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

Date	19 October 2022
Team ID	PNT2022TMID01260
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

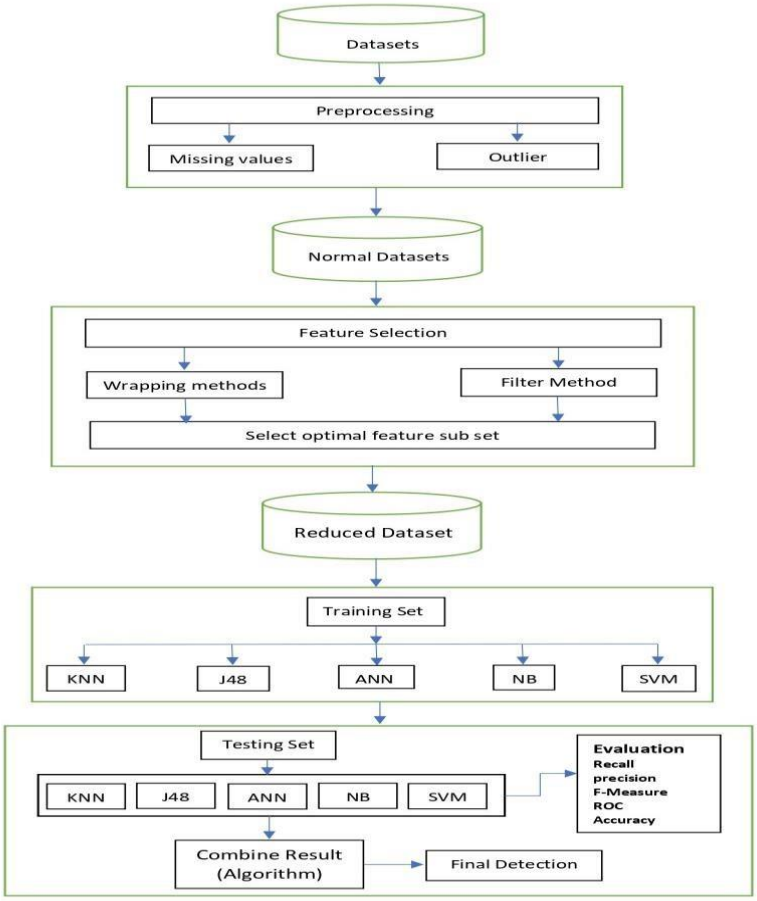

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML.
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson cloud service
4.	Database	Data Type, Configurations etc.	CSV file
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
6.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
7.	Machine Learning Model	To detect the chronic kidney disease (CKD) with various input parameters.	Random Forest, KNN, Decision tree, Logistic Regression.
8.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud	Local, IBM Cloud.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The python open-source frameworks are used to build the web application as well as to build Machine Learning model.	Jupyter(Python Flask, Numpy, skLearn etc.)
2.	Security Implementations	Access controls implemented, use of firewalls etc.	Through Username and password.
3.	Scalable Architecture	The scalability of architecture (The 3-tier architecture used with a separate user interface, application tier, training set tier ,testing set tier and data tier make it easily scalable.)	IBM Watson Studio.
4.	Availability	The availability of application (e.g. use of load balancers, distributed servers etc.)	IBM Cloud.

5.	Performance	Design consideration for the performance of the application.	IBM Cloud Internet Services.