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

Date	03 October 2022
Team ID	PNT2022TMID30589
Project Name	Efficient water Quality Analysis and Prediction Using Machine Learning
Maximum Marks	4 Marks

Technical Architecture:

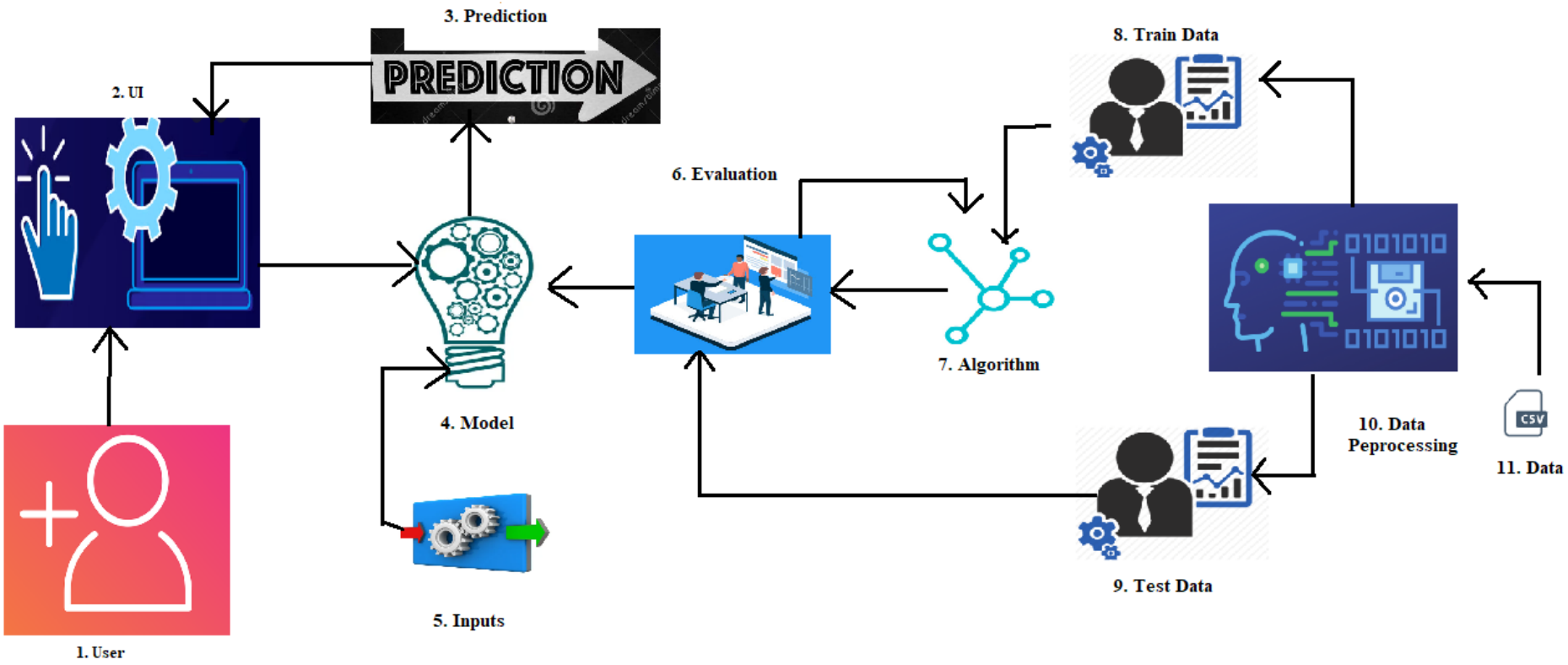

Table-1: Components & Technologies:

S. No	Component	Description	Technology
1.	User	Human beings who needs to check water quality before they drink it.	_
2.	User Interface	Through which user sees the result	HTML, CSS, Java Script
3.	Prediction	Predicting the result for the given input data	Decision Tree Algorithm
4.	Model	Trained by Machine Learning Algorithm	Machine Learning
5.	Inputs	Water Sample	_
6.	Evaluation	The three main metrics used to evaluate a classification model are accuracy, precision and recall.	Machine Learning
7.	Algorithm	Machine Learning Algorithm that allows software applications to become more accurate at predicting outcomes.	Decision Tree Algorithm
8.	Train Data	Used to reach model that use Machine Learning Algorithm.	Machine Learning Algorithm
9.	Test Data	The process where the fully trained model is evaluated by testing data.	Machine Learning Algorithm
10.	Data Processing	Processing performed on raw data to prepare it for another data processing procedure.	Python
11.	Data	Information is been translated in to a form that is efficient for processing.	CSV file

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Dissolved Oxygen	Used for calculating WQI and predicting the quality of water.	Python
2.	Temperature	Considering as a parameter for training and testing.	Python
3.	pH	WQI calculation and quality prediction.	Python
4.	Nitrate content	Parameter for analyzing and user training and testing.	Python