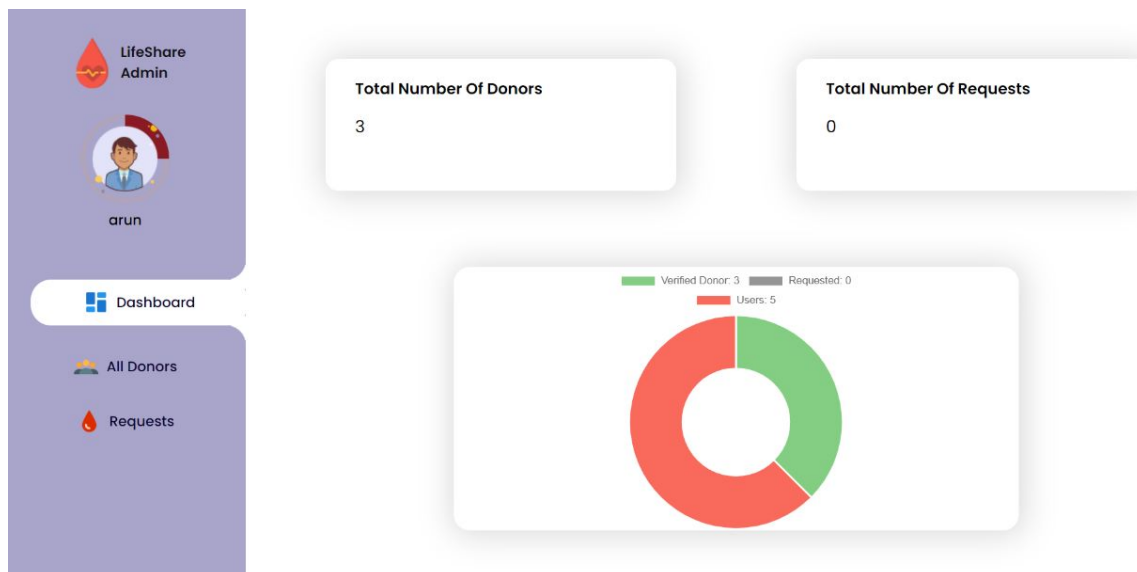
Unit Required

Submit

Plasma Stock Availability

| S.No | Donar Name | Age | City | Blood Group | Email |
|------|------------|-----|------|-------------|-------|
|------|------------|-----|------|-------------|-------|

8.6 ADMIN DASHBOARD



8.7 LIST OF REQUEST

LifeShare Admin

janaki

Dashboard

All Donors

Requests

All Requests

| Requested Person | Blood Group | State | City | Action |
|---------------------------------|-------------|-----------|-------------|---|
| Anantharaj anantharaj@gmail.com | A- | kerala | anurathpura | <button>Approve</button> <button>Deny</button> |
| arumugam arumugam@gmail.com | O+ | tamilandu | chennai | <button>Approve</button> <button>Deny</button> |

8.8 LIST OF VERIFIED DONORS

LifeShare Admin

arun

Dashboard

All Donors

Requests

All Verified Donors

| Donor Name | Blood Group | State | City |
|---------------------------|-------------|-----------|--------------|
| anantha anantha@gmail.com | A- | tamilnadu | chennai |
| raj raj@gmail.com | A+ | tamilnadu | kallakurichi |
| kumar kumar@gmail.com | A- | tamilnadu | chennai |

9. RESULTS

9.1 PERFORMANCE METRICS

- **Formal code metrics** - Such as Lines of Code (LOC), code complexity, Instruction Path Length, etc. In modern development environments, these are considered less useful.
- **Developer productivity metrics**—Such as active days, assignment scope, efficiency and code churn. These metrics can help you understand how much time and work developers are investing in a software project.
- **Agile process metrics**—Such as lead time, cycle time and velocity. They measure the progress of a dev team in producing working, shipping-quality software features.
- **Operational metrics**—Such as Mean Time Between Failures (MTBF) and Mean Time to Recover (MTTR). This checks how software is running in production and how effective operations staff are at maintaining it.
- **Test metrics**—Such as code coverage, percent of automated tests, and defects in production. This measures how comprehensively a system is tested, which should be correlated with software quality.
- **Customer satisfaction**—Such as Net Promoter Score (NPS), Customer Effort Score (CES) and Customer Satisfaction Score (CSAT). The ultimate measurement of how customers experience the software and their interaction with the software vendor.

10. ADVANTAGES

1. Easy connecting donors and recipients makes plasma donation way more proficient.
2. Prime motive of the app is to solve the perpetual shortfall of plasma donors.
3. It connects plasma donors and recipients through a single and scalable platform.
4. Effortless access: Users on this platform will be able to use the app with just One-click.

DISADVANTAGES

1. Internet: It would require an internet connection for the working of the website.
2. Auto-Verification: It cannot automatically verify the genuine users.

11. CONCLUSION

The efficient way of finding plasma donors for the infected people is implemented using the plasma donor website that is hosted on Cloud platform. To ensure the smooth functioning of the website operations. I have hosted the website on a cloud platform to make sure the operations service are running successfully to deploy the application cloud.

12. FUTURE ENHANCEMENT

Upgrading the UI that is more user-friendly which will help many users to access the website and also ensures that many plasma donors can be added into the community. Using elastic load balancer, it helps to handle multiple requests at the same time which will maintain the uptime of the website with negligible downtime.

13. APPENDIX

GITHUB LINK: <https://github.com/IBM-EPBL/IBM-Project-22082-1659803477>

DEMO LINK: <https://youtu.be/AiKmhb57lBs>

