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

Date	13 October 2022
Team ID	PNT2022TMID39471
Project Name	Early Detection of Chronic Kidney Disease using Machine Learning
Maximum Marks	4 Marks

Technical Architecture:

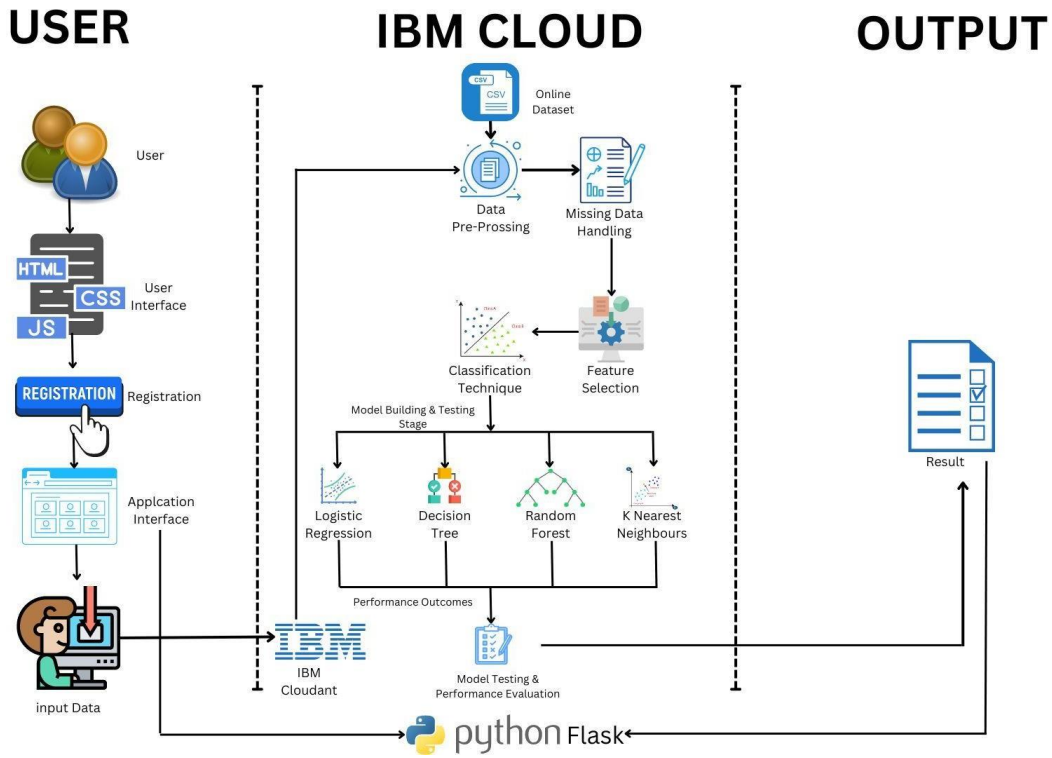

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	A user-interactive interface for the prediction model.	HTML, CSS, JavaScript
2.	User Registration	User can register in the web application	HTML forms
3.	Disease Prediction	The user enters the information that is sent to the model as input to predict the disease..	Machine Learning with Python.
4.	Update Prediction result	The Web UI updates the results of the disease prediction so that the user may see them. the result.	Python.
5.	Database	Relational database structure to store the user data	MYSQL.
6.	Cloud Database	IBM cloud database services.	IBM Cloudant.
7.	Machine Learning Model	To forecast the occurrence of chronic kidney disease (CKD) using a variety of input variables.	Random Forest, KNN, Decision tree, Logistic Registration.
8.	Infrastructure (Server / Cloud)	Application Deployment on Cloud	IBM Cloud.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Both the machine learning model and the web application are built using open-source Python frameworks.	Python Flask, Numpy, Scikit-Learn etc.
2.	Scalable Architecture	The web application and the machine learning model were both created using free and open-source Python frameworks.	IBM Watson Studio.
3.	Availability	Due to its cloud deployment, the web application has a high level of availability.	IBM Cloud.
4.	Performance	With caching and security, the website's performance is enhanced..	IBM Cloud Internet Services.