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

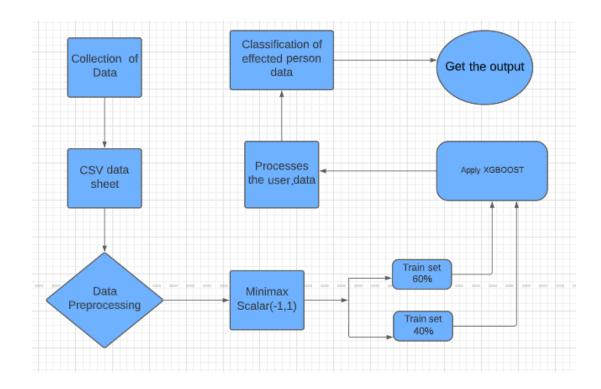| Date	17 October 2022
Team ID	PNT2022TMID05458
Project Name	Detecting Parkinson's Disease using Machine Learning
Maximum Marks	4 Marks

Technical Architecture:

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Users interact with the application using UI	HTML,CSS,JS
2.	Application Logic-1	The logic of the process is to collect all the data set and data set are in the CSV extension this CSV data sheet takes the preprocessing stage.	Microsoft Excel
3.	Application Logic-2	The preprocessed data has been splitted into the train set of 60% and 40%. Applying XGBOOST is an algorithm. That has recently been dominating applied gadget learning. XGBoost set of rules is an implementation of gradient boosted choice timber. That changed into the design for pace and overall performance.	XGBOOST Algorithm
	Application Logic-3	The user data is processed by using XGBOOST algorithm and identifies the affected person by using the affected person's data .	Jupyter Notebook , Python
4.	Database	Stored data , access the data, granting status values and checking the user status value	MySQL, NoSQL.
5.	Testing	The functional testing of the software is expected to perform. •Create input-data based on the function's specifications. •It Determines the output based up on the function's specifications. •Execute the test case. •Compare the actual and expected outputs.	Software Testing
6.	Data Storage	The data has been stored in the database	MySQL

7.	Machine Learning Model-1	To build a model to accurately detect the presence of Parkinson's disease in an individual.	XGBOOST algorithm.
8.	Machine Learning Model-2	Decision tree classification was used to gather significant, objective features for both disease classification and stage classification .	Decision Tree Classifier.
9.	Machine Learning Model-3	To diagnose Parkinson Detection(PD) patients with 70.26% accuracy and a precision of 0.64 for test data. In [52], the authors proposed a method to diagnose PD using the selection and extrac- tion of features and preprocessing classification.	Naive Bayes
10.	Infrastructure (Cloud)	Application Deployment on Cloud computing	Cloud Foundry.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask,Tensorflow ASR	Python,Github
2.	Security Implementations	Encryption mechanisms	Built-in encryption
3.	Scalable Architecture	XGBoost,multiple requests,large data storage	Machine Learning,IBM Watson,MySQL
4.	Availability	Available all the time	IBM Cloud
5.	Performance	Flask	Python