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

Date	14 October 2022
Team ID	PNT2022TMID48683
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

Example:

1.
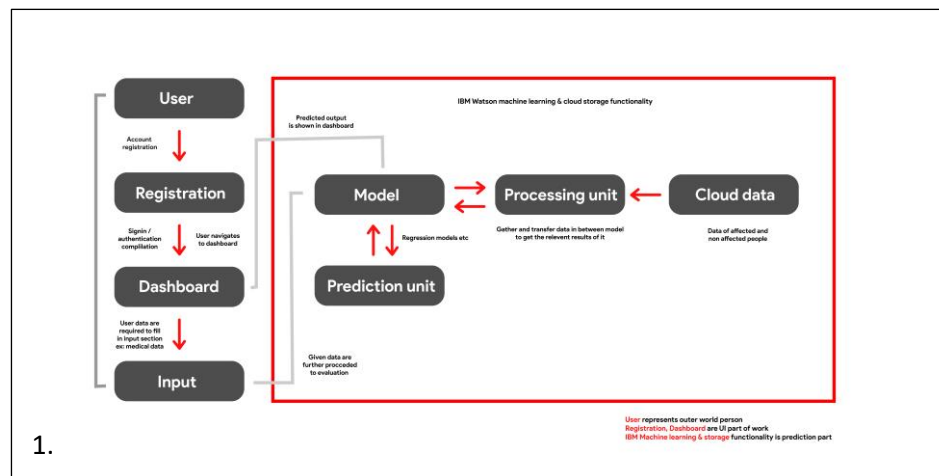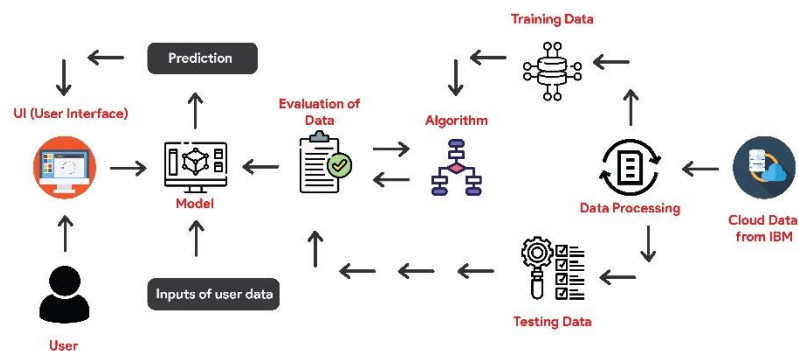
Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI, Mobile App	Flutter (Dart)
2.	Application Logic-1	To integrate API or API is directly used in flutter	Python
3.	Application Logic-2	To manage data package that initially stored in local	IBM Cloud object storage
4.	Application Logic-3	To predict and give the desired output of what we build for	IBM Watson machine learning
5.	Database	Data is fed into watson cloud storage to process the data online in anytime in .csv format	IBM cloud storage
6.	Cloud Database	Database Service on Cloud	IBM cloud storage
7.	External API-1	API used to gather the results that model predicts and also carry the output in dashboard of web or mobile application	IBM API
8.	Machine Learning Model	This hard core part used to build the model based on application	Random Forest model
9.	Infrastructure (Cloud)	Application Deployment on Cloud Cloud Server Configuration: Firebase (Google)	Firebase

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flutter is open source UI frame work used now a days by many of the developers because it provides rich UI	Flutter (Dart)
2.	Security Implementations	Since firebase is growing It provides best services for multiple platform applications with easy structural implementation	SHA certification in firebase
3.	Scalable Architecture	Since we used flutter as UI frame work, It has the most advantages because it can be used to	Flutter and firebase

S.No	Characteristics	Description	Technology
		develop cross platform applications in single code base	
4.	Availability	Application build for our project is hosted in web, mobile platforms	Web application, Play store, App store
5.	Performance	The performance of flutter is best in market available at current time and also model that we build for machine learning given a well optimized performance with greater accuracy	Flutter, Random forest model in machine learning, ML deployment in IBM watson machine learning, Fire base for web and mobile application hosting