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

Date	03 October 2022
Team ID	PNT2022TMID02762
Project Name	Project – Plasma Donor Application
Maximum Marks	4 Marks

Technical Architecture:

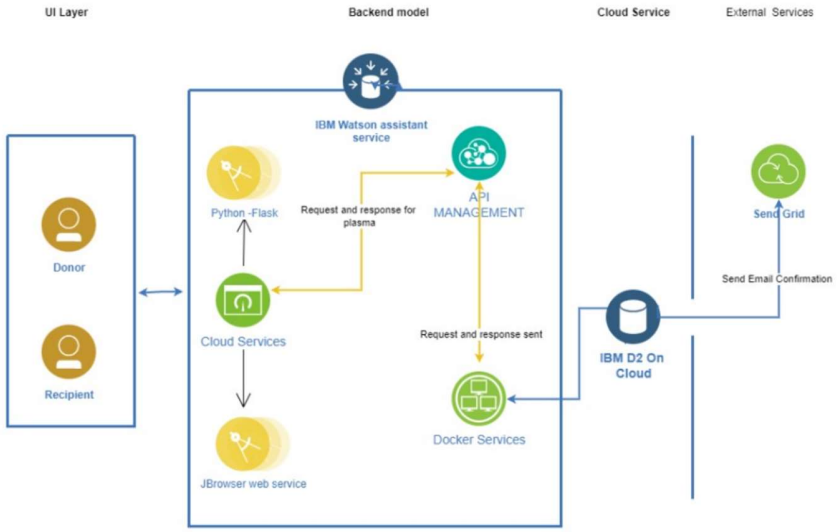

Table-1 : Components & Technologies:

S. No	Component	Description	Technology
1	User Interface	User interacts with user friendly web interface that directs them to functions of the application such as registration, booking appointments etc.	HTML & CSS, JavaScript, React JS
2	Application Logic-1	Web application framework upon which application is designed	Flask (Python)
3	Application Logic-2	Storing details of users (donors, doctors, patients etc.)	IBM DB2
4	Application Logic-3	Email alert is sent in request of plasma	SendGrid
5	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
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	Platform to build containerised applications	Docker.
9	External API-2	To store, manage and deploy container images	IBM Container Registry
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 (Python) is an open source framework used to develop web applications, Kubernetes is an open-source container orchestration system for automating software deployment, scaling, and management	Python – flask, Kubernetes
2	Security Implementations	Kubernetes cluster and IBM container registry are used for encryption of data.	IBM Container Registry, Kubernetes
3	Scalable Architecture	Kubernetes is used for deployment, scaling and management	Kubernetes
4	Availability	All time availability is provided by cluster	Kubernetes
5	Performance	Docker improves performance of application	Docker