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

Date	12 October 2022
Team ID	PNT2022TMID27851
Project Name	Early Detection of Chronic Kidney Disease using Machine Learning
Maximum Marks	4 Marks

Technical Architecture:

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

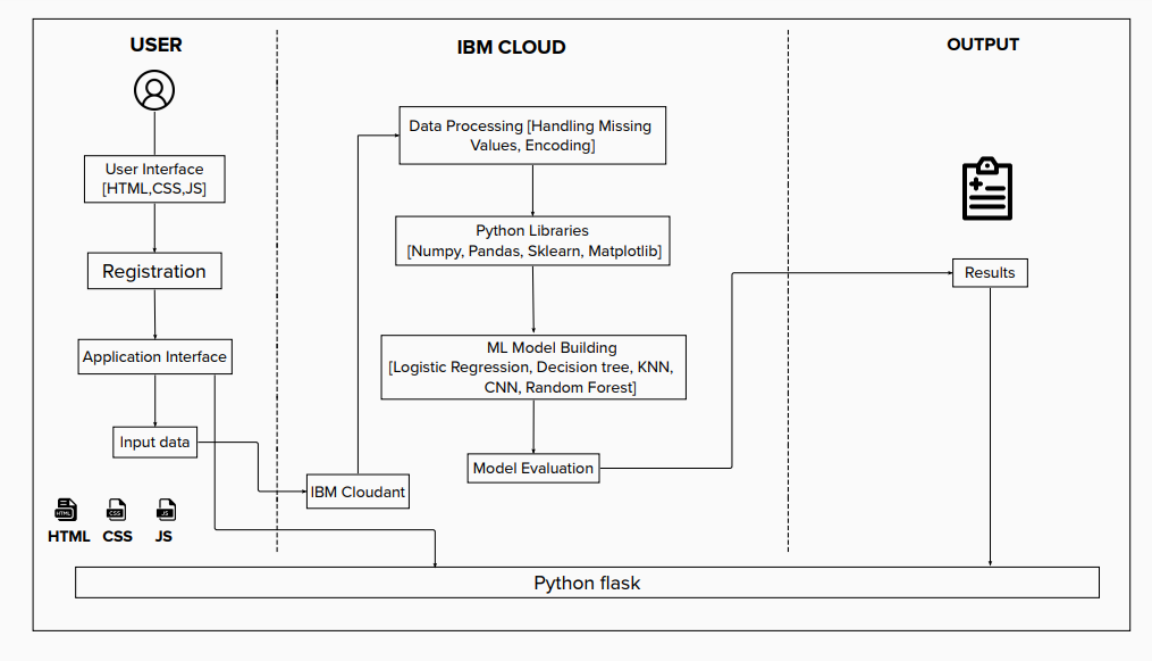

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
•	User Interface	An Interface for the user to interact with the prediction model.	HTML, CSS, JavaScript
•	User Registration	User can register in the web application	HTML forms

•	Disease Prediction	The user enters the data which is given as input to model to predict the disease.	Machine Learning with Python.
•	Update Prediction result	The result of disease prediction is updated in the Web UI for the user to know the output.	Python.
•	Database	Relational database structure to store the user data	MYSQL.
•	Cloud Database	Database services on IBM cloud.	IBM Cloudant.
•	Machine Learning Model	To predict he chronic kidney disease (CKD) with various input parameters.	Random Forest, KNN, Decision tree, Logistic Registration.
•	Infrastructure (Server / Cloud)	Application Deployment on Cloud	IBM Cloud.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
•	Open-Source Frameworks	The python open-source frameworks are used to build the web application as well as to build Machine Learning model.	Python Flask, Numpy, Scikit-Learn etc.
•	Scalable Architecture	The 3-tier architecture used with a separate user interface, application tier and data tier make it easily scalable.	IBM Watson Studio.
•	Availability	The web application is highly available as it is deployed in cloud.	IBM Cloud.
•	Performance	The performance of the website is improved with caching and security.	IBM Cloud Internet Services.