PLASMA DONOR APPLICATION

Project Title : Plasma donor Application

Domain : Cloud Application Development

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Team Members :

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Plasma Donation :

In a plasma-only donation, the liquid portion of the donor's blood is separated from the cells. Blood is drawn from one arm and sent through a high-tech machine that collects the plasma. The donor's red blood cells and platelets are then returned to the donor along with some saline. The process is safe and only takes a few minutes longer than donating whole blood. Donated plasma is frozen within 24 hours of being donated to preserve its valuable clotting factors. It can be stored for up to one year and thawed for transfusion to a patient when needed.

1. AMERICAN RED CROSS

METHODOLOGY :

FRONT - END:

1. Hyper Text Markup Language,JavaServer Pages (HTML 5), (JSP)
2. Cascading Style Sheets (CSS)
3. JavaScript (JS)
4. React (JS Framework)

BACK - END:

Programming Language: JAVA

Server-side Script: Java Server Pages

Application Server: Tomcat 9.0

Plasma serves four important functions in our body:

1. Helps maintain blood pressure and volume.

2.Supply critical proteins for blood clotting and immunity.

3. Carries electrolytes such as sodium and potassium to our muscles.

4.Helps to maintain a proper pH balance in the body, which supports cell function.

ADVANTAGES:

- Immediate solutions.
- Saves time and energy.

APPLICATIONS:

- This could be used in Hospitals, Labs, and Health Clinics.

2. Instant Plasma Donor recipient Connector Android App

DATABASE(DB):

Database Management System: MySQL 6.0

Database Connectivity: JDBC.

Advantages :

- It is a user-friendly application.
- It will help people to find plasma easily.

Disadvantages :

- It cannot auto verify user genuineness.
- It requires an active internet connection.

Applications :

This system is used if anyone needs a Plasma Donor. This system comprises of Admin and User where both can request for a Plasma. In this system there is something called an active user, which means the user is an Active member of the App and has recovered from Covid 19, only such people are recommended here for Plasma Donation. Both parties can Accept or Reject the request. User has to Upload a Covid Negative report to be able to Donate Plasma.

3. ENHANCED MOBILE APPLICATION DEVELOPMENT FOR PLASMA , MOTHER'S MILK AND BLOOD BANKS

Abstract :

Covid-19 is currently spreading as a deadly disease and till today no medicine has been found for this disease. Alternatively, now a day's plasma transplant surgery is also being performed rapidly. At this present time plasma banks are in short supply. Not only that, but the number of plasma donors is low too. And some people do not know what plasma donation is and where to donate plasma. We have set up a system to alleviate this situation and help needy people to identify plasma donors and plasma banks.

Backend :

- 000webhost.blos Data base
- Firebase Data base

SYSTEM IMPLEMENTATION :

This project is based on Android OS version 6.0+ developed in Android Studio, which enables developers to create high quality applications for Android devices. It provides custom designed tools for Android application developers, including rich code editing, debugging, testing and specification tools. Plasma, Mother's Milk and Blood Bank is an Android application that uses the Firebase & 000webhost.blogs (web cloud) real-time database to quickly and efficiently search, collect and sort data for each Plasma, mother's milk and blood donor and users. (A google-services. Json) must be registered for the Android application using the Firefox console).

Applications :

Enhanced mobile application for plasma, Mother's milk and Blood has been developed to help the administrator to attract more donors and recipients and make user management an easy task. This mobile application will attract more users as it is user friendly and greatly reduces scalability issues especially in the case of Mother's milk donation. Not everyone in the world can donate Mother's milk. Only Feeding moms can donate mother's milk.Thus, we have successfully designed and developed the Android mobile application to ease the process of becoming a donor and recipient of PMB bank.

Advantages :

- Simple User Interface
- It alleviates the burden of coordinator to manage Users and resources easily.
- Compared to all other mobile applications, it incorporates provisions for Plasma and mother's milk donation.

4. Developing a plasma donor application using Function-as-a-service in AWS

Function as a Service (FaaS):

Function as a Service is a cloud computing model based on the serverless technologies and architectures. It provides a platform to the developers in order to run, deploy, and also manage the application functionalities without any complexity of building and maintaining the infrastructure that is associated with deploying the application. Applications developed using this model helps to achieve a serverless architecture.

FRONT - END:

1. HyperText Markup Language (HTML 5)
2. Cascading Style Sheets (CSS)
3. Bootstrap 4 (CSS Framework)
4. JavaScript (JS)
5. React (JS Framework)

BACK - END:

- Programming Language: PYTHON
- APIs And Web Applications: Django Framework
- Hosted Platform: AWS (Amazon Web Services)

Application :

The efficient way of finding plasma donor 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. I have 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 used.

Advantages :

- The proposed method helps the users to check the availability of donors.
- The database will have all the details such as name, email, phone number, infected status.

ServerlessOS :

It comprises of 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.

Reference Links :

1. https://www.redcrossblood.org/blood-donor-app.html
2. https://nevonprojects.com/instant-plasma-donor-recipient-connector-android-app/
3. https://drive.google.com/file/d/1wwGD4st3t-Jv_v8wC1HV3t0HHIroCAki/view?usp=drivesdk
4. https://drive.google.com/file/d/1xDQt4nQbFYUo8bfsSTYHPrGXiY7QFwVM/view?usp=drivesdk