

IBM-Project-23391-1659881558

TECHNOLOGY:

CLOUD APPLICATION

DOMAIN:

HEALTH CARE

PROJECT NAME:

PLASMA DONOR APPLICATION

TITLE:

PLASMAVIVE

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1.INTRODUCTION:

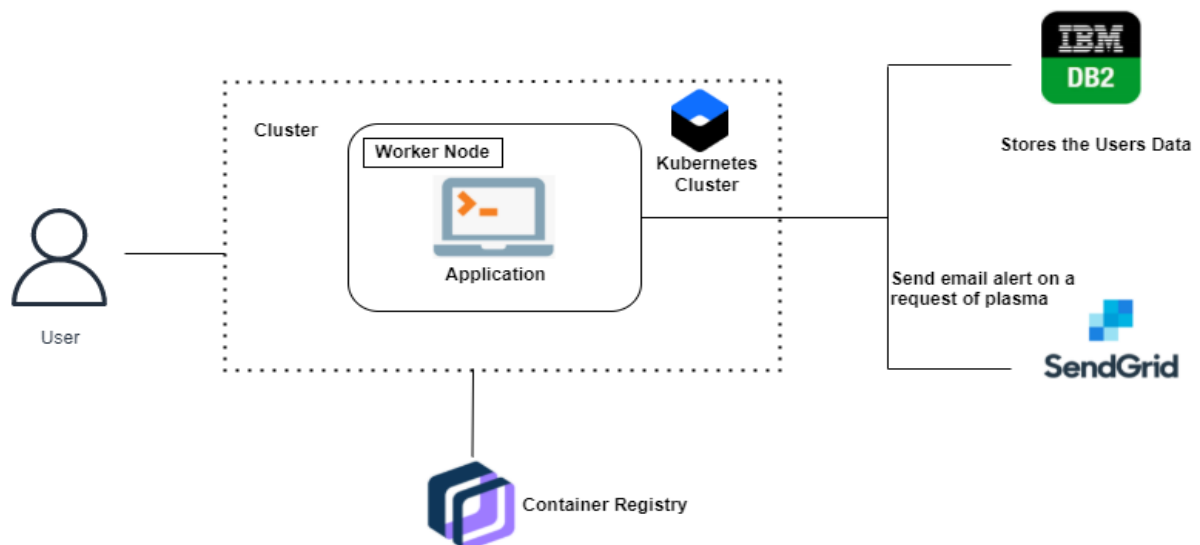
In the past, a patient who requires blood had to get in touch with a blood bank or a potential donor from their network of friends, family, and acquaintances if their blood type was compatible. Finding a qualified donor within a constrained population in a given amount of time is challenging, though. Furthermore, there is no assurance that blood banks will carry suitable blood groups. Additionally, the number of posts on social networking sites (such as Facebook, Twitter, Instagram, etc.) asking for blood donations has been steadily rising.

When researching the subject, accessibility issues, blood supply needs, and blood donation data are taken into account. Blood and blood components are constantly required (red blood cells, blood plasma, platelets).

The ease of connection with those donors is not rapid, and it requires manpower because the requester (patient or clinic) must contact each donor separately, even though this application aids in the search for donors. Additionally, there is no application that offers a suitable communication route for informing donors about the requirements for blood donation. Our app offers donors features like "blood request feed," "donation history," and "invite friend," while also allowing the requester to send requests and utilise the app to manage various blood donation activities.

1.1 PROJECT OVERVIEW:

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.



1.2 PURPOSE:

An app called Plasma Donor Application gives people the opportunity to donate blood and aid the less fortunate. Additionally, it provides a centralised database and allows organisers of blood donation camps to record and maintain information for anyone who want to contact with donors. In the suggested approach, one organiser can view scheduled blood donation events of other organisers and determine the optimum time to hold the blood drive in order to get the best response. The system is intended for two different user types: people who want to donate blood and camp managers who want to oversee blood donation drives. The system's primary goal is to bring all donors together under one roof and to promote blood donation.

2. LITERATURE SURVEY:

Convalescent Plasma Therapy:

Geng Yang, Li Xie, Matti Mantysalo, Xiaolin Zhou, Zhibo Pang, Li Da Xu, Sharon Kao-Walter, Qiang Chen, and Lirong Zheng wrote a paper for the IEEE in 2015 titled "A Health-IoT Platform Based on the Integration of Intelligent Packaging, Unobtrusive Bio-Sensor, and Intelligent Medicine Box." An intelligent home-based healthcare platform is suggested and put into practise in this article. It involves the connected iMedBox, the communication-enabled iMedPack, the Bio-Patch, and the SOC. IoT and it combine. The user's biosignals can be recognised and sent in real time by the body-worn Bio-Patch to the iMedBox. The absence of an all-encompassing platform is the only drawback. And the physical dimensions, rigidity, and brief battery life pose obstacles to prolonged use.

Data Mining for Better Healthcare:

A Path Toward Automated Data Analysis was the title of an IEEE paper published in 2016. by Lia Morra, Silvia Chiusano, Tania Cerquitelli, Elena Baralis, and others. This paper discusses mining from the standpoint of a medical database. With little user involvement, the mining system should be able to identify the knowledge that would be most useful to the user and extract it from a big medical dataset.

The system should be able to extract manageable sets of knowledge that can be put to use. To imagine a system capable of assessing and contrasting numerous data-mining technique configurations at once, large parameter spaces must be examined at an abstraction level.

Mobile Based Healthcare Management using Artificial Intelligence:

Amiya Kumar Tripathy, Rebeck Carvalho, Keshav Pawaskar, Suraj Yadav, and Vijay Yadav wrote an IEEE article on Mobile Based Healthcare Management using Artificial Intelligence in 2015. The health-care management system that is presented in this study will include mobile heart rate measurement so that the data can be transferred and diagnosis based on heart rate may be immediately delivered with the push of a button. To communicate with a doctor at a distance, a video conferencing technology will be used. Additionally, Doc-Bot and an online Blood Bank will be part of the system. Due to input signal noise, the heart rate computation in this project differs from the actual one, making the performance ineffective. Clustering, text mining, pattern matching, support vector machines, and partitioning are among the techniques employed.

2.1 EXISTING PROBLEM:

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 cloud 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 cloud applications.

2.2 REFERENCES:

- [1] Muhammad Fahim, Halil Ibrahim Cebe, Jawad Rasheed and Farzad Kiani “mHealth: Blood Donation Application using Android Smartphone”, Faculty of Engineering and Natural Sciences, Istanbul, 2016.
- [2] “Connected health: How digital technology is transforming health and social care”, April 2015.
- [3] P. Priya, V. Saranya, S. Shabana, and Kavitha Subramani, “The Optimization of Blood Donor”, Information and Management System by Technopedia, Panimalar Engineering College, Chennai, India,(2015).
- [4] T. Hilda Jenipha and R. Backiyalakshmi, “Android Blood Donor Life Saving Application in Cloud Computing”, JDIET, Yavatmal, India(2013).
- [5] Sultan Turhan, “AN ANDROID APPLICATION FOR VOLUNTEER BLOOD DONORS”, IT-CSCP 2015.
- [6] Arif. M. Sreevas, S. Nafseer K, and Rahul R. (2012), “Automated online Blood bank database”, India Conference (INDICON), Annual IEEE, 2013.
- [7] Tushar Pandit, Satish Niloor and A.S. Shinde, “A Survey Paper on E-Blood Bank and an Idea to use on Smartphone”, India(2010).
- [8] Spyropoulos. B, Botsivaly. M, Tzavaras. A, and Spyropoulo. P , “Towards digital blood-banking”, ITU-T Kaleidoscope: Innovations for Digital Inclusions,(2009).
- [9] M. Kay, J. Santos and M. Takane, “mHealth: New horizons for health through mobile technologies”, World Health Organization, 2012

2.3 PROBLEM STATEMENT DEFINITION:

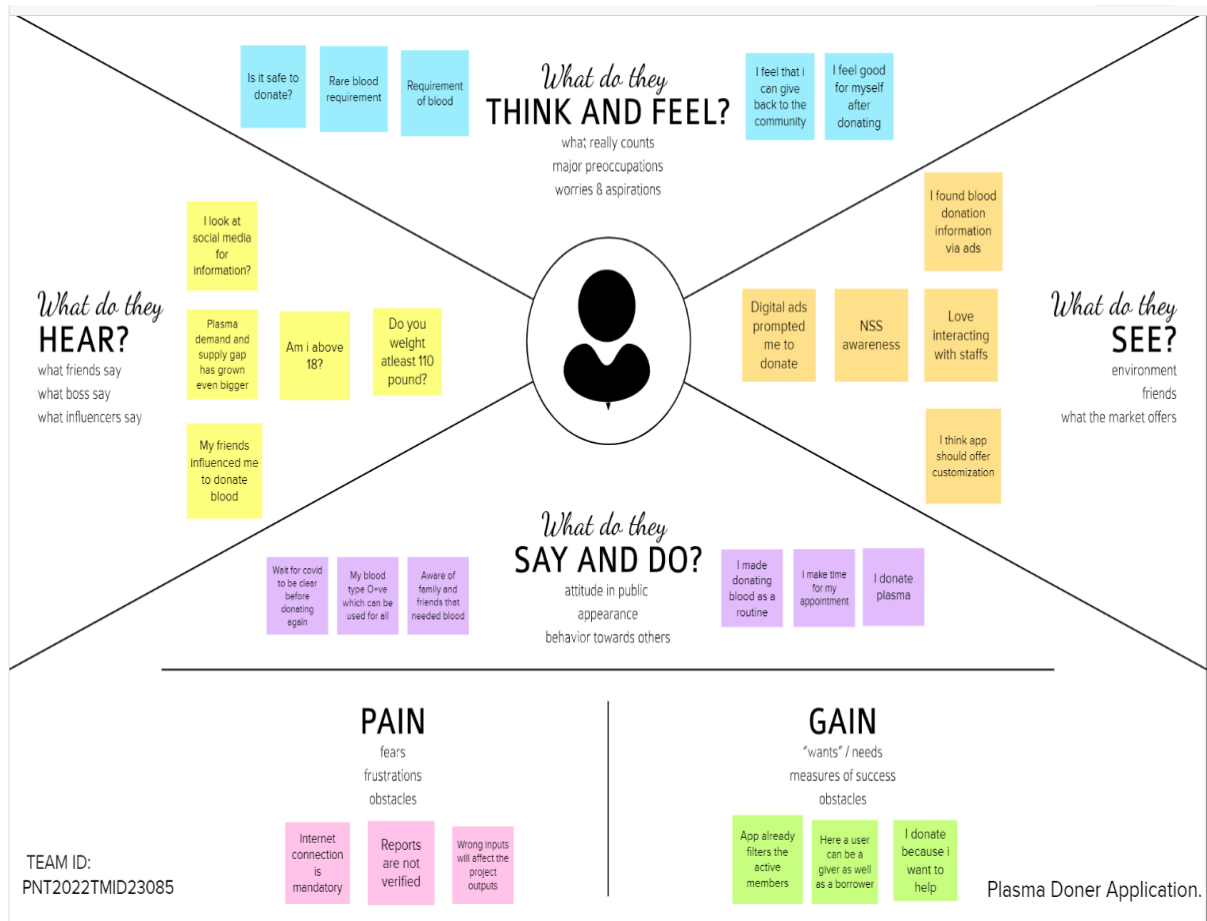
During the COVID 19 crisis, the requirement of plasma became a high priority and the donor count has become low. Saving the donor information and helping the needy by notifying the current donors list, would be a helping hand. In regard to the problem faced, an application is to be built which would take the donor details, store them and inform them upon a request.

3.IDEATION AND PROPOSED SOLUTION:

3.1 EMPATHY MAP CANVAS:

An **empathy map** is a collaborative visualization used to articulate what we know about a particular type of user. It externalizes knowledge about users in order to

- 1) create a shared understanding of user needs, and
- 2) aid in decision making.



3.2 IDEATION AND BRAINSTROMING:

Brainstorming sets the stage for the rest of the ideation process, so it's something you should approach with deliberate strategy. A typical brainstorming session involves one or more people directing their thoughts towards a particular problem or issue. Initial steps include defining the problem and pitching alternative perspectives or strategies that may circumvent the problem itself. Sometimes the best solution is to take an entirely different approach. Group ideas are organized, analyzed and tested when appropriate throughout the process to guide future decisions.



The sole purpose of this project is to develop a computer system that will link all donors, control a blood transfusion service and create a database to hold data on stocks of plasma in each area. Furthermore, people will be able to see which patients need plasma supplies via the cloud application.

3.4 PROBLEM SOLUTION FIT:

S.No.	Parameter	Description
0.	Problem Statement (Problem to be solved)	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.
1.	Customer segment	Think about donating plasma if you have type AB blood. Patients with any blood type can receive AB, the only universal plasma. As a result, type AB plasma transfusions can be administered right away without wasting valuable time checking the patient's blood type compatibility. Up to 13 times a year, these types of plasma donations can be made every 28 days.
2.	Problem/Pains	<ul style="list-style-type: none"> • Donor finding is difficult • Difficult to match the donor with same blood group • Donor and staff safety • Convalescent plasma..
3.	Triggers to act	<ul style="list-style-type: none"> • Some people may feel allergic reactions while donating plasma. The needles might trigger reactions in people. • In rare cases, people can experience lung damage and also some difficulty in breathing. • In certain cases when needles are not sterilized properly infections like HIV and hepatitis can affect a person. • If the needle is injected into a person who already has a disease and then the non-sterilized needle is injected into another person the blood carries infections
4.	Emotions	Two prosocial emotions that are of particular relevance for the efficacy of an acceptance message are gratitude and guilt. Considering accepting a potential blood transfusion should engender feelings of gratitude towards others who have previously donated blood and enhance a desire to repay an imagined debt

		through donating blood. While guilt, as a reparative social emotion, encourages atonement and sustained long-term cooperation diseases .
5.	Available Solution	These applications won't offer a preference selection option for pregnant women or older individuals under the current systems. If that's the case, it's done manually, however with our project we're improving it automatically to make it .
6.	Customer Limitations	<ul style="list-style-type: none"> • It cannot auto verify user genuineness. • It requires an active internet connection. • At times, donors may available at farthest distance consumes times to get connect with patient
7.	Behavior	<p>Check availability: Availability of blood in the blood banks can be checked.</p> <p>Request blood: Request for the required blood can be made to the blood banks</p> <p>Update: The hospital/blood bank can update the status of their blood inventory</p> <p>Nearby Blood banks: Nearest blood banks can be viewed using Google Maps</p>
8.	Channels of Behaviors	<p>Online: To instill a sense of enthusiasm and joy among our audience, we try to collaborate with various schools, universities, corporates, institutions and local communities all over India to organise informative Stalls, Competitions, Nukkad Nataks, Quizes, and interactive sessions (both online and offline) with experts where attendees can interact with us and their doubts are duly addressed. This ensures that the vision of blood donation spreads far and wide and people realize the significance of blood donation.</p> <p>Offline: WHO recommends that all activities related to blood collection, testing, processing, storage and distribution be coordinated at the national level through effective organization and integrated blood supply networks. The national blood system should be governed by national blood policy and legislative framework to promote uniform implementation of standards and consistency in the quality and safety of blood and blood products</p>

9.	Problem root/Causes	More likely, blood transfusion mistakes occur when incorrect blood is given to a patient. For instance, a blood sample may be mislabeled. The incorrect patient name may be marked on a blood sample, for example. Errors may also occur when a blood sample is marked with the incorrect blood type (O-negative, etc.).
10.	Our Solution	<p>We use priority selection algorithm, where admin can identify the priority tags first among all other tags in its range and other tags are identified after that. So, the priority tag can get service immediately after they are identified where the other tags wait in a queue and get service later (i.e first priority towards pregnant women and for older people)</p> <p>If possible maintain a tie-up with REDCROSS and spread awareness will provides an added advantage.</p>

4. REQUIREMENT ANALYSIS:

The most common set of requirements defined by any operating system or software application is the physical computer resources, also known as hardware. A hardware requirements list is often accompanied by a hardware compatibility list (HCL), especially in case of operating systems. An HCL lists tested, compatibility and sometimes incompatible hardware devices for a particular operating system or application. The following sub-sections discuss the various aspects of hardware requirements.

4.1 FUNCTIONAL REQUIREMENT:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Sign in / Login	Register with username, password
FR-2	Profile Registration	Register with username, password, email, blood type, age. This data will be stored in a database.
FR-3	User and donor dashboard	Display user requirements, requests for donor health certificate.
FR-4	Chatbot	A chat on the webpage to solve user queries and issues.
FR-5	Logout	Use logout option after completing job registration process.

4.2 NON-FUNCTIONAL REQUIREMENTS:

Software Requirements deal with defining software resource requirements and pre-requisites that need to be installed on a computer to provide optimal functioning of an application. These requirements or pre-requisites are generally not included in the software installation package and need to be installed separately before the software is installed.

OPERATING SYSTEM: Windows 7/ XP/8 /10

END: Html, CSS, java script.

SERVER-SIDE SCRIPT: spyder, python-flask, PHP.

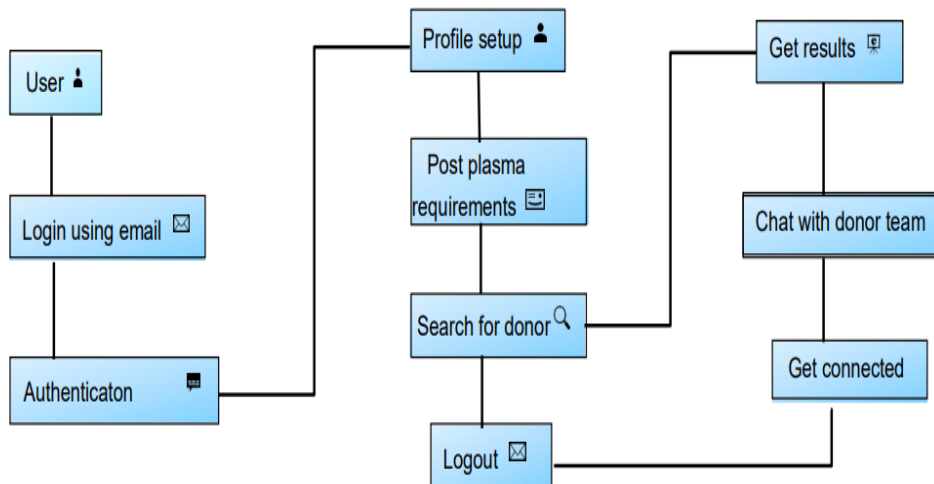
DATABASE: IBM cloud.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The webpage will be designed in such a way that any non-technical user can easily navigate through it and complete the plasma requirement registering work. (easy and simple design)
NFR-2	Security	Using of python flask to cloud connect will provide security to the project. Database will be safely stored in DB2.
NFR-3	Reliability	To make sure the webpage doesn't go down due to network traffic.
NFR-4	Performance	Focus on loading the webpage as quickly as possible irrespective of the number of user/integrator traffic.
NFR-5	Availability	The webpage will be available to all users (network connectivity is necessary) at any given point of time.
NFR-6	Scalability	Increasing the storage space of database can increase the number of users. Add some features in future to make the webpage unique and attractive.

5. PROJECT DESIGN:

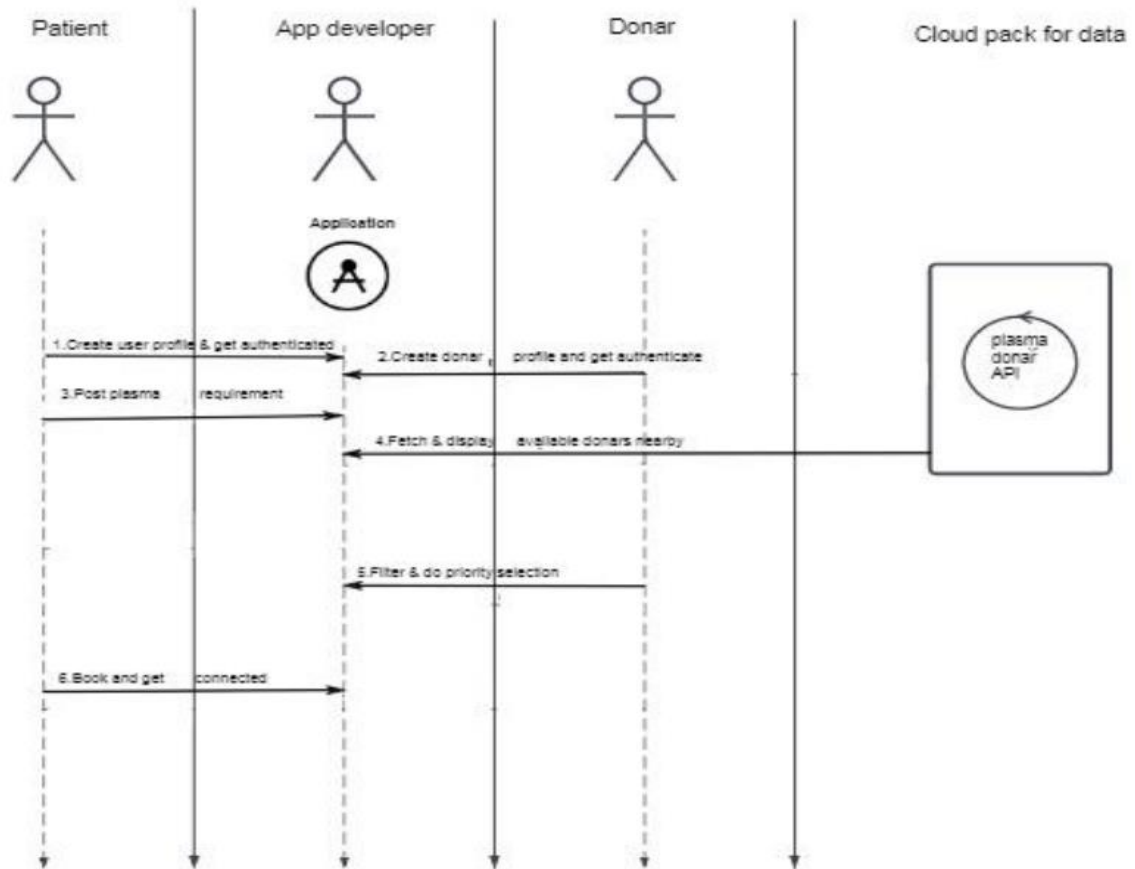
5.1 DATA FLOW DIAGRAM:

A data flow diagram (DFD) illustrates how data is processed by a system in terms of inputs and outputs. As its name indicates its focus is on the flow of information, where data comes from, where it goes and how it gets stored.



5.2 SOLUTION AND TECHNICAL ARCHITECTURE:

In a rapidly changing technology environment, organizations face the need to transform their processes and systems to meet emerging business requirements. This digital transformation demands specific expertise and a set of practices to align business focus with technology solutions. Solution architecture belongs to the list of most important practices executed before any tech solution development begins. In this article, we'll discuss what solution architecture is, describe the role of a solution architect, and explain how the adoption of this expertise can help solve business problems.



5.3 USER STORIES:

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by 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
		USN-3	As a user, I can register for the application through Facebook
		USN-4	As a user, I can register for the application through Gmail
	Login	USN-5	As a user, I can log into the application by entering email & password
	Dashboard	USN-5	As a user, I can access my dashboard after signing in.
Customer (Web user)	Access	USN-6	As a user, I can setup a profile, and basic details by signing in.
		USN-7	As a user, I will post for plasma requirement.
Customer Care Executive	Chatbot	USN-8	As a user, I can seek guidance from the customer care executive.
Administrator	DBMS	USN-9	As a administrator, I can keep the applications of your organization relies on running.

6. PROJECT PLANNING AND SCHEDULING:**6.1 SPRINT PLANNING 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.	2	High	
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	
Sprint-2		USN-3	As a user, I can register for the application through Gmail	2	Medium	
Sprint-2	Login	USN-4	As a user, I can log into the application by entering email	1	High	
Sprint-3	Dashboard	USN-5	As a user/patient I can request for plasma donation .	2	Medium	
Sprint-4		USN-6	As a user/donor I can display my health certificate to donate plasma	1	High	

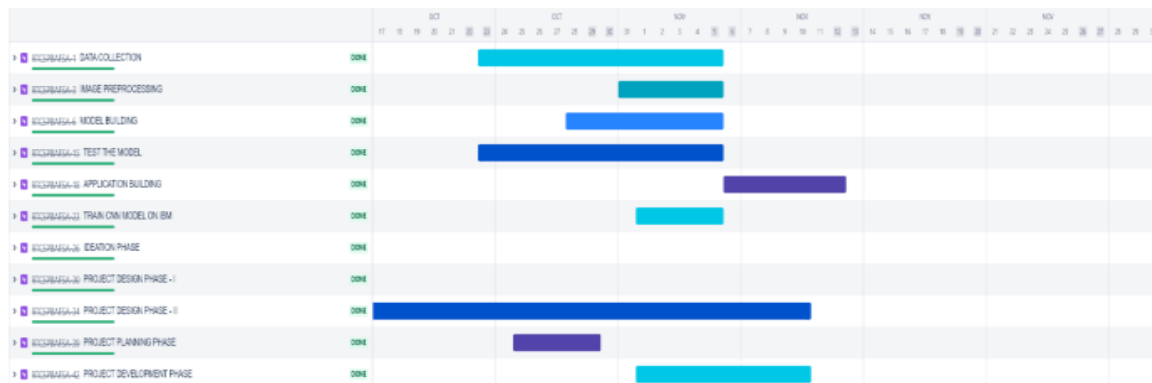
6.2 SPRINT DELIVERY SCHEDULE:

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	07 Nov 2022

6.3 REPORTS FROM JIRA:

This is the version designed for **software development teams**. Jira Software offers all of Core's features but also includes agile functionality. Software teams use this tool for bug tracking, managing basic software-development tasks, and product management.

Note: Jira Software is also designed to support development teams that use Kanban, Scrum, and other popular agile frameworks.



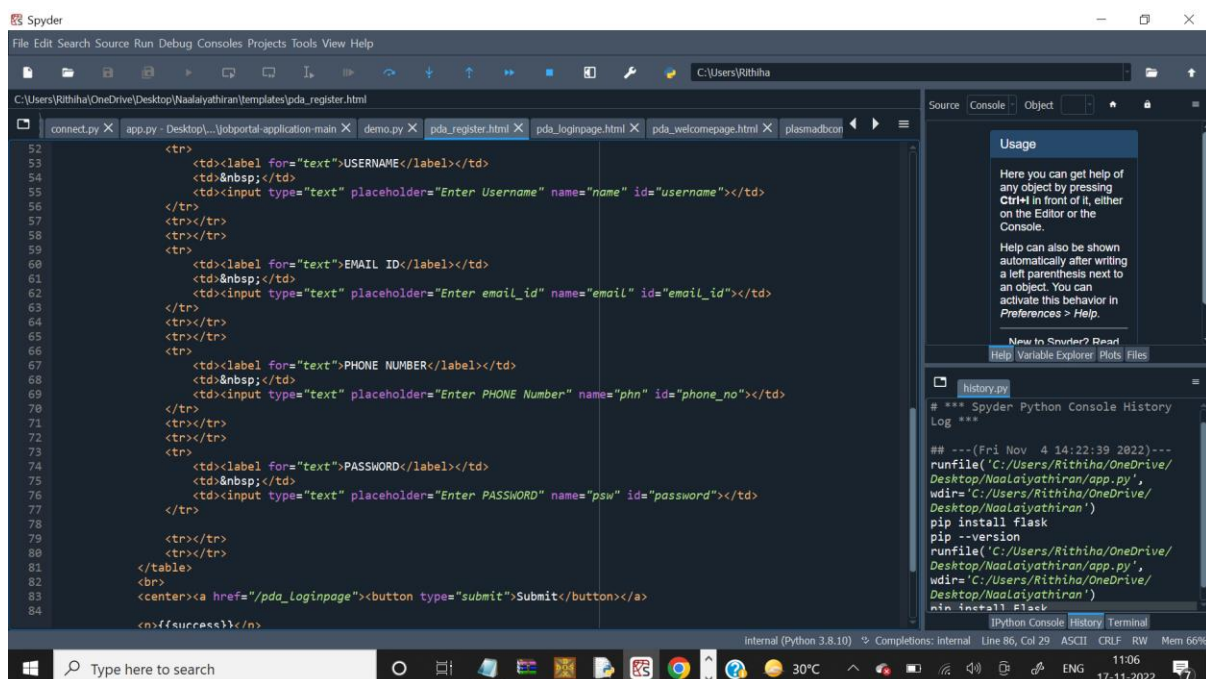
7. CODING & SOLUTIONING:

7.1 FEATURE 1:

HTML:

The **Hypertext Mark-up Language** or **HTML** is the standard [mark-up language](#) for documents designed to be displayed in a [web browser](#). It can be assisted by technologies such as [Cascading Style Sheets](#) (CSS) and [scripting languages](#) such as [JavaScript](#).

[HTML elements](#) are the building blocks of HTML pages. With HTML constructs, [images](#) and other objects such as [interactive forms](#) may be embedded into the rendered page.



FLASK:

Flask is a web application framework written in Python. Armin Ronacher, who leads an international group of Python enthusiasts named Pocco, develops it. Flask is based on Werkzeug WSGI toolkit and Jinja2 template engine. Both are Pocco projects.

Flask is considered more [Pythonic](#) than the [Django](#) web framework because in common situations the equivalent Flask web application is more explicit. Flask is also easy to get started with as a beginner because there is little boilerplate code for getting a simple app up and running.

```

1  # -*- coding: utf-8 -*-
2  """
3  Created on Tue Nov 15 10:05:54 2022
4
5  @author: Rithiha
6  """
7
8  from flask import Flask, render_template, request, redirect, url_for, session
9  import ibm_db
10 import bcrypt
11 conn = ibm_db.connect("DATABASE=bLudb;HOSTNAME=125f9f61-9715-46f9-9399-c8177b21803b.clogj3sd@gtu0lqde00.databases.appdo
12
13
14
15 app = Flask(__name__)
16 app.secret_key = b'_5#y2L"F4Q8z\n\xec)/'
17
18 @app.route("/", methods=['GET'])
19 def home():
20     if 'email' not in session:
21         return redirect(url_for('pda_homepage'))
22     return render_template('pda_homepage.html', name='Home')
23 @app.route("/pda_homepage")
24 def pda_homepage():
25     return render_template('pda_homepage.html')
26
27 @app.route("/pda_helpdesk")
28 def pda_helpdesk():
29     return render_template('pda_helpdesk.html')
30
31 @app.route("/pda_contactpage")
32 def pda_contactpage():
33     return render_template('pda_contactpage.html')

```

7.2 FEATURE 2:

CSS:

Cascading Style Sheets (CSS) is a [style sheet language](#) used for describing the [presentation](#) of a document written in a [mark-up language](#) such as [HTML](#) or [XML](#) (including XML dialects such as [SVG](#), [Math](#) or [XHTML](#)).^[1] CSS is a cornerstone technology of the [World Wide Web](#), alongside HTML and [JavaScript](#).

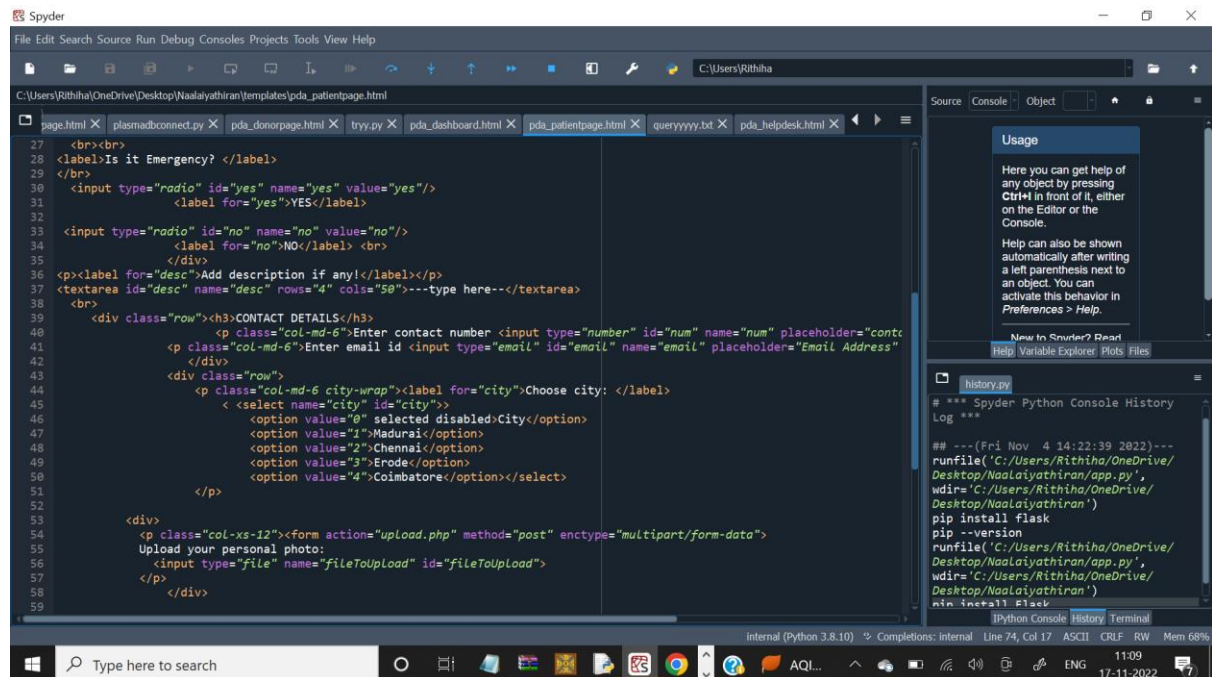
The CSS specifications are maintained by the [World Wide Web Consortium](#) (W3C). Internet media type ([MIME type](#)) `text/css` is registered for use with CSS by RFC 2318 (March 1998).

The W3C operates a free [CSS validation service](#) for CSS documents.

```

92
93
94
95 <form method="POST">
96 <label for="bldgrp" class="formbold-form-label"> Enter blood group </label>
97 <input type="text" list="bldgrp" name="bldgrp" placeholder="----Select----" required>
98 <datalist id="bldgrp">
99 <option value="A+"></option>
100 <option value="A-"></option>
101 <option value="AB+"></option>
102 <option value="B+"></option>
103 <option value="B-"></option>
104 <option value="O+"></option>
105 <option value="O-"></option>
106 </datalist>
107 </center></br>
108 <center>
109 <label>EMERGENCY</label>
110 </br>
111 <input type="radio" id="yes" name="yes" value="yes"/>
112 <label for="yes">YES</label> <br>
113
114 <input type="radio" id="no" name="no" value="no"/>
115 <label for="no">NO</label> <br>
116 </center>
117 </h1>DONOR PAGE</h1>
118
119 <label for="name" class="formbold-form-label"> Full Name </label>
120
121 <input
122 type="text"
123 name="fname"
124 id="fname"

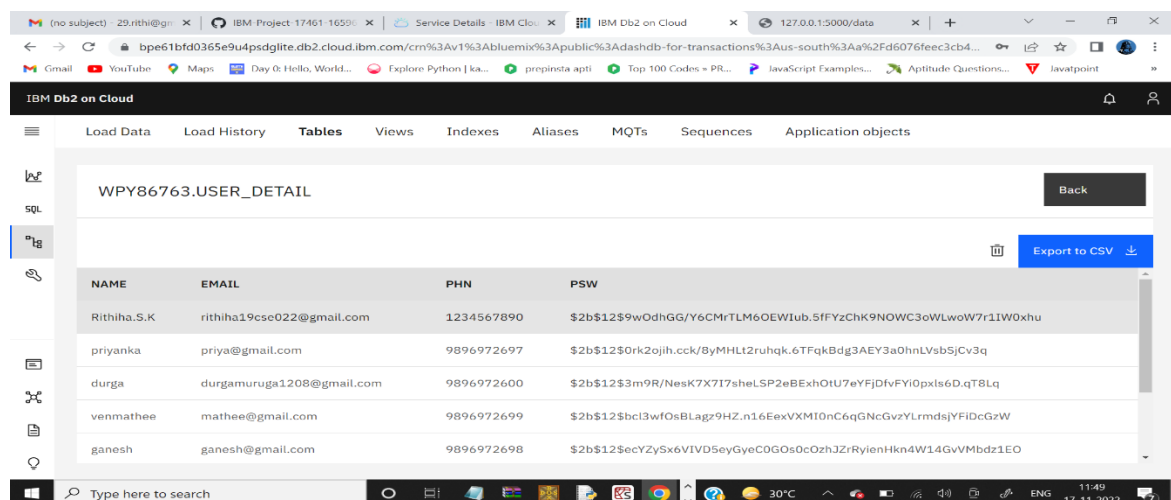
```



7.3 DATABASE SCHEMA:

A database schema is the skeleton structure that represents the logical view of the entire database. It defines how the data is organized and how the relations among them are associated. It formulates all the constraints that are to be applied on the data.

A database schema defines its entities and the relationship among them. It contains a descriptive detail of the database, which can be depicted by means of schema diagrams. It's the database designers who design the schema to help programmers understand the database and make it useful.



The screenshot displays the IBM Db2 on Cloud web interface. The browser's address bar shows the URL: `bpe61bfd0365e9u4psdglite.db2.cloud.ibm.com/cn%3Av1%3Abluemix%3Apublic%3Adashdb-for-transactions%3Aus-south%3Aa%2Fd6076feec3cb4...`. The interface includes a top navigation bar with tabs for 'Load Data', 'Load History', 'Tables', 'Views', 'Indexes', 'Aliases', 'MQTs', 'Sequences', and 'Application objects'. The 'Tables' tab is active, showing a table named 'WPY86763.PATIENT'. The table has columns: PNAME, HNAME, DNAME, BLDGRP, WHEN, NUM, EMAIL, and CITY. The table contains five rows of data. A 'Back' button is located in the top right corner of the table view. An 'Export to CSV' button is located in the top right corner of the table view. The bottom of the screenshot shows a Windows taskbar with a search bar and various application icons.

PNAME	HNAME	DNAME	BLDGRP	WHEN	NUM	EMAIL	CITY
veni	apollo	DR.AARAV	O+	2022-11-24	9898797868	veni@gmail.com	4
mega	Preethi	DR.Bala	B+	2022-11-27	8799876798	mega@gmail.com	4
adhiya	Nila	DR.Murali	B+	2022-11-30	9878767895	adhiya@gmail.com	Coimbatore
abinaya	velammal	DR.Muralidharan	B+	2022-11-22	8787686878	abi@gmail.com	Chennai
vaibhav	Preethi	DR.Bala	O+	2022-11-23	9876876678	vaibhav@gmail.com	Madurai

8. TESTING:

Software testing is the process of evaluating and verifying that a software product or application does what it is supposed to do. The benefits of testing include preventing bugs, reducing development costs and improving performance.

8.1 TEST CASES:

A test case is a document, which has a set of test data, preconditions, expected results and postconditions, developed for a particular test scenario in order to verify compliance against a specific requirement.

Test Case acts as the starting point for the test execution, and after applying a set of input values, the application has a definitive outcome and leaves the system at some end point or also known as execution postcondition.

8.2 USER ACCEPTANCE TESTING:

Purpose of Document

The purpose of this document is to briefly explain the test coverage and open issues of the Plasma Donor Application project at the time of the release to User Acceptance Testing (UAT).

Defect Analysis

This report shows the number of resolved or closed bugs at each severity level, and how they were resolved.

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	5	4	2	21
Duplicate	1	0	2	0	3
External	2	3	1	0	6
Fixed	9	4	4	20	37
Not Reproduced	0	1	0	0	1
Skipped	0	0	1	1	2
Won't Fix	1	4	2	1	8
Totals	23	17	14	24	78

Test Case Analysis:

This report shows the number of test cases that have passed, failed, and untested

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	50	1	0	51
Security	2	0	0	2
Outsource Shipping	3	0	0	3
Exception Reporting	8	0	0	8
Final Report Output	4	0	0	4
Version Control	2	0	0	2

9. RESULTS:

Data Collection and Research

Literature Review Findings From literature review research, the findings are:

- The world is running out of blood supply where the demand of it still high.
- Cancer patients need blood from eight people every week.
- By using technology, there must be a way to get donors in an emergency case.
- In order to help patients search for blood donors, Blood Seeker Mobile Application will be a good solution.

Interview Findings from Medical Personal

Interview findings from En Khairul Anuar Mohd Nor, officer in charge for Hospital Besar Ipoh Blood Bank are as follows:

- Thousands of lives can be saved by enhancing healthcare sector, so that blood supply in the blood bank can be preserved, after blood donation campaign being held.
- The rarest and most needed type of blood coming from AB-. Even other types of blood is common, there is still a requirement.
- On average, Pusat Darah Negara (PDN) supplies about 400-500 pints of blood a day, equal to 3000 pints a week, which is the amount they need to have in reserve.
- Researchers have made some progress in making artificial blood, but it is still a long way to go.
- Blood has a lifespan and it is short between 20 to 30 days only.
- Blood Seeker Mobile Application would be useful especially for blood bank to search patient blood type easier and contact the donor immediately.

9.1 PERFORMANCE METRICS:

TIMELINESS:

- Acquiring the required plasma during emergency situation.
- There is no time delay while switching from one module to another.

QUALITY:

- Lower probability of page trafficking.
- Availability of chatbot facility to solve any obfuscation relating to the website.

ATTAINABLE:

- Delivery of plasma within the required time.
- Interactive environment is prepared methodically for donor and seeker.

10.1 ADVANTAGES:

- This project has a login page which allows only the registered user to login and thereby preventing unauthorized access.
- This system can be used to view all the donor details and accordingly select the right donor as per their requirements.
- The android mobile user will be able make quick decision in selecting a donor.
- Usage of this application will greatly reduce time in selecting the right donor.
- Plasma supply is made easier incase of emergencies.
- The user can interact with the Chabot attached regarding any sort of plasma related doubts.
- On emergency cases the user can contact the hospital directly
- Only authenticated users with proper health certificates are allowed to donate plasma.

10.2 DISADVANTAGES:

- Overiewing the donor's health certificate may lead serious problems to user.
- Each person who donates blood completes a simple physical examination and blood test before giving blood.
- These are not in-depth tests, but they may help identify unknown health concerns, such as or high or low blood pressure.

11. CONCLUSION:

Based on author perspective, improvements can be made regarding this project via several recommendations. However, some factors must be put into considerations before proceeding with the development of the software so that the improvements in certain aspects can be done, instead of changing this project as a whole.

One of the recommendations is that a collaboration with any hospitals should be done, whether it is private hospital or even government. It is because by only giving out questionnaires and interviewing the end user make the data gathering process for this project is very limited. The main reason why because the data of blood donors are very confidential. So, by having collaboration, this obstacle can be overcome smoothly.

Besides that, the amount of time given should be extended because this system can truly contribute to money-making mobile application. To gauge how perfect the system can be within the time frame is very difficult because the requirements are so challenging. In fact, the development I and II phases being done quite behind the schedule even though this project being completed at least to the minimum requirements.

When this mobile application getting high demand from the users, author recommends that Blood Seeker to be developed in BlackBerry and iOS application version for future plan. Hopefully, the existing donors will able to update their personal details, make or change appointment, check when they are next due to donate or view their donation history. As conclusion, an emergency needs of blood shortage in future demand can be catered by this project and Blood Seeker will be a good example in order to improve the usage of technology in healthcare sector in Malaysia.

12. FUTURE SCOPE:

- Thousands of lives can be saved by enhancing healthcare sector, so that blood supply in the blood bank can be preserved, after blood donation campaign being held.
- The rarest and most needed type of blood coming from AB-. Even other types of blood is common, there is still a requirement further enhancements can be made for this.
- Using priority scheduling algorithm aged people and pregnant women can be given high priority in case of emergency situation.

13. APPENDIX:**SOURCE CODE:**

<https://github.com/IBM-EPBL/IBM-Project-23391-1659881558/blob/main/FINAL%20DELIVERABLES/IBM-PNT2022TMID23085.zip>

GITHUB LINK:

<https://github.com/IBM-EPBL/IBM-Project-23391-1659881558>

PROJECT DEMO LINK:

<https://drive.google.com/file/d/1xQG3SLagj1BG8Y30vZdxMDTljjoNFYZG/view?usp=sharing>

