

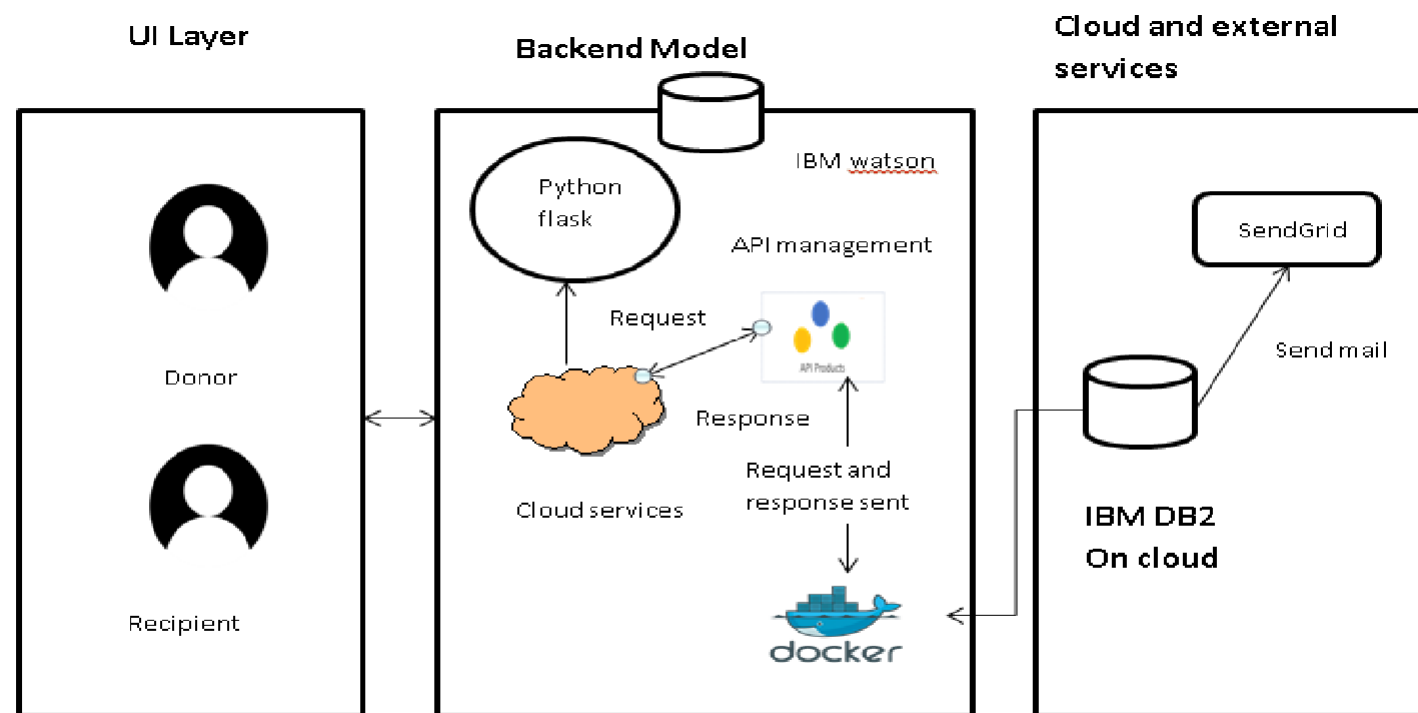
## Project Design Phase-II Technology Stack (Architecture & Stack)

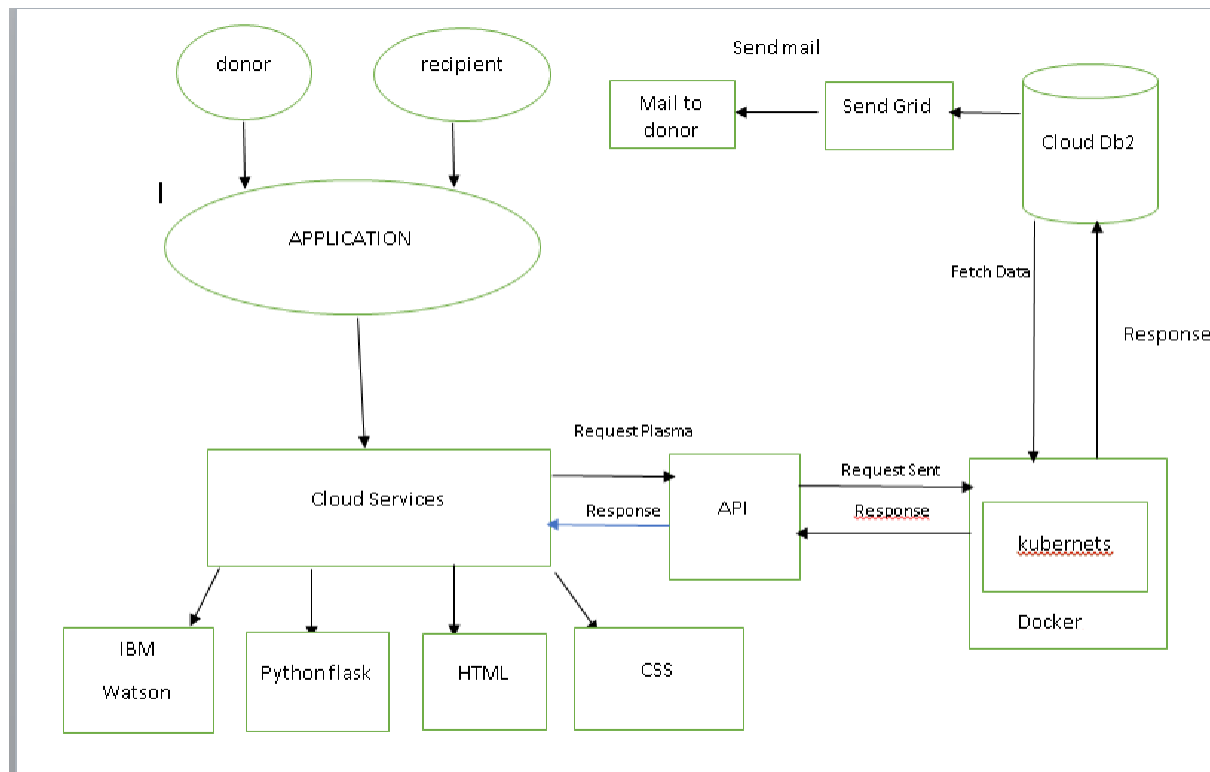
|               |                                    |
|---------------|------------------------------------|
| Date          | 01 November 2022                   |
| Team ID       | PNT2022TMID25871                   |
| Project Name  | Project – Plasma Donor Application |
| Maximum Marks | 4 Marks                            |

### Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Reference: [https://lucid.app/lucidspark/cf0f9adb-b762-479d-bae5-64dbb58cc4be/edit?beaconFlowId=93E316ED7A436018&invitationId=inv\\_2acc1d0e-0abb-49b4-a6e4-6cb85e1](https://lucid.app/lucidspark/cf0f9adb-b762-479d-bae5-64dbb58cc4be/edit?beaconFlowId=93E316ED7A436018&invitationId=inv_2acc1d0e-0abb-49b4-a6e4-6cb85e1)





#### Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

**Table-1 : Components & Technologies:**

| S.No | Component                       | Description  | Technology              |
|------|---------------------------------|--|-------------------------|
| 1.   | User Interface                  | The user register and login.<br>See the UI.                                | HTML, CSS, Python Flask |
| 2.   | Data maintenance                | Store , maintain ,retrieve the user's details.                             | MYSQL                   |
| 3.   | Chatbot                         | Clarify user queries.  | IBM Watson service      |
| 4.   | Confirmation Email              | Sending the confirmation email to users they have registered successfully. | SendGrid                |
| 5.   | Cloud Database                  | Cloud database to store plasma information and View Plasma information.    | IBM DB2                 |
| 6.   | File Storage                    | File storage requirements  | IBM Block Storage       |
| 7.   | Infrastructure (Server / Cloud) | To deploy the application on Local System                                  | Kubernetes              |

**Table-2: Application Characteristics:**

| S.No | Characteristics          | Description   | Technology   |
|------|--------------------------|---|--|
| 1.   | Open-Source Frameworks   | Python Flask frameworks is used.                                  | Python Flask   |
| 2.   | Security Implementations | Mandatory Control(MAC) and kubernetes is used.                    | SHA-256, Encryptions, IAM Controls, OWASP etc.                                     |
| 3.   | Scalable Architecture    | 3-Tier Architecture is used.                                      | Web server-HTML,CSS<br>Application Server- Python Flask<br>Database Server-IBM DB2 |
| 4.   | Availability             | Using Load Balancer to distribute network traffic across Servers. | IBM Load Balancer  |
| 5.   | Performance              | User Friendly UI.<br>Request and Response is faster.              | IBM Content Delivery Network   |

**References:**

<https://c4model.com/>

<https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/>

<https://www.ibm.com/cloud/architecture>

<https://aws.amazon.com/architecture>

<https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d>