Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	13th October 2022
Team ID	PNT 2022TMID01656
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

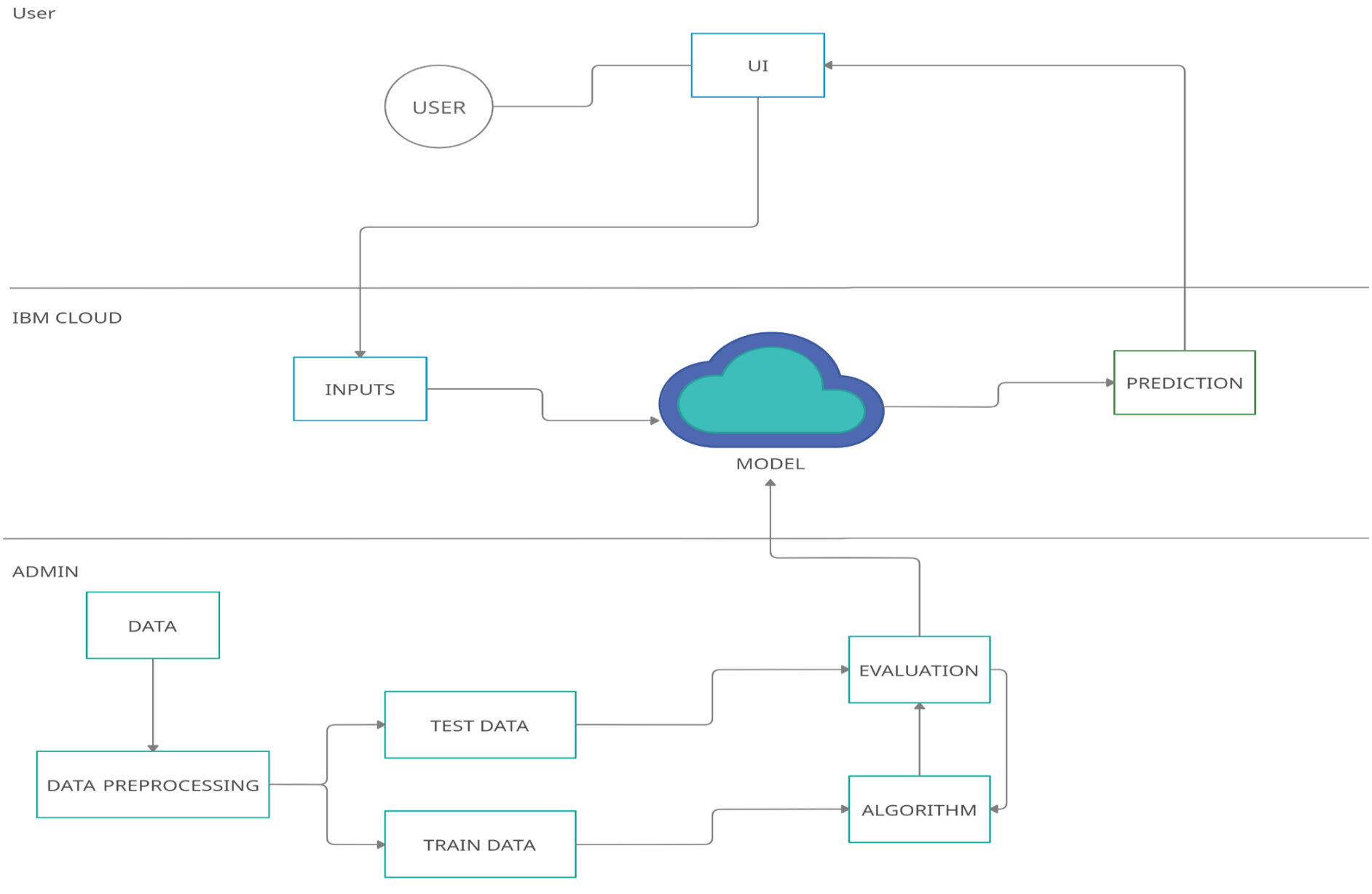
User
USER
UI
IBM CLOUD
INPUTS
MODEL
PREDICTION
ADMIN
DATA
DATA PREPROCESSING
TEST DATA
TRAIN DATA
EVALUATION
ALGORITHM

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, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	HTML, CSS, Python flask
3.	Application Logic-2	Logic for a process in the application	Machine Learning with Python
4.	Application Logic-3	Logic for a process in the application	HTML, CSS, Python flask
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Cloud Services
8.	External API-1	Purpose of External API used in the application	NIL
9.	External API-2	Purpose of External API used in the application	NIL
10.	Machine Learning Model	Purpose of Machine Learning Model	Random forest, Decision Tree, Support Vector Machine.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	IBM Cloud.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	IBM Cloud, Python
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Workload Protection, Identity and Access Protection
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Python
4.	Availability	Justify 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 (number of requests per sec, use of Cache, use of CDN's) etc.	Machine Learning Prediction and Classification techniques