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

Date	08.11.2022
Team ID	PNT2022TMID39184
Project Name	Plasma Donor Application
Maximum Marks	4 Marks

Technical Architecture:

The deliverable shall include the architectural diagram as below.

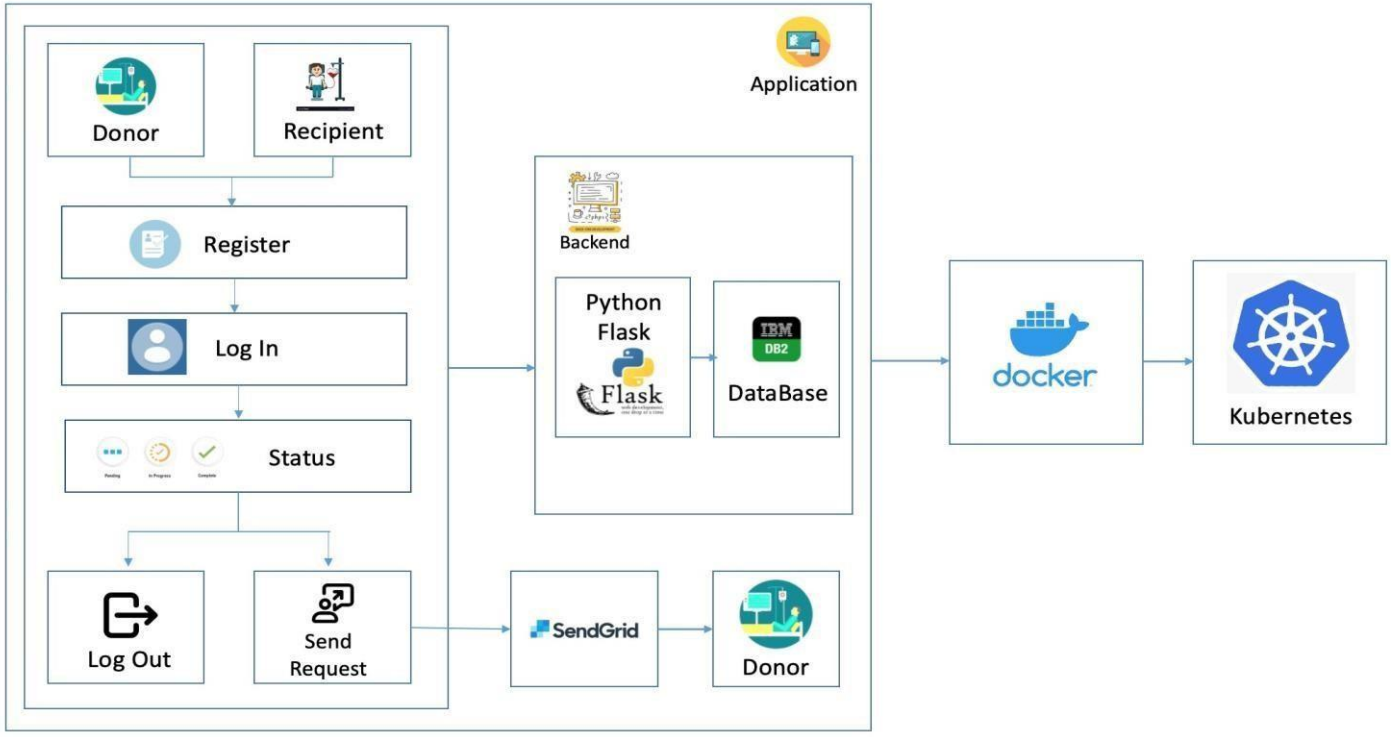

Table-1: Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g., Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / AngularJs

2.	Application Logic-1	New User registers in the application by giving the genuine contact details whichwill be stored in the database.	Java, Flask, HTML, CSS
3.	Application Logic-2	User login into the application by providing the username and password.	Flask, IBM DB2
4.	Application Logic-3	Stats page displays the blood unit count available and the number of donors available for each blood group	IBM Watson Assistant
5.	Application Logic-4	A request page that collects the name, contact number, gender and the blood group needed. Finally the request is sent to a donor whose blood group matches with the request.	SendGrid
6.	Database	Characters, Integers, String, Long, Configurations	IBM DB2, MySQL
7.	Cloud Storage	Database service on cloud	IBM DB2, IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Authentication, used to store, manageand deploy container images.	Flask, Container registry
9.	External API-2	Sending request to donors	SendGrid
10.	Infrastructure (Server / Cloud)	Application Deployment	Kubernetes, cloud foundry

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Python Flask
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Doctor content Trust (DCT), Transport Layer Security (TLS), Container registry
3.	Scalable Architecture	Justifying the scalability of architecture(3 – tier, Micro-services) Kubernetes prevents hardware problems like downtime error.	Docker, Kubernetes cluster
4.	Availability	Use of load balancers, distributed servers. Kubernetes provide all time availability.	Kubernetes
5.	Performance	Application performance is improved by Docker	Docker