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DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

PLASMA DONOR APPLICATION

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PLASMA DONOR APPLICATION

1. INTRODUCTION

1.1 Project Overview

Cloud computing is the delivery of computing resources *as a service*, meaning that the resources are owned and managed by the cloud provider rather than the end user. Those resources may include anything from browser-based software applications (such as Tik Tok or Netflix), third party data storage for photos and other digital media (such as iCloud or Dropbox), or third-party servers used to support the computing infrastructure of a business, research, or personal project.

Before the broad proliferation of cloud computing, businesses and general computer users typically had to buy and maintain the software and hardware that they wished to use. With the growing availability of cloud-based applications, storage, services, and machines, businesses and consumers now have access to a wealth of on-demand computing resources as internet-accessed services. Shifting from on-premise software and hardware to networked remote and distributed resources means cloud users no longer have to invest the labor, capital, or expertise required for buying and maintaining these computing resources themselves. This unprecedented access to computing resources has given rise to a new wave of cloud-based businesses, changed IT practices across industries, and transformed many everyday computer-assisted practices.

Cloud computing helps in on-demand delivery of IT resources over the internet with a pay-as-you-go pricing model where users have to pay only for the resource that they use. This helps to reduce the additional infrastructural cost and users can access technology services such as power, storage, compute, database, networking, analytics and also intelligence over the internet in order to offer flexibility, innovation, and economies of scale. With the cloud, individuals can now work with colleagues over video meetings and other collaborative platforms, access entertainment and educational content on demand, communicate with household appliances, hail a cab with a mobile device, and rent a vacation room in someone's house.

Users can run their infrastructure more efficiently and scale their business according to their requirements. Cloud deployment modules such as public cloud, private cloud, hybrid cloud and community cloud helps the users to choose the type of deployment options that are beneficial

for their company. Cloud service models consist of software as a service (saas), platform as a service (pass) and infrastructure as a service . In Software as a service a third party service provider will host the applications and make them available over the internet. Some require

purchasing a licensed version which involves huge cost and with the help of software as a service those applications can also be used without having to buy the license of the software which is more cost effective. With the help of platform-as-a-service, customers can run, develop and manage the applications without any complexity of building and maintaining the infrastructure which is associated with developing and launching the applications. Infrastructure as a service allows the enterprise to rent or lease the servers for compute and storage in the cloud. Microsoft Azure. Amazon Web Services (AWS), Microsoft Azure, Google Cloud, IBM Cloud, Oracle, Salesforce, SAP are some of the cloud service providers. Amazon web services (AWS) is one of the leading cloud service providers. They offer a mixture of infrastructure as a service (IaaS), software as a service (SaaS) and platform as a service (PaaS). AWS was launched in 2006 and it is one of the first company to introduce a pay-as-you-go cloud computing model. Plasma is that the clear, straw-co loured liquid part of blood this is still once crimson blood cells, white blood cells, platelets and alternative cellular elements rectangular measure removed. it's the only largest element of human blood, comprising fifty-five p.c, and carries water, salts, enzymes, antibodies and alternative proteins. A plasma donor has to pass health screening prior to each donation. Plasma is collected through a process known as plasmapheresis. During this process an automated device is used to separate the plasma from the blood. Once the plasma is collected red blood cells and other components will be returned to the donor. After plasma is collected it is tested for suitability for future manufacture, frozen and then held for 60 days prior to pooling. A donor has to register to the website providing his details such as name, contact information (phone number and email id) along with donor's blood group and donor's plasma count. A Donor can view the request and accept the request. Patient/Users has to register and provide details ,User can request blood and view the details of the donors. In this project the services used are AWS Lambda which will allow the users to run the code without managing or provisioning the servers, AWS API gateway is a fully managed service which makes it easy for a developer to create, publish, monitor, secure, maintain APIs at any scale. It handles all the tasks which are involved in accepting and processing hundreds of Concurrent API calls along with traffic management, authentication, authorization and API version management. DynamoDB is a multi-master database used for

storing the data, Amazon SNS is a messaging service for system-to-system and app-to-person communication.

1.2 Purpose

During the COVID 19 crisis, the requirement for plasma increased drastically as there were no vaccinations found in order to treat the infected patients, plasma became a high priority and the donor count became low. In such a situation it was very difficult to find the plasma donor, check whether the donor was infected previously and was recovered, and which donor is eligible to donate plasma was a challenging task. As the plasma therapy was one of the ways to treat the infected patients. 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.

2. LITERATURE SURVEY

2.1 Existing Problem

Abhijeet Gaikwad et.al., (2022) [1] INSTANT PLASMA DONOR RECIPIENT CONNECTOR WEB APPLICATION .The scientific way in which we can help reduce mortality or help people affected by COVID19 by donating plasma from recovered patients. In the absence of an approved antiviral treatment plan for a fatal COVID19 infection, plasma therapy is an experimental approach to treat COVID19-positive patients and help them recover faster. In the recommendation system, the donor who wants to donate plasma can donate by uploading their COVID19 certificate and the blood bank can see the donors who have uploaded the certificate and they can make a request to the donor and the hospital can register/login and search for plasma from a blood bank and they can request a blood bank and obtain plasma from the blood bank.

Nilofar Mulla et.al., (2017) [2] Smart Blood Finder.The major problem faced by the main blood 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 Blood banks can timely update the Blood Stock availability and donor and register themselves to the donor and the user can find blood availability nearby him/her at the urgent time of a blood requirement,users can quickly check for blood banks, hospitals or donor as per requirement matching a particular or related and reach out to them through the App.

T.Hilda Jenipha et.al.,(2014) [3] Android BloodDonor Life Saving Application in Cloud Computing.Blood Donor App provides a list of donors in your city/area. Use this app in case of emergency. A large number of blood donors are attracted using an Android application. Cloud-based services can prove important in emergency blood delivery since they can enable central and immediate access to donors' data and location from anywhere. Since almost everyone carries a mobile phone with him, it ensures instant location tracking and communication. The location-based app, operational on android platform, will help users easily find donors of matching blood groups in their location and access their mobile numbers for instant help. Only a registered person, with willingness to donate blood, will be able to access the service.

Manali Mange et.al.,(2020) [4] Online Blood Bank Management System using Android Application.This project is developed with an aim where users can view the knowledge of nearby hospitals, blood banks and also the three important perspectives which include the hospital, blood bank and patient/donor. In this system we've provided security with authentication where users have to login if already registered or as a brand-new user must register per their form of perspective. This project requires internet connection so as to fulfill the necessities. The system will confirm that just in case of need, the blood is made available to the patient. This paper is targeted at the Online Blood Donation Management System which is an android application with supporting mobile applications aimed to function as a communication tool between patients (who need blood) and donors.

Waseem Sultan et.al.,(2018) [5] Android Blood Bank.The purpose of this project is to fulfill the blood requests of people in need of it by time. To achieve this we will be having a promising Android application in which one can easily request for blood. One can even donate blood through it. A person in need of blood can easily search for voluntary blood donors near him as well as locate and contact nearby hospitals, blood banks, healthcare centers and NGOs to check for availability of the same. Here both, the donor and the recipient are brought on to a common platform. There will be no communication barrier between them. The recipient can easily get to know the details and can contact the required donor.

Sultan et.al.,(2015) [6] AN ANDROID APPLICATION FOR VOLUNTEER BLOOD DONORS.There is an expectation that the blood will always be there when it is really needed. Blood donor volunteers constitute the main supply source in an effective blood supply chain

management. They feed blood stocks through their donation. In an emergency situation, if the stocks are insufficient, the only source of blood supply will be the people who come to the health center and donate the blood on a voluntary basis. It is certain that time is a very important component in such a situation. For this reason, the health care center should call the nearest available donor in order to ensure to get the service as quickly as possible. Android application is developed to facilitate the identification of the nearest available blood donor volunteer and the communication with him/her in the emergency situations where the blood can't be supplied through the blood banks' stocks.

Dhuha Basheer et.al.,(2021) [7] Real-time cloud system for managing blood units and Convalescent plasma for COVID-19 patients. In health care systems, blood management services are essential to saving lives. In such systems, when a unit of blood is required, if the system is not able to provide it on time, sometimes this may lead to patient death, especially in critical cases. This system will allocate blood units depends on the deadline and the severity of the case that needs blood, in addition to the types, quantities, and position of available blood units. Where, this system eliminated the need for human intervention in managing blood units, in addition to offering the ability to easily develop the system to deal with new urgent requirements, which need new methods of managing blood units;

Rishab et.al.,(2020) [8] Lifesaver E-Blood Donation App Using Cloud. A blood bank database is created by collection of details from various sources like Blood banks, NSS, NGO's, hospitals and through web interface. The data collected will be maintained in a central server. This central server will be associated with a Toll-free number that can be used to connect to it. An algorithm will be defined based on the various parameters that need to be accounted for, before blood transfer is done. The willingness of the donor and the closeness of the donor to the place from where the call is coming are also accounted for in defining this algorithm. From the server the call from the required person is routed to the eligible donor's number. If requested stock is not available in the blood bank then the blood bank sends notification to all donors. If anyone is able to donate then he will reply to the blood bank

Shravani et.al.,(2022) [9] Blood Bank Donation And Management Using Django. The main aim of developing this technique is to provide blood to the people that are in need of, The number of persons who are in need of blood are increasing in sizable amount day by Using this

technique user can search blood type available within the city and also can get contact number of the donor who has an equivalent blood type he needs. In order to help people who are in need of blood, this application is often used effectively for getting the small print of obtainable blood groups and users also can get contact numbers of the blood donors having an equivalent blood type and within an equivalent city. So if the blood group isn't available in the blood bank, the user can request the donor to donate the blood to him and save someone's life.

Vamsi et.al.,(2017) [11] blood donor and requester mobile application. Various features of the application are described and their needs of use are analyzed. If a patient needs blood at a clinic, blood donors in the vicinity can be contacted through using a clinic management service provided in this application. Registered donors will get notification for the blood requests only if their blood group is compatible with the requested blood type and in the same city/region. Then matching blood donors can go to the requesting clinic and donate.

Sanguine et.al.,(2017) [12] Determinants of plasma donation. 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. 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 behaviors, but also differences that indicate a need for further research regarding plasma donation.

Asif Iqbal et.al.,(2020) [13] Nearest Blood & Plasma Donor Finding: A Machine Learning Approach. Plasma is needed to recover their illness. Our Purpose is to build a platform with clustering algorithms which will jointly help to provide the quickest solution to find blood or plasma donors. Closest blood or plasma donors of the same group in a particular area can be explored within less time and more efficiently. The necessity of blood has become a significant concern in the present context all over the world. Due to a shortage of blood, people couldn't save themselves or their friends and family members. A bag of blood can save a precious life.

Maraz et.al.,(2021) [14] A Cross-Platform Blood Donation Application with a Real-Time, Intelligent, and Rational Recommendation System. Blood or plasma transmission is one of the most effective treatments for critical diseases like Covid 19. Nowadays, voluntary blood donation has become the major source of blood supply. Several mobile applications are

currently available to establish the initial communication between blood donors and receivers. Recommending the right potential donor during a blood search can save the life of a critical patient with an immediate response from the donor. However, the requirement of an advanced recommendation system has not been addressed by any of the existing mobile applications.

Gaston Godin et.al.,(2014) [15] Whole Blood Donors to Become Plasma Donors.recruit new plasma donors among whole blood donors. A sample of 924 donors was randomized to one of three conditions: control; information only by nurse; and information plus self-positive image message by nurse (SPI). Participants in the control condition only received a leaflet describing the plasma donation procedure. In the two experimental conditions the leaflet was explained face-to-face by a nurse. The dependent variables were the proportion of new plasma donors and the number of donations at six months. Overall, 141 (15.3%) new plasma donors were recruited at six months.

2.2 Reference :

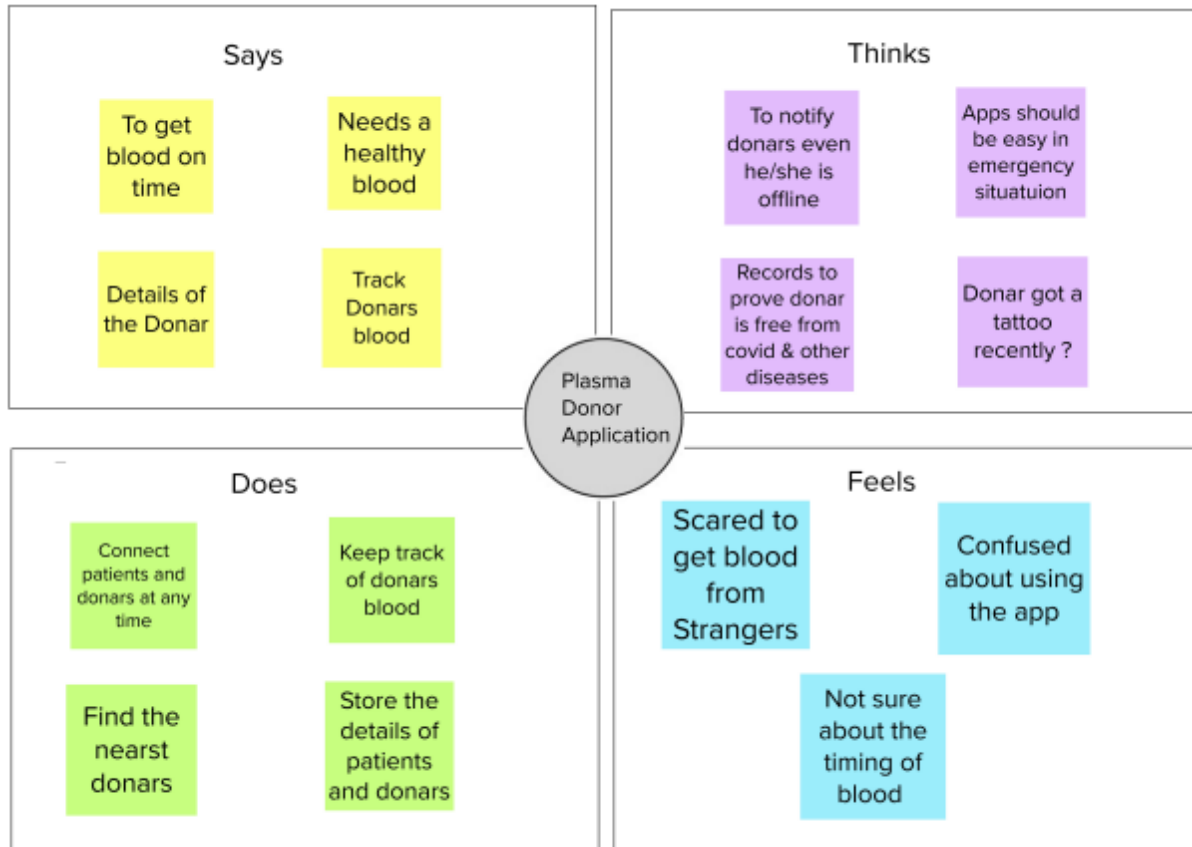
- [1] R. C. Gojko Adzic, "Serverless computing: Economic and architectural impact," ESEC/FSE, 2017.
- [2] P. C. P. C. a. V. I. M. Yan, "Building a chatbot with serverless computing," IBM Watson research center, 2016.
- [3] S. E. a. B. J. J. Short, ""Cloud Event Programming Paradigms: Applications and Analysis,"" 9th IEEE International Conference on Cloud Computing (CLOUD), pp. pp. 400-406, 2017.
- [4] Z. Al-Ali, ""Making Serverless Computing More Serverless,"" IEEE 11th International Conference on Cloud Computing (CLOUD), pp. pp. 456-459, 2018., 2018.
- [5] A. S. a. S. Jindal, ""EMARS: Efficient Management and Allocation of Resources in Serverless,"" IEEE 11th International Conference on Cloud Computing (CLOUD), pp. pp. 827-830, 2018

2.3 Problem statement Definition

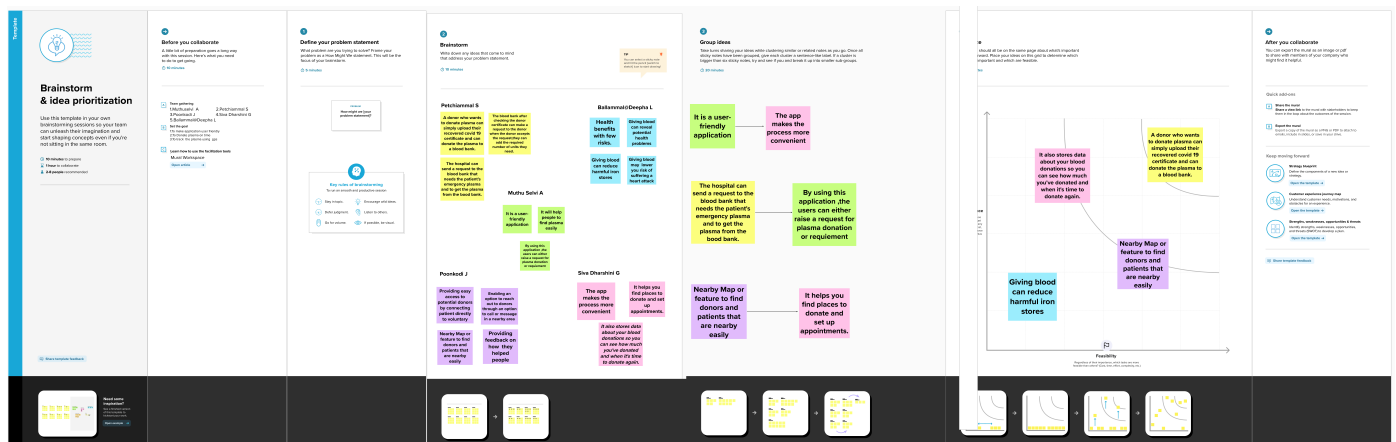
Many major medical conditions are treated by plasma. One of the most well-known techniques known as plasma treatment, plasma is used to cure various incurable diseases. As there were no vaccines available to treat the infected patients during the Covid-19 emergency, the need for plasma increased dramatically.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

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map



3.2 Ideation and Brainstorming



3.3 Proposed Solution

S.No.	Parameter	Description
1	Problem Statement (Problem to be solved)	Many major medical conditions are treated by plasma. One of the most well-known techniques known as plasma treatment, plasma is used to cure various incurable diseases. As there were no vaccines available to treat the infected patients during the Covid-19 emergency, the need for plasma increased dramatically. Plasma therapy had a high probability of recovery but a very low donor count, therefore it was crucial to learn more about the donors in these circumstances. It would be helpful to save the contributor information and let clients know about the recurring donors because it can help them find the crucial information more quickly.
2	Idea / Solution description	This system's goal is to use a web application to link donors and patients. Patients of this application may post requests for plasma donations or requests. The fundamental solution is to establish a centralized system that will keep track of current and previous Plasma Donation Events and also keep track of the location of the donor's plasma using google map. The recommendation solution is as follows: Application contains three roles:

		<p>i)Patient</p> <p>ii)Doctor</p> <p>Patient</p> <ol style="list-style-type: none"> If the patient is new ,Patient must register first and then login The patient can request specific blood view type and quantity Patient can the accepted status by donor Patient can contact the donor directly <p>Donor</p> <ol style="list-style-type: none"> If the donor is new he/she must register first and then login to the page Upload vaccination certificates View blood request Accept/reject blood request View the previous donation stat View blood donation campaigns posted by registered blood banks Download E-certificate after donation
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3	Novelty / Uniqueness	<p>Users can easily grasp a user interface. The application is available anytime, anywhere. The user can use this application to raise a request and directly contact the donor to ask them to donate the plasma if they urgently need it for their treatment but the plasma is not available in the nearby hospitals. Hospitals may also put out a call for donors. Someone who wishes to donate blood and plasma but is unsure how to do so uses this app, which is easy to use and will help save many lives. Nowadays, a lot of them have smartphones on which they can download this app and use it to save lives</p>
4	Social Impact / Customer Satisfaction	<p>Everything is accessible online because we live in a modern age. Despite the fact that there are numerous applications, there is no official form for donating plasma. Although many of them would like to donate blood and plasma, they are not aware of the process or how to contribute. The ability to give plasma is made available through this application. Plasma donations are being made everywhere, and although many people step forward to do so, the plasma is not always ready for use. There may occasionally be a shortage of a particular type of plasma. Prior to plasma transfusion, we require additional facilities that provide quick access to patient information.</p> <p>Software applications are used in conjunction with cloud computing and tools to address this problem and offer capabilities like</p>

		information retrieval and ongoing data tracking with analytics. A centralized location to save accurate information and boost participants' faith in the activity. It boosts the quantity of donors.
5	Business Model (Revenue Model)	To build an android application that will help people to get blood in emergency situations like natural disasters using features like geo-tagging. To motivate people for blood donation and to help patients receive blood in emergency situations, we have designed an application to overcome all the problems which the current offline as well as online systems face. If in emergency a patient requires blood, using this application we'll not just be able to contact Blood Bank and Hospitals but can also seek help from individual registered Donors
6	Scalability of the Solution	<p>Instead of scouring the entire world for plasma donors, this APP enables users to find donors while sitting at home. When there is an emergency, plasma requests that everyone sends a message.</p> <p>When a donor is prepared to donate, the recipient is informed. Receiver may get in touch with the donor. This software helps donors find potential donors quickly and easily by letting them know if they are eligible to donate.</p>

3.4 Proposed Solution Fit

Define C.S., fit into

1. CUSTOMER SEGMENT(S)
CS

- Users of age between 18 and 80
- People willing to donate plasma
- People who are in need of plasma

6. CUSTOMER
CC

- Shortage of plasma
- Only registered users can donate and get information related to plasma

5. AVAILABLE SOLUTIONS
AS

- They can call them directly in case of late response
- Plasma availability is visible to all the patient-not know the availability of the blood

Explore A.S.,

Focus on J&P, tap into BE, understand

2. JOBS-TO-BE-DONE / PROBLEMS
J&P

- To contact the donor directly.
- To track the plasma location
- Create awareness of the dos and don'ts before and after plasma donation

9. PROBLEM ROOT CAUSE
RC

- Due to the pandemic plasma need has increased
- Many people are not aware of the donation apps

7. BEHAVIOUR
BE

- They can approach the nearby hospitals to get clarification

Focus on J&P, tap into BE, understand

Identify strong TR & EM

3. TRIGGERS
TR

- Emergency requirements of blood
- Volunteerism to help

10. YOUR SOLUTION
SL

- Patient can send a request for blood
- Both donor and patient can register and see their information
- Patient can track the plasma location
- E-Certificates will be provided after donating blood

8. CHANNELS OF BEHAVIOUR
CH

- Users get their e-certificates after donation plasma.
- Get details regarding the campus.
- Registering themselves to donate plasma.

Extract online & offline CH of BE

4. EMOTIONS: BEFORE / AFTER
EM

Emotion Before	Emotion After
Asking blood only to the known people and don't know about the availability of blood	Get all the details about the blood type And about the donor
Unsure about the health condition of the donor	Patient can view the medical certificate of donor
Not able to find the location of the blood	Track the location of the blood

4.REQUIREMENT ANALYSIS

4.1 Functional Requirement

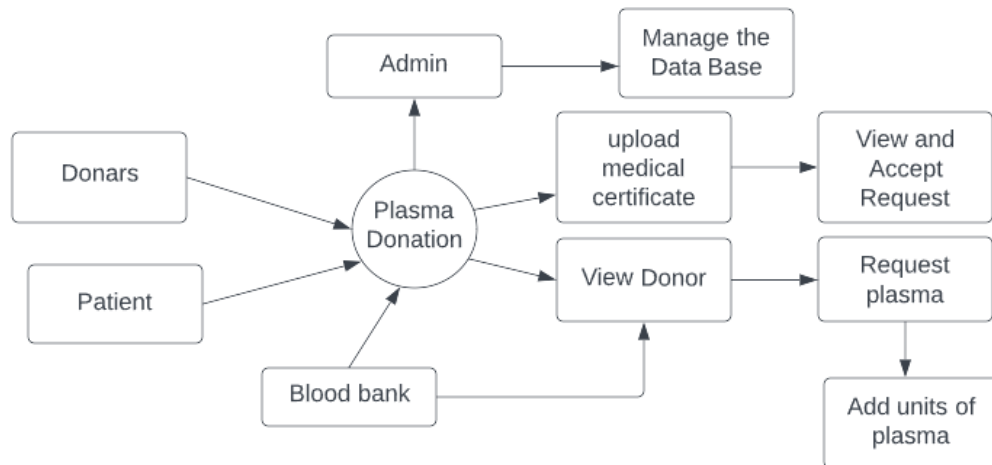
FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form (WebApp)
FR-2	User Confirmation	Confirmation via Email
FR-3	Certification	After the donor donates plasma, we will give them a certificate of appreciation and authentication.
FR-4	Statistical data	The availability of plasma is given in the page as stats, which will be helpful for the users.
FR-5	User Plasma Request	Users can request to donate plasma by filling out the request form on the page.
FR-6	Searching/repor ting requirements	Users can use the search bar to look up information about camps and other topics.

4.2 Non-Functional Requirements

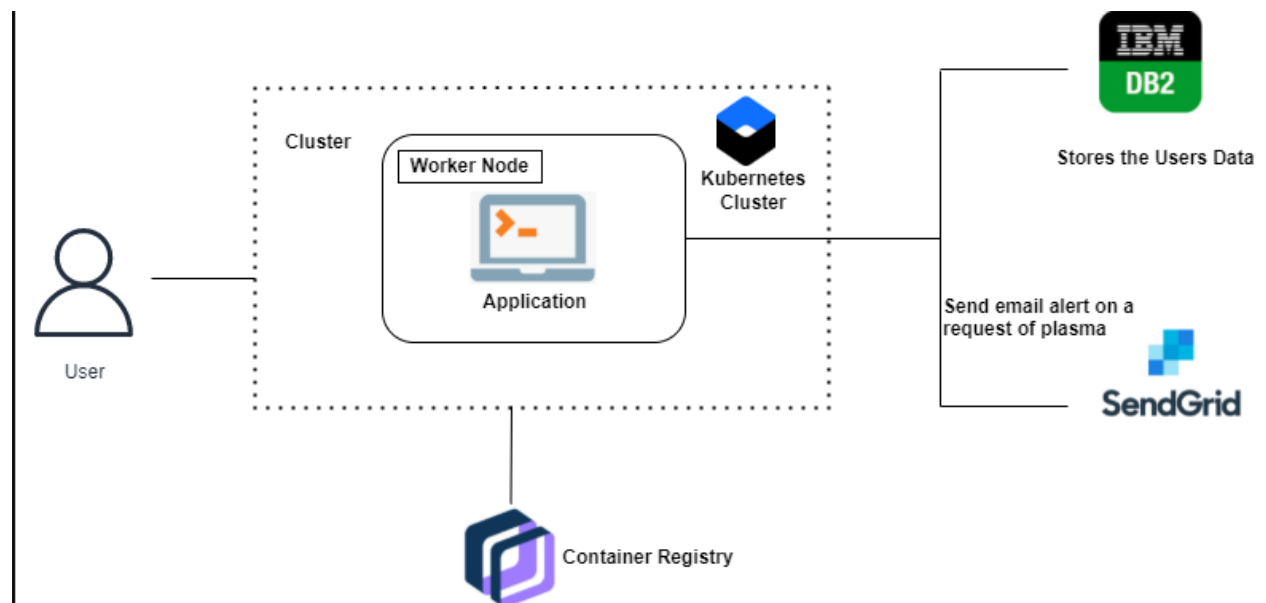
FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Must have a good-looking User-friendly interface.
NFR-2	Security	It must be secured with the proper username and password.
NFR-3	Reliability	The system should be made in such a way that it is reliable in its operations and for securing the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



5.2 Solution and Technical Architecture



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 entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
	Confirmation	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
	Access application	USN-3	As a user, I can register for the application through application	I can register & access the application	Low	Sprint-2
	Registration Gmail	USN-4	As a user, I can register for the application through Gmail	I can receive successful registration Gmail	Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password	I can enter into application successfully	High	Sprint-1
Customer (Web user)	Access Website	USN-6	Capable to access web application through an browser	I can access web-application	Medium	Sprint-1
	Search for donor	USN-7	Search result can be viewed in a list	I can view list represents a specific donor with donor details	High	Sprint-1
Customer Care Executive	Software Operator	USN-8	Should be able to register through application. Donor must provide username, gender, blood group, location, contact.	The user's response surprised us positively	High	Sprint-1
	View request	USN-9	The customer care executive should be able to view received request and then respond to them	We can receive the request response immediately	High	Sprint-1
Administrator	Maintenance	USN-10	Admin can access, view, modify, update all details of the plasma donor application	Admin is the authorized person of the overall application.	High	Sprint-1

6.PROJECT PLANNING AND SCHEDULING

6.1 Sprint Planning and Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority
Sprint 1	Registration	USN-1	As a user,I can register for the application by password,and confirming my	20	High

			password.		
Sprint 2	Login	USN-2	As a user,I can login into my account through the registered mail ID.	20	High
Sprint 3	Donor Information	USN-3	As a user,I can fill the information like blood pressure,blood group,address, mobile number and other information.	20	Low
Sprint 4	Finding the Donor	USN-4	The patient can find the donor by their blood groups,location	20	Medium

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 1	20	6 Days	31 oct 2022	05 nov 2022	20	05 nov 2022
Sprint 1	20	6 Days	07 oct 2022	12 nov 2022	20	12 nov 2022
Sprint 1	20	6 Days	14 nov 2022	19 nov 2022	20	19 nov 2022

7.CODING AND SOLUTIONING

7.1 Feature 1

Register.html

```
<!DOCTYPE>
```

```
<html >
```

```
<!--From https://codepen.io/frytyler/pen/EGdtg-->
```

```
<head>
```

```
<meta charset="UTF-8">
```

```
<title>Plasma Donor App</title>
```

```
<link href='https://fonts.googleapis.com/css?family=Pacifico' rel='stylesheet' type='text/css'>
```

```
<link href='https://fonts.googleapis.com/css?family=Arimo' rel='stylesheet' type='text/css'>
```

```
<link href='https://fonts.googleapis.com/css?family=Hind:300' rel='stylesheet' type='text/css'>
```

```
<link href='https://fonts.googleapis.com/css?family=Open+Sans+Condensed:300'
rel='stylesheet' type='text/css'>
```

```
<link rel="stylesheet" href="{ { url_for('static', filename='style1.css') } }">
```

```
<link rel="stylesheet" href="style.css">
```

```
<style>
```

```
.login{
```

```
top: 20%;
```

```
}
</style>
</head>
```

```
<body>
<div class="header">
<div>Plasma Donor App</div>
<ul>
<li><a class="active" href="/login">Home</a></li>
```

```
</ul>
</div>
```

```
<div class="login">
```

```
<!-- Main Input For Receiving Query to our ML -->
<form action="{ { url_for('register') }}" method="post">
<input type="text" name="name" placeholder="Enter Your Name" required="required"
style="color:black"/>
<input type="email" name="email" placeholder="Enter Email" required="required"
style="color:black"/>
<input type="text" name="phone" placeholder="Enter 10-digit mobile number" required="required"
style="color:black"/>
<input type="city" name="city" placeholder="Enter Your City Name" required="required"
style="color:black"/>
    <select name="infect">

        <option value="select" selected>Select COVID infection status</option>
        <option value="infected">Infected</option>
        <option value="uninfected">Uninfected</option>

    </select>
    <select name="blood">
    <option value="select" selected>Choose your blood group</option>
    <option value="O Positive">O Positive</option>
    <option value="A Positive">A Positive</option>
```

```

<option value="B Positive">B Positive</option>
<option value="AB Positive">AB Positive</option>
<option value="O Negative">O Negative</option>
<option value="A Negative">A Negative</option>
<option value="B Negative">B Negative</option>
<option value="AB Negative">AB Negative</option>
</select>
<input type="password" name="passw" placeholder="Enter Password" required="required"
style="color:black"/>
<button type="submit" class="btn btn-primary btn-block btn-large">Register</button>

</form>

<br><br>
<div style="color:black">
{{ pred }}</div>
</div>
</body>
</html>

```

Login.html

```

<!DOCTYPE html>

<html >

<!--From https://codepen.io/frytyler/pen/EGdtg-->

<head>

<meta charset="UTF-8">

<title>Plasma Donor App</title>

<link href='https://fonts.googleapis.com/css?family=Pacifico' rel='stylesheet' type='text/css'>

<link href='https://fonts.googleapis.com/css?family=Arimo' rel='stylesheet' type='text/css'>

```

```

        <link href='https://fonts.googleapis.com/css?family=Hind:300' rel='stylesheet' type='text/css'>
        <link href='https://fonts.googleapis.com/css?family=Open+Sans+Condensed:300'
rel='stylesheet' type='text/css'>
        <link rel="stylesheet" href="{{ url_for('static', filename='style1.css') }}">
        <!link rel="stylesheet" href="style.css">
<style>
.login{
top: 20%;
}
</style>
</head>

<body>
<div class="header">
<div>Plasma Donor App</div>
        <ul>

                <li><a href="/registration">Register</a></li>
                <li><a class="active" href="/login">Home</a></li>

        </ul>
</div>
<div class="login" >
        <div>
        </div>

        <!-- Main Input For Receiving Query to our ML -->
<form action="{{ url_for('loginpage') }}"method="post">

```

```

<input type="text" name="user" placeholder="Enter UserName" required="required"
style="color:black" />

<input type="password" name="passw" placeholder="Enter Password" required="required"
style="color:black" />

<button type="submit" class="btn btn-primary btn-block btn-large">Login</button>

</form>

<br><br>

<div style="color:black">

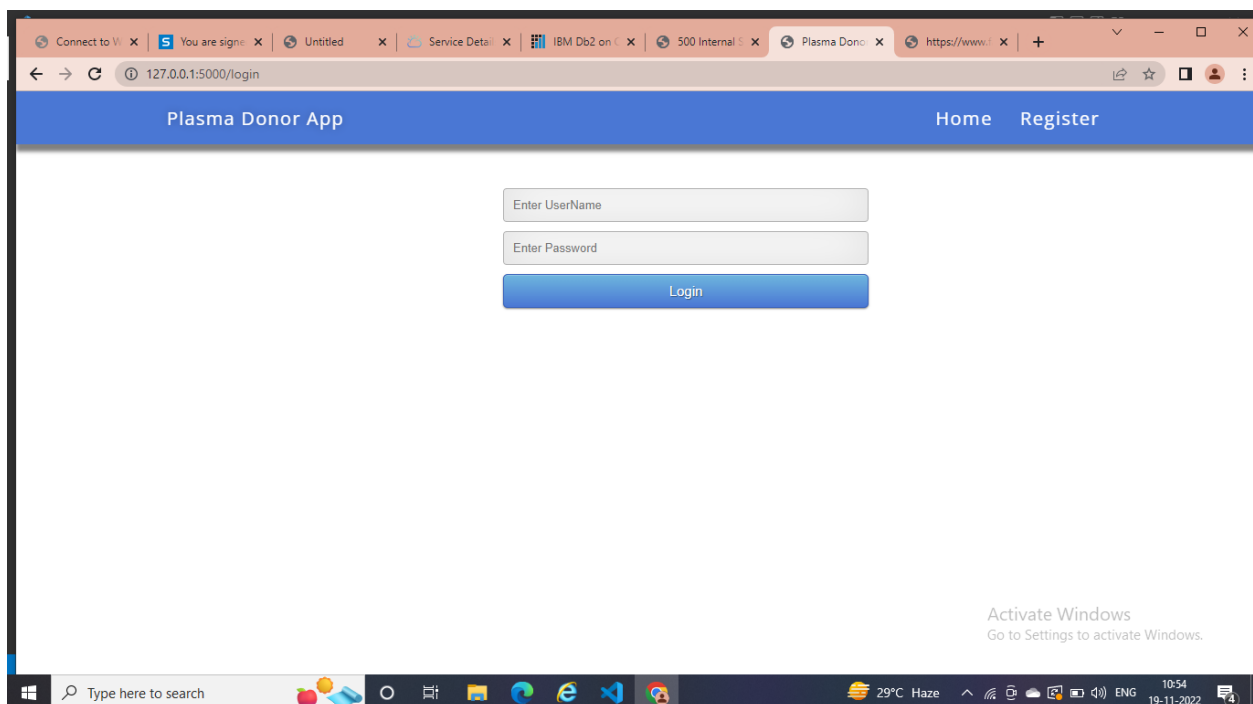
{{ pred }}</div>

</div>

</body>

</html>

```



Status.html

```

<!DOCTYPE
html>

<html lang="en">
<head>
<title>Plasma Donar App</title>
<meta charset="utf-8">

```



```

<meta name="viewport" content="width=device-width, initial-scale=1">
<link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></s
<script
src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.16.0/umd/popper.min.js"></
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js">
<link rel="stylesheet" href="{{ url_for('static', filename='style1.css') }}">
<!--link rel="stylesheet" href="style.css"-->
</head>
<style>

    .big{
        top:70;
        background-color:white;
        margin-top:80px;
        margin-left:550px;
        margin-right:550px;
        height:200px;
        border-radius: 25px;
        border: 3px solid #4a77d4;
        box-shadow: 6px 8px 4px grey;
        text-align:center;
    }
    .row{

        height:150px;

    }
    .col{
        margin:10px;
        margin-left:50px;
        margin-right:50px;
        border-radius: 25px;
        border: 1px solid #4a77d4;
        box-shadow: 0px 8px 4px grey;
        text-align:center;
    }
    .ext{
        margin-top:25px;
        line-height:40px;
    }
    .ext1{
        margin-top:40px;

```

```

        line-height:50px;
        font-size:25px;
        color:#f95450;
    }

</style>
<body>

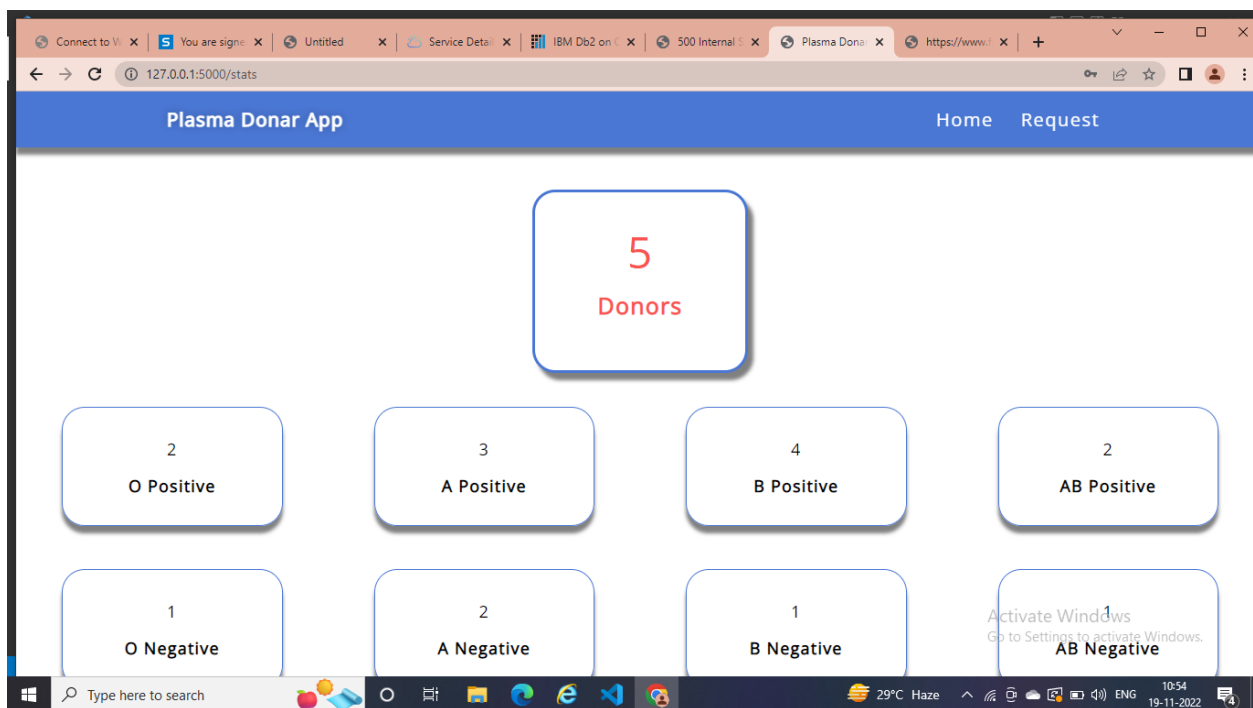
<div class="container-fluid">
<div class="header">
<div><b>Plasma Donar App</b></div>
<ul>
        <li><a href="/requester">Request</a></li>
        <li><a class="active" href="/login">Home</a></li>
    </ul>
</div>
<br>
<div class="big">
    <div class="box">
        <div class="ext1"><font size="20px">{{b}}</font><br><b>Donors</b></div>
    </div>
</div>
<br>
<div class="row">
    <div class="col" >
        <div class="ext">{{b1}}<br><b>O Positive</b></div>
    </div>
    <div class="col" >
        <div class="ext">{{b2}}<br><b>A Positive</b></div>
    </div>
    <div class="col" >
        <div class="ext">{{b3}}<br><b>B Positive</b></div>
    </div>
    <div class="col" >
        <div class="ext">{{b4}}<br><b>AB Positive</b></div>
    </div>
</div>
<br>
<div class="row">
    <div class="col" >
        <div class="ext">{{b5}}<br><b>O Negative</b></div>
    </div>
    <div class="col" >

```

```

        <div class="ext">{{b6}}<br><b>A Negative</b></div>
    </div>
    <div class="col" >
        <div class="ext">{{b7}}<br><b>B Negative</b></div>
    </div>
    <div class="col" >
        <div class="ext">{{b8}}<br><b>AB Negative</b></div>
    </div>
</div>
</div>
</body>
</html>

```



Request.html

```
<!DOCTYPE html>
```

```

<html >
<!--From https://codepen.io/frytyler/pen/EGdtg-->
<head>
  <meta charset="UTF-8">
  <title>Plasma Donor App</title>
  <link href='https://fonts.googleapis.com/css?family=Pacifico' rel='stylesheet'
type='text/css'>
  <link href='https://fonts.googleapis.com/css?family=Arimo' rel='stylesheet'
type='text/css'>
  <link href='https://fonts.googleapis.com/css?family=Hind:300' rel='stylesheet'
type='text/css'>
  <link href='https://fonts.googleapis.com/css?family=Open+Sans+Condensed:300'
rel='stylesheet' type='text/css'>
  <link rel="stylesheet" href="{{ url_for('static', filename='style1.css') }}">
  <link rel="stylesheet" href="style.css">

<style>
.login{
top: 20%;
}
</style>
</head>

<body>
<div class="header">
<div>Plasma Donor App</div>
  <ul>

    <li><a href="/requester">Request</a></li>

```

```

        <li><a href="/registration">Register</a></li>

        <li><a class="active" href="/login">Home</a></li>
    </ul>
</div>

<div class="login">
    <div>
    </div>

    <!-- Main Input For Receiving Query to our ML -->
    <form action="{{ url_for('requested')}}"method="post">
        <select name="bloodgrp">
            <option value="select" selected>Choose your blood
group</option>
            <option value="O Positive">O Positive</option>
            <option value="A Positive">A Positive</option>
            <option value="B Positive">B Positive</option>
            <option value="AB Positive">AB Positive</option>
            <option value="O Negative">O Negative</option>
            <option value="A Negative">A Negative</option>
            <option value="B Negative">B Negative</option>
            <option value="AB Negative">AB Negative</option>
        </select>
        <textarea rows="4" placeholder="Enter the address" required="required"
style="color:black" name="address"></textarea>
        <input type="text" name="address" rows="4" placeholder="Enter the address"
required="required" style="color:black" />
        <button type="submit" class="btn btn-primary btn-block btn-large">Submit the
request</button>
    </form>
    <br><br>
    <div style="color:black">

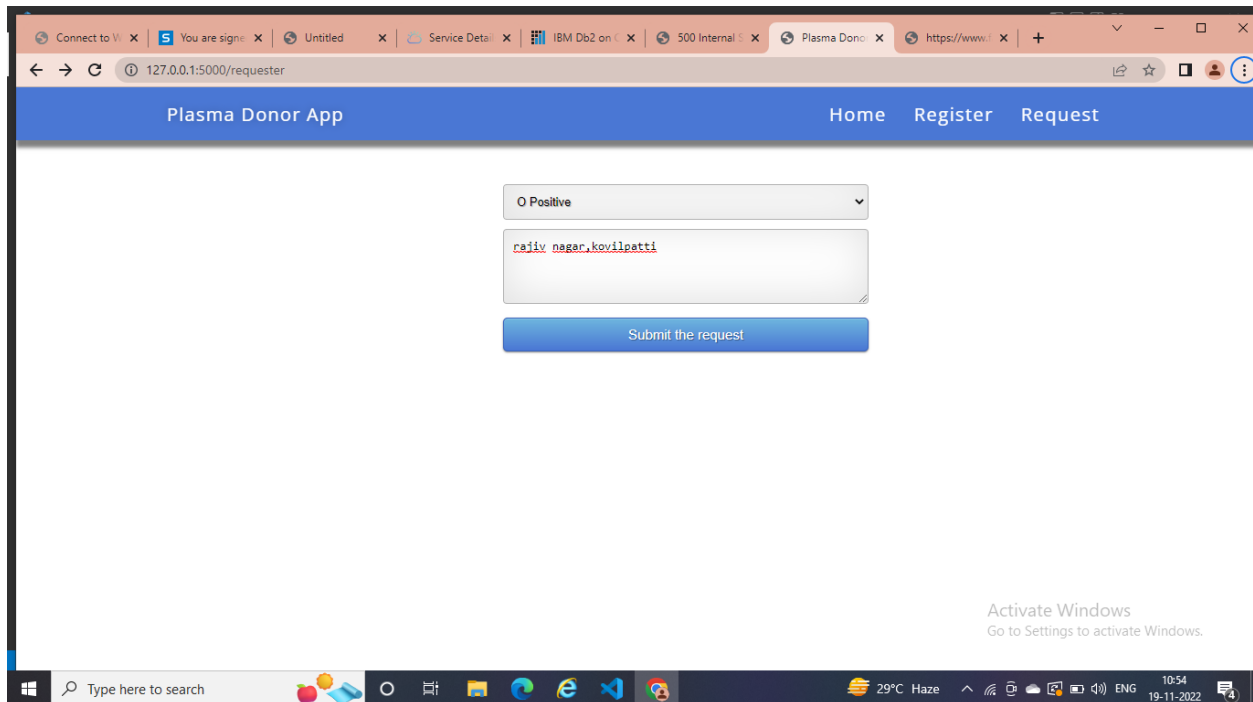
```

```
{{ pred }}
```

```
</div>
```

```
</body>
```

```
</html>
```



Style.css

```
@import url(https://fonts.googleapis.com/css?family=Open+Sans);
```

```
.btn {
```

```
    display: inline-block;
```

```
    *display: inline;
```

```
    *zoom: 1; padding:
```

```
    4px 10px 4px;
```

```
margin-bottom: 0;

font-size: 13px;

line-height: 18px;

color: #333333;

text-align: center;

text-shadow: 0 1px 1px rgba(255, 255, 255, 0.75);

vertical-align: middle;

background-color: #f5f5f5;

background-image: -moz-linear-gradient(top, #ffffff, #e6e6e6);

background-image: -ms-linear-gradient(top, #ffffff, #e6e6e6);

background-image: -webkit-gradient(linear, 0 0, 0 100%, from(#ffffff), to(#e6e6e6));

background-image: -webkit-linear-gradient(top, #ffffff, #e6e6e6);

background-image: -o-linear-gradient(top, #ffffff, #e6e6e6);

background-image: linear-gradient(top, #ffffff, #e6e6e6);

background-repeat: repeat-x;

filter: progid:dximagetransform.microsoft.gradient(startColorstr=#ffffff,
endColorstr=#e6e6e6, GradientType=0);

border-color: #e6e6e6 #e6e6e6 #e6e6e6;

border-color: rgba(0, 0, 0, 0.1) rgba(0, 0, 0, 0.1) rgba(0, 0, 0, 0.25);

border: 1px solid #e6e6e6;

-webkit-border-radius: 4px;
```

```
-moz-border-radius: 4px;
```

```
border-radius: 4px;
```

```
-webkit-box-shadow: inset 0 1px 0 rgba(255, 255, 255, 0.2), 0 1px 2px rgba(0, 0, 0, 0.05);
```

```
-moz-box-shadow: inset 0 1px 0 rgba(255, 255, 255, 0.2), 0 1px 2px rgba(0, 0, 0, 0.05);
```

```
box-shadow: inset 0 1px 0 rgba(255, 255, 255, 0.2), 0 1px 2px rgba(0, 0, 0, 0.05);
```

```
cursor: pointer; *margin-left: .3em;
```

```
}
```

```
.btn:hover, .btn:active, .btn.active, .btn.disabled, .btn[disabled] { background-color: #e6e6e6; }
```

```
.btn-large {
```

```
    padding: 9px 14px;
```

```
    font-size: 15px;
```

```
    line-height: normal;
```

```
    -webkit-border-radius: 5px;
```

```
    -moz-border-radius: 5px;
```

```
    border-radius: 5px;
```

```
}
```

```
.btn:hover {
```



```
color: #333333;

text-decoration: none;

background-color: #e6e6e6;

background-position: 0 -15px;

-webkit-transition: background-position 0.1s linear;

-moz-transition: background-position 0.1s linear;

-ms-transition: background-position 0.1s linear;

-o-transition: background-position 0.1s linear;

transition: background-position 0.1s linear;

}
```

```
.btn-primary, .btn-primary:hover {

    text-shadow: 0 -1px 0 rgba(0, 0, 0, 0.25);

    color: #ffffff;

}
```

```
.btn-primary.active { color: rgba(255, 255, 255, 0.75); }
```

```
.btn-primary {

    background-color: #4a77d4;
```

```
background-image: -moz-linear-gradient(top, #6eb6de, #4a77d4);

background-image: -ms-linear-gradient(top, #6eb6de, #4a77d4);

background-image: -webkit-gradient(linear, 0 0, 0 100%, from(#6eb6de), to(#4a77d4));

background-image: -webkit-linear-gradient(top, #6eb6de, #4a77d4);

background-image: -o-linear-gradient(top, #6eb6de, #4a77d4);

background-image: linear-gradient(top, #6eb6de, #4a77d4);

background-repeat: repeat-x;

filter: progid:dximagetransform.microsoft.gradient(startColorstr=#6eb6de,
endColorstr=#4a77d4, GradientType=0);

border: 1px solid #3762bc;

text-shadow: 1px 1px 1px rgba(0,0,0,0.4);

box-shadow: inset 0 1px 0 rgba(255, 255, 255, 0.2), 0 1px 2px rgba(0, 0, 0, 0.5);

}
```

```
.btn-primary:hover, .btn-primary:active, .btn-primary.active, .btn-primary.disabled, .btn-
primary[disabled] {

    filter: none;

    background-color: #4a77d4;

}
```

```
.btn-block { width: 100%; display: block; }
```

```
* { -webkit-box-sizing:border-box; -moz-box-sizing:border-box; -ms-box-sizing:border-box; -o-box-sizing:border-box; box-sizing:border-box; }
```

```
html { width: 100%; height:100%; overflow:hidden; }
```

```
body {
```

```
    width: 100%;
```

```
    height:100%;
```

```
    font-family: 'Open Sans', sans-serif;
```

```
    background: #ffffff;
```

```
    color: #000000;
```

```
    font-size: 18px;
```

```
    text-align:center;
```

```
    letter-spacing:1.2px;
```

```
}
```

```
.header {
```

```
    top:0;
```

```
margin:0px;

left: 0px;

right: 0px;

position: fixed;

background: #4a77d4;

color: white;

box-shadow: 0px 8px 4px grey;

overflow: hidden;

padding: 15px;

font-size: 1.5vw;

width: 100%;

text-align: center;

}
```

```
.login {

    position: absolute;

    top: 70%;

    left: 50%;

    margin: -25px 0 0 -150px;

    width:400px;

    height:400px;
```

```
}
```

```
.header div { color: #fff; text-shadow: 0 0 10px rgba(0,0,0,0.3); letter-spacing:1px; text-align:center; float:left; padding-left:150px;}
```

```
ul {
```

```
    list-style-type: none;
```

```
    margin: 0;
```

```
    padding: 0;
```

```
    padding-right:150px;
```

```
    overflow: hidden;
```

```
}
```

```
li {
```

```
    float: right;
```

```
}
```

```
li a {
```

```
    display: block;
```

```
    color: white;
```

```
text-align: center;

padding: 0px 15px;

text-decoration: none;

}
```

```
input {

    width: 100%;

    margin-bottom: 10px;

    background: rgba(255,255,255,255);

    border: none;

    outline: none;

    padding: 10px;

    font-size: 13px;

    color: black;

    text-shadow: black;

    border: 1px solid rgba(0,0,0,0.3);

    border-radius: 4px;

    box-shadow: inset 0 -5px 45px rgba(100,100,100,0.2), 0 1px 1px rgba(255,255,255,0.2);

    -webkit-transition: box-shadow .5s ease;
```

```
-moz-transition: box-shadow .5s ease;

-o-transition: box-shadow .5s ease;

-ms-transition: box-shadow .5s ease;

transition: box-shadow .5s ease;

}

input:focus { box-shadow: inset 0 -5px 45px rgba(100,100,100,0.4), 0 1px 1px
rgba(255,255,255,0.2); }
```

```
select {

    width: 100%;

    margin-bottom: 10px;

    background: rgba(255,255,255,255);

    border: none;

    outline: none;

    padding: 10px;

    font-size: 13px;

    color: #000000;

    text-shadow: 1px 1px 1px rgba(0,0,0,0.3);

    border: 1px solid rgba(0,0,0,0.3);

    border-radius: 4px;
```

```
box-shadow: inset 0 -5px 45px rgba(100,100,100,0.2), 0 1px 1px rgba(255,255,255,0.2);

-webkit-transition: box-shadow .5s ease;

-moz-transition: box-shadow .5s ease;

-o-transition: box-shadow .5s ease;

-ms-transition: box-shadow .5s ease;

transition: box-shadow .5s ease;

}
```

8.TESTING

User Acceptance Testing

Acceptance testing is testing the overall service flow and checking if each logical function works with all ranges of input from the perspective of an end user. This is similar to blackbox testing, as the user doesn't know the internal functioning of the application. They only provide their input and we need to validate if the necessary output has been acquired as a result. Load testing was performed on the hosted application using Jmeter. Jmeter is an application used for testing web applications and websites performance metrics. HTML GET requests are simulated with thread groups on Jmeter to test throughput, deviation, load etc.

9.RESULT

9.1 Performance Metrics

Metric	Measure
First Byte	0.879s

Start Render	1.800s
First Contentful Paint(FCP)	1.745s
Speed Index	1.807s
Largest Contentful Paint(LCP)	1.745s
Cumulative Layout Shift	0.002
Total Blocking Time(TBT)	>0.000s
Total Bytes	153KB

10.ADVANTAGES AND DISADVANTAGES

10.1 ADVANTAGES

The application is designed in a user-friendly manner. It will help people to find plasma easily.The user/patient can directly contact the donor and ask for help in the emergency situation .

10.2 DISADVANTAGES

It cannot auto verify user genuineness.Only after vaccination the donor can donate blood .It requires an active internet connection,if the user is not online then it might lead to delay of blood supply

11.CONCLUSION

In the paper we proposed a Blood Donation System (BDS) based on the cutting-edge information technologies of cloud computing and mobile computing. The proposed system facilitates communication between blood donors and users/patients .so that the appropriate donor can be reached just on time.The user registers using smartphones to help them complete the blood donation process with minimal effort and time.The efficient way of finding plasma donors for the infected people is implemented using the plasma donor website that is hosted on Aws platform. To ensure the smooth functioning of the website operations. The application hosted the website in aws platform to make sure the operations are running successfully Aws lambda function is used and to deploy the application AWS EC2 service is usedThis application helps people receive notifications on urgent blood donation calls, know their eligibility to give blood, search for the nearest blood center, and reserve a convenient appointment.

12.FUTURE SCOPE

To establish a blood donation community through social networks such as Facebook and Twitter

