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

Date	18 October 2022
Team ID	PNT2022TMID13778
Project Name	Project - 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

Technical Architecture:

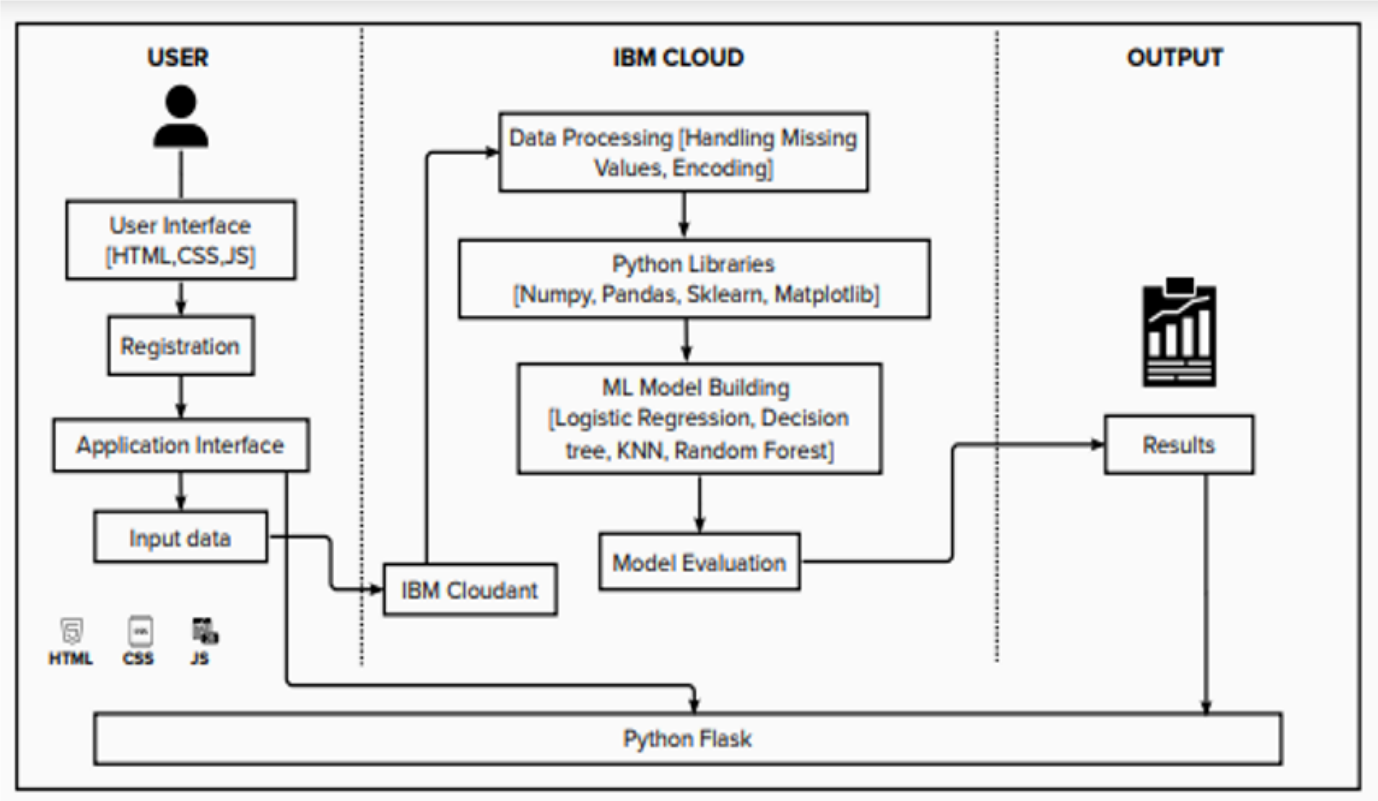

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User interact with our application through web User Interface.	HTML, CSS and Python flask.
2.	Registration	The user details will be stored and it will be used for further process.	HTML ,CSS, Python flask
3.	Login	Logic for a process in the application	IBM Watson STT service
4.	Client's input collection	User enters their diagnose report	Front end- HTML ,CSS ,MySQL,Pytjon flask Back end-Python
5.	Database	For user registration and login process	MySQL
6.	Machine Learning Model	Deep Learning Model gives 98% accuracy	Deep Learning Neural Network (DNN).

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	International Business Machines	Cloud
2.	Security Implementations	Authentication using stored data for login and CAPTCHA	Encryptions and Authentication
3.	Scalable Architecture	This model can be expanded to include more attributes for more accurate detection. Training the model with even more attributes will increase the efficiency further.	Performance optimization
4.	Availability	It is used a website(UI) and trained model to predict , it will work at any time.	Web development
5.	Performance	By using DNN, we can predict the chronic kidney disease with more than 95% of accuracy. In the DNN we have more hidden layers and hence its accuracy also high.	Deep Neural Network and back propagation