Project Design Phase-II
Technology Stack

Date	19 October 2022
Team ID	PNT2022TMID25930
Project Name	Project – Plasma Donor Application
Maximum Marks	4 Marks

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	New User Registration	When a user uses the application for first time, he has to register with application	User registration details are stored into IBM DB2 through POST API
2.	Old User login	Registered user enters his credentials and logs in to application	User data is fetched from IBM DB2 through GET API
3.	Third Party User	User who is neither plasma donor nor plasma receiver is considered as Third Party user who can clear his queries through chatbot	IBM Watson Assistant
4.	Donor search by receiver	Plasma Receiver after meeting the eligibility criteria can search for available donor	Data deployed in DOCKER is fetched
5.	Holdback list	At the time of donor search by receiver, if apt donor is not found, receiver is put in holdback list and later notified via call and email when donor is found	SendGrid Email service
6.	Cloud Database	Donor receiver data is stored in database	IBM DB2 and IBM Cloudant
7.	File Storage	Third party queries are stored in objects and then processed	IBM Object Storage
8.	External API-1	First external API is the fetch of donor details as per registered receiver request	IBM DB2, Python Flask, HTML and CSS
9.	External API-2	Second external API is for the notification to receiver when donor is found	SendGrid API
10.	Infrastructure (Server / Cloud)	Plasma donor application will be deployed in IBM cloud	IBM cloud, IBM Cloudant and Kubernetes cluster

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-Source frameworks used are VS Code, Flask, Docker and Kubernetes	Python, Combination of electron JS and NodeJS and automated container management
2.	Security Implementations	Since the application is deployed in cloud, cloud oriented security is implemented.	IAM Control
3.	Scalable Architecture	The architecture is very much scalable since after deployed in cloud it is going to be hosted in docker	Docker and Kubernetes cluster
4.	Availability	The application will be available all time for usage with a stable internet connection.	Serverless computing model
5.	Performance	At a time nearly 100 donors can put their details and 100 receivers can fetch data simultaneously without any interruption of instability in handling requests	GET, POST API calls and GEST service