Project Design Phase-II
Technology Architechture

Date	15 October2022
Team ID	PNT2022TMID32437
Project Name	Early Detection of Chronic Kidney Disease using machine learning
Maximum Marks	4 Marks

TECHNICAL ARCHITECHTURE:

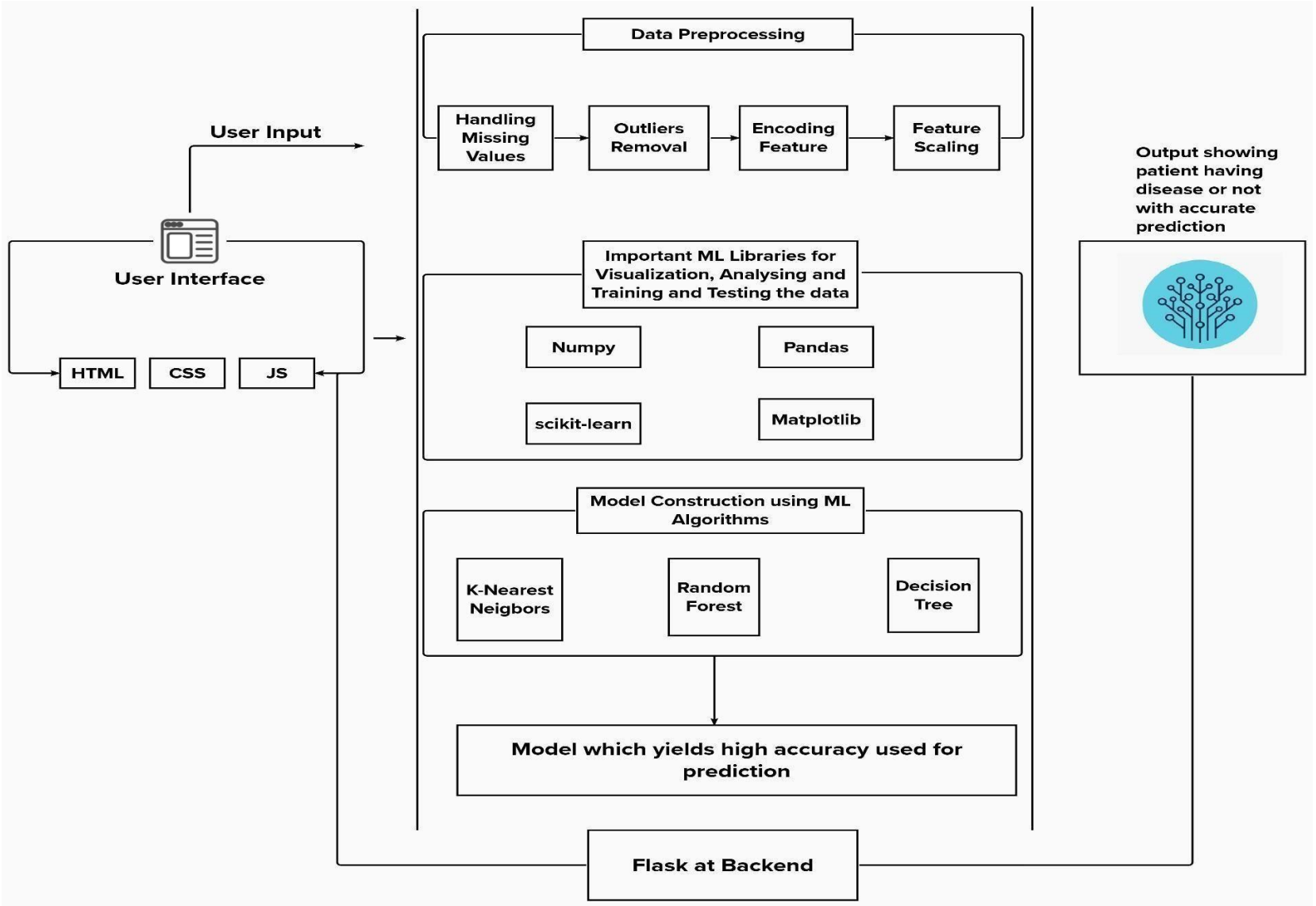

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI	HTML, CSS, Javascript
2.	Application Logic-1	Clicking on the register button will direct to registration page where they will enter their details to get registered	HTML, CSS, Flask
3.	Application Logic-2	Clicking on the login button will direct to login page where they can enter the login credentials if registered already	HTML, CSS, Flask
4.	Application Logic-3	After successful login, the form will get the vital details from the user for predicting the disease	HTML, CSS, Flask
5.	Data	Data type	Comma Separated Value File(.CSV)
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	Local Filesystem
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	Model is developed to find the patterns or make decisions. It will predict whether the user has disease or not	Supervised Machine Learning Algorithms
11.	Infrastructure (Server / Cloud)	Cloud Deployment	IBM Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks used for data pre-processing, application development and deployment	Visual Studio Code, Anaconda Navigator and IBM Cloud etc.
2.	Security Implementations	User profile and test result details will be secured	Encryptions and OWASP
3.	Scalable Architecture	Accurate details will be displayed	Supervised Machine Learning Algorithms such as Random Forest Classifier, K-Nearest Neighbor and Decision Tree etc.
4.	Availability	Available at any cost of time	IBM Load Balancer
5.	Performance	User will be able to know in-depth information about the disease and its severity. Capable of performing faster classification	Supervised Machine Learning Algorithms such as Random Forest Classifier, K-Nearest Neighbor and Decision Tree etc.