Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	13 October 2022
Team ID	PNT2022TMID40957
Project Name	Project –Plasma Donor Application
Maximum Marks	4 Marks

Technical Architecture:

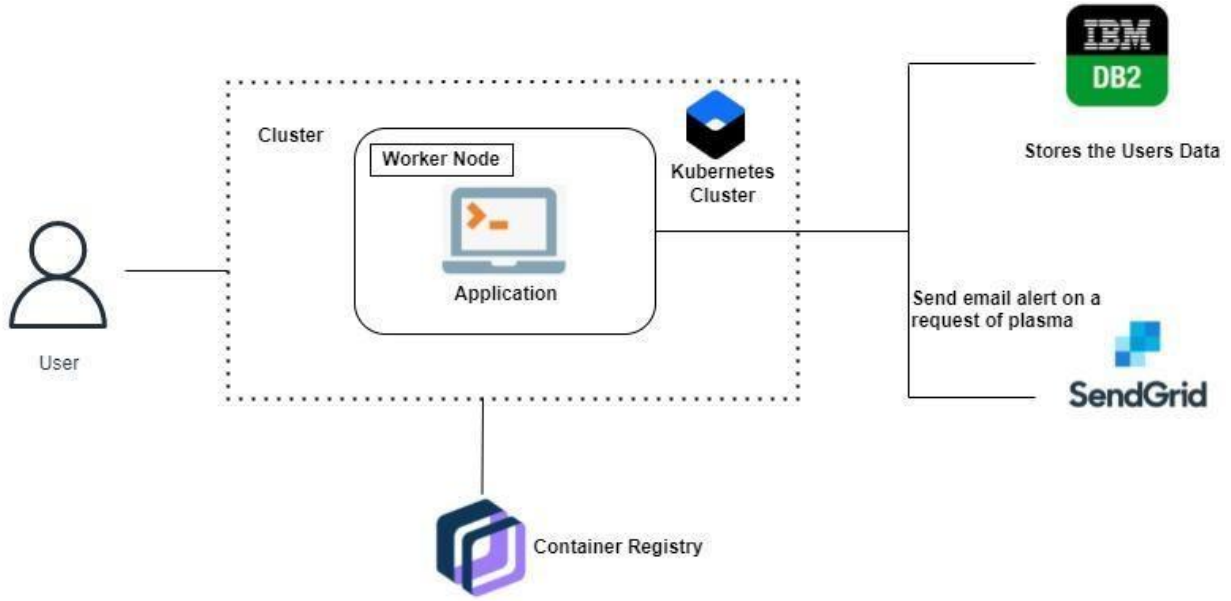

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript, Python, Flask
2.	Register to website	The user can able to register in website and fill their details. The user details are Stored in IBM DB2 securely.	Flask app using Kubernetes cluster, IBM DB2.
3.	Login to website	The user interact with the website to login into account. The user details are verified by comparing it with details stored in IBM DB2	Flask app using Kubernetes cluster, IBM DB2.
4.	Request for Donor/Register for donating	The user interact with the website to request for plasma Donor/register for willing to donate plasma.	Flask app using Kubernetes cluster, IBM DB2.
5.	Upload proof in website	The user can able to upload the vaccination certificate and other proofs.	Container registry,
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 (Email Alert)	To send email alerts to donor when a person requesting Plasma Donor.	SendGrid.
9.	Machine Learning Model	Machine Learning Model can be used for Chatbot.	IBM Watson.
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud	Local, Cloud Foundry, Kubernetes.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask is an open source framework in python. Similarly Docker is also used.	Flask , Docker
2.	Security Implementations	Only registered users who have specific privileges has access to the website.	IBM DB2
3.	Scalable Architecture	3 – tier architecture, presentation tier, application tier, data tier	Python, IBM cloud services
4.	Availability	The application can be available for user at any time.	Kubernetes, Docker
5.	Performance	The application can handle multiple requests per second.	Kubernetes cluster, IBM