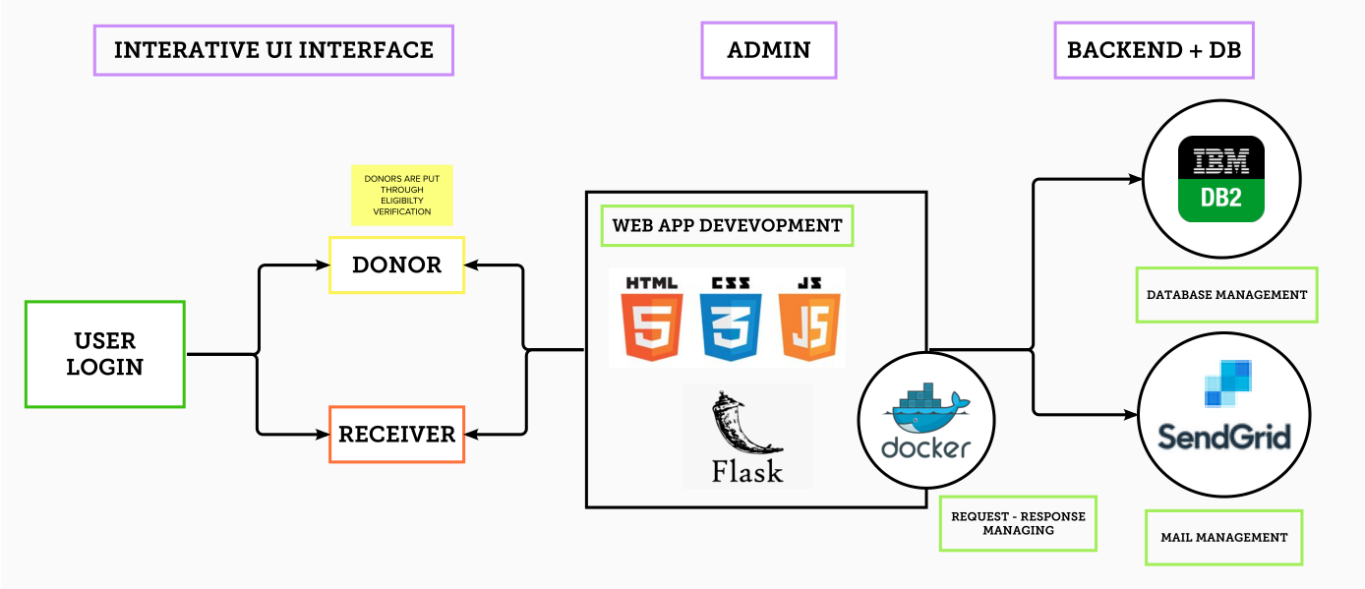
PROJECT DESIGN PHASE - 1

TECHNOLOGY STACK (ARCHITECTURE & STACK)

Date	27 October 2022
Team ID	PNT2022TMID17803
Project Name	Plasma Donor Application
Maximum Marks	4 Marks

Technical Architecture:



Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User interaction with the application e.g. Web UI, Mobile App responsiveness.	HTML, CSS, JavaScript
2.	Application Login - Plasma Donor	Logic for a process in the application - Donor criteria check.	Python - Flask
3.	Application Logic - Plasma Receiver	Logic for a process in the application - Receiver information check.	Python - Flask
4.	Confrimation	Comuunication and confirmation between application and user.	SendGrid
5.	Database	Managing - update , retrieve, delete and other query based fetches.	MySQL.
6.	Cloud Database	Database Service on Cloud	IBM DB2

7.	File Storage	File storage requirements	IBM Block Storage or Local Filesystem
8.	External API-1	Store and manage donor informations/	IBM Weather API
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud.	Local/ Kubernetes

Application Characteristics:

S.No	**Characteristics**	**Description**	**Technology**
1.	Open-Source Frameworks	Flask is utilised for developing web applications using python.	Python - Flask
2.	Security Implementations	Kubernetes is used for security optimization and other operational tasks of container management.	Kubernetes
3.	Scalable Architecture	3 – tier architechture	[1]Web development: HTML, CSS, JavaScript [2]Application Logic: Python Flask [3]Database: IBM DB2, SQL
4.	Availability	Load balancers are used to manage traffic by reducing congestion and balancing the load	IBM Load Balancer
5.	Performance	Docker for a standardized executable components combining application source code and making it able to run in any environment. SendGrid for mail confirmation management.	Docker SendGrid