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

Date	03 October 2022
Team ID	PNT2022TMID21077
Project Name	Project - Early Detection of Chronic Kidney Disease
Maximum Marks	4 Marks

Technical Architecture:

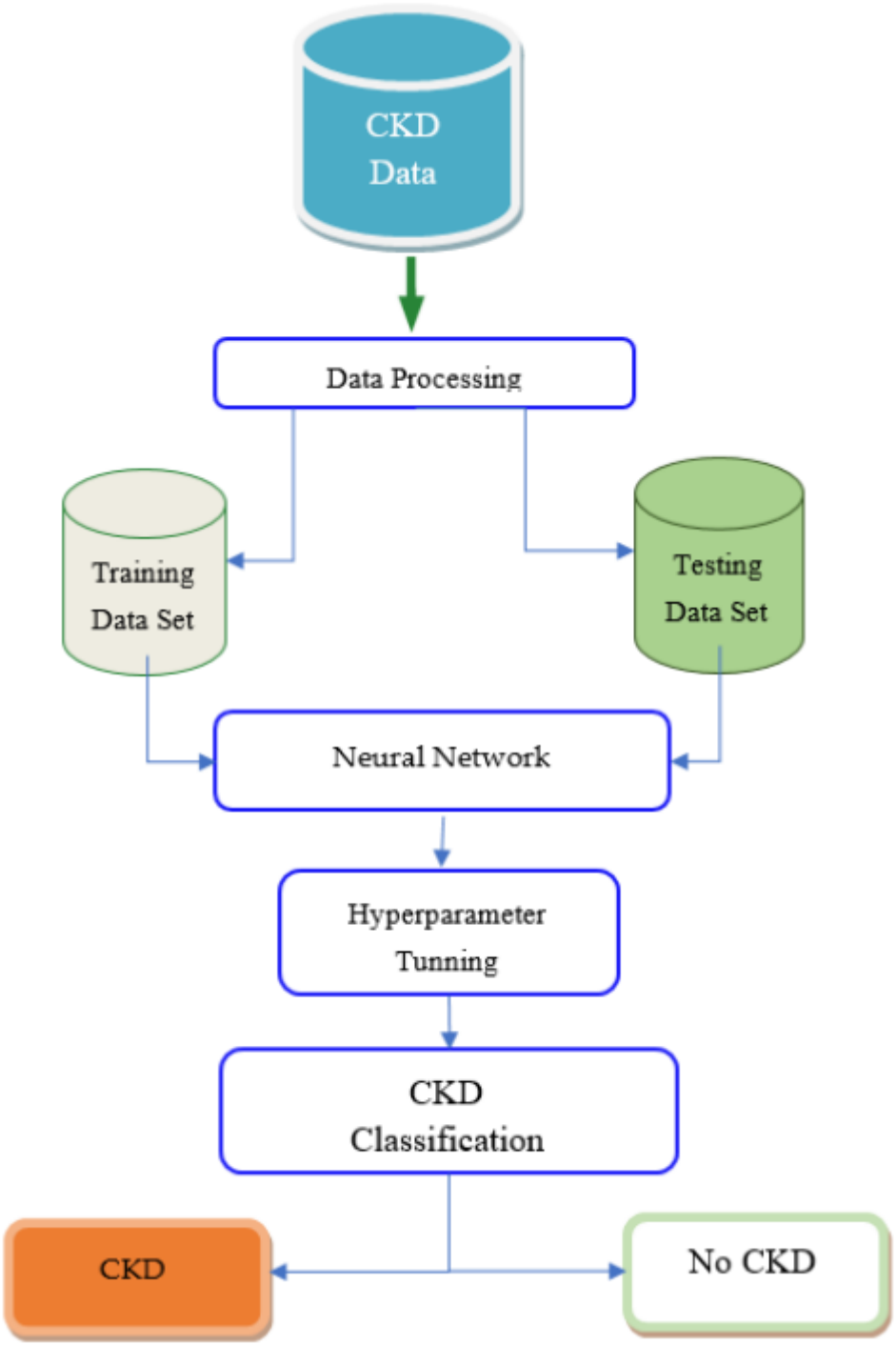

Table-1 : Components & Technologies:

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	Enters the data which is given as input to model to predict the disease.	Machine Learning with Python
4.	Update Prediction result	The result of disease prediction is updated in the Web UI for the user to know the output	Python
5.	Database	Relational database structure to store the user data	MySQL
6.	Cloud Database	Database Service on IBM Cloud	IBM Cloud
7.	Machine Learning Model	To predict he chronic kidney disease (CKD) with various input parameters.	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.