Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	3 October 2022
Team ID	PNT2022TMID24570
Project Name	EFFICIENT WATER QUALITY ANALYSIS USING MACHINE LEARNING
Maximum Marks	4 Marks

Technical Architecture:

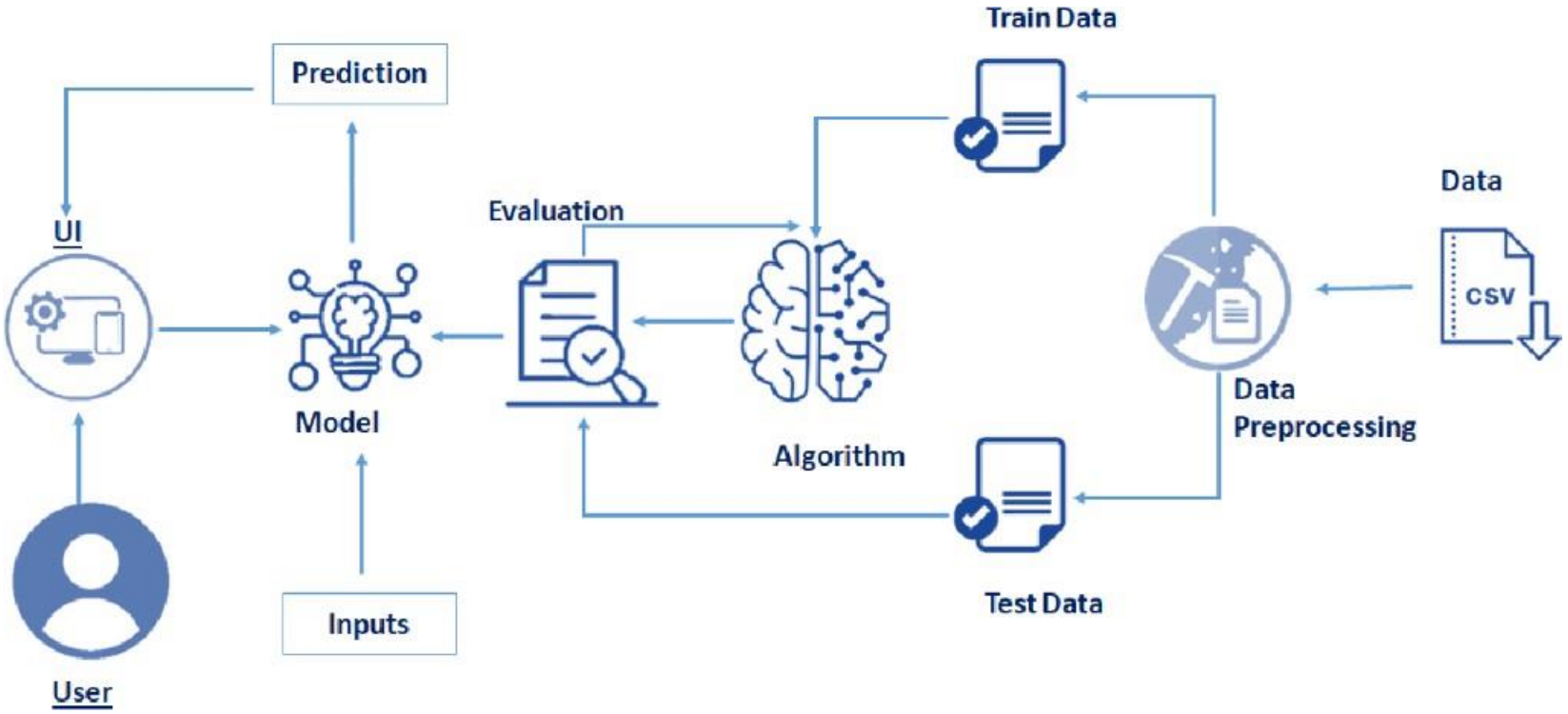

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The user interacts with the web UI application.	HTML, Python
2.	Application Logic-1	Getting user input as URL	Python,Flask.
3.	Application Logic-2	Processing the classification algorithm.	IBM Watson STT service
4.	Application Logic-3	Getting model output for phishing prediction.	IBM Watson Assistant
5.	Database	Entered URL and user inputs are stored.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	received user details and received user input URL of the website is stored in cloud.	IBM Block Storage
8.	External API-1	Purpose of External API used in the application	IBM Watson discovery API.
9.	External API-2	Purpose of External API used in the application	Machine learning API.
10.	Machine Learning Model	Purpose of ML model for predicting the phishing website.	Regression Model
11.	Infrastructure (Server / Cloud)	on cloud server we will be deploying the ML model using flask in the web page.	Python, flask.

Table-2: Application Characteristic

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks used is IBM Watson	python,scikit-learn
2.	Security Implementations	IBM Cloud	Certified Watson assistant for Encrypted file systems, Encrypted storage systems, Key management System
3.	Scalable Architecture	Web server - static and dynamic website content present in the website will be update based upon user demands and suggestion	IBM Watson Assistant, Python, MySQL
4.	Availability	The ML model is made available instantly to user at any point of time.	IBM Watson Cloud assistance
5.	Performance	IBM Watson –automate processes, The deep learning model is trained using IBM Watson studio for better performance and quick accessibility .	IBM Watson Assistant