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

Team ID	PNT2022TMID14991
Project Name	Project – Plasma Donor Application
Maximum Marks	4 Marks

Plasma Donor Application Technology Architecture

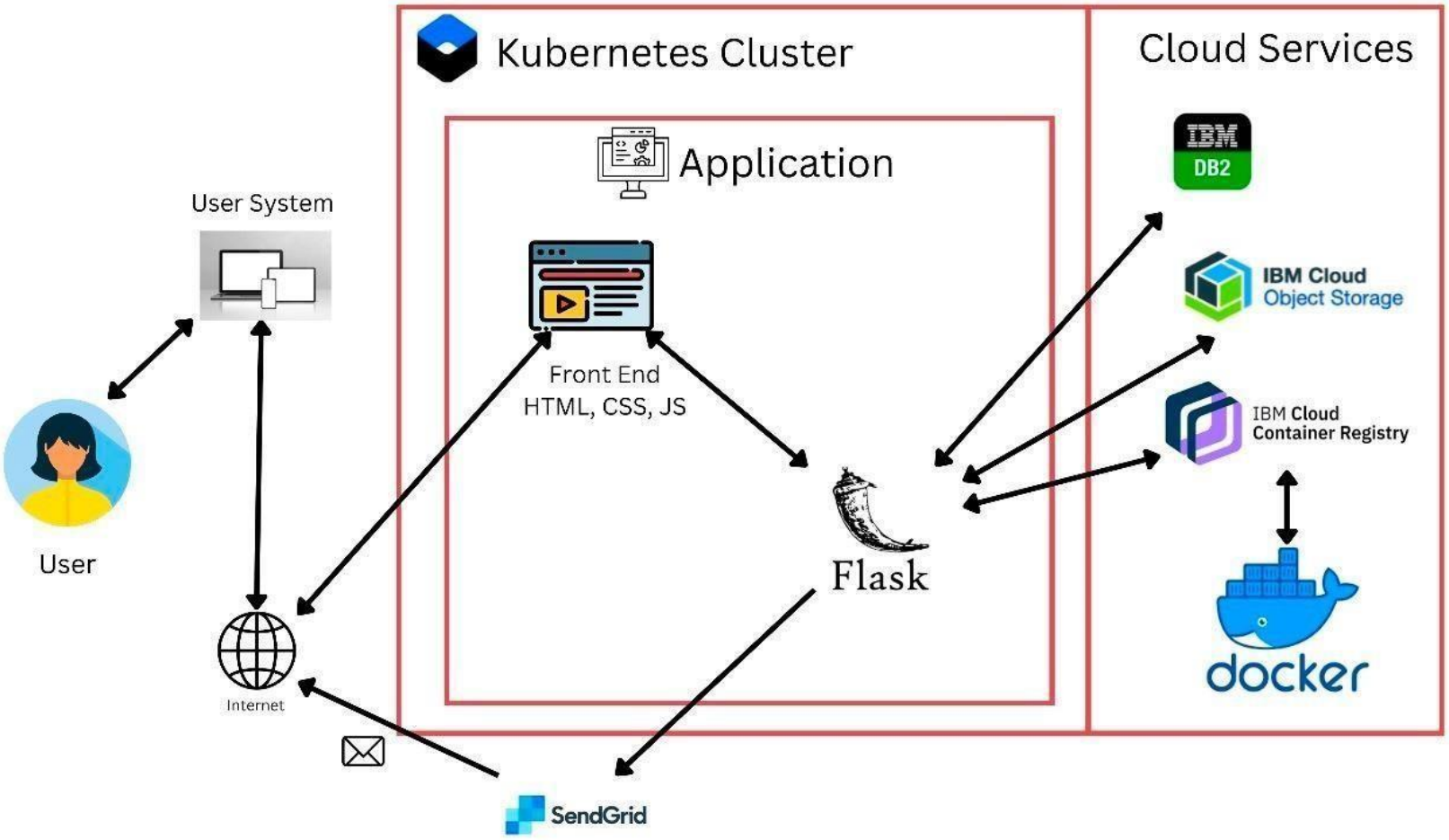

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	For user onboarding such as Login and Dashboard functions	HTML, CSS, JavaScript
2.	Verifying and filtering matching donors	Database operations to get data and perform operations and give user the appropriate details	Python
3.	IBM Watson	Chatbot to enable instant help for user	Watson Assistant by IBM
4.	Database	Stores all data including donor and user information	MySQL, NoSQL.
5.	Cloud Database	Cloud is used to store all the data in the database for elasticity and security	IBM DB2, IBM Cloudant.
6.	File Storage	File storage requirements must be met here	IBM Cloud object storage
7.	External API: To send email SendGrid	Notifying users through e-mail when required to pass critical information	SendGrid
8.	Infrastructure (Server / Cloud)	For Application Deployment in Cloud	IBM - Docker – container, Cloud Foundry, Kubernetes container

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Using flask as open-source framework to deploy the backend features and basic app navigation.	Flask
2.	Security Implementations	Stable architecture with secure application services and its functionalities.	IAM Controls, SHA-256, Encryptions
3.	Scalable Architecture	Extensible architecture with 3-tier, micro -services.	IBM cloud and Flask with front end
4.	Availability	Availability maintained by use of Kubernetes and load balancers, and with distributed servers.	IBM DB2, Docker, Kubernetes, Cloud Object storage.
5.	Performance	Efficiency of the application in use	IBM Container registry