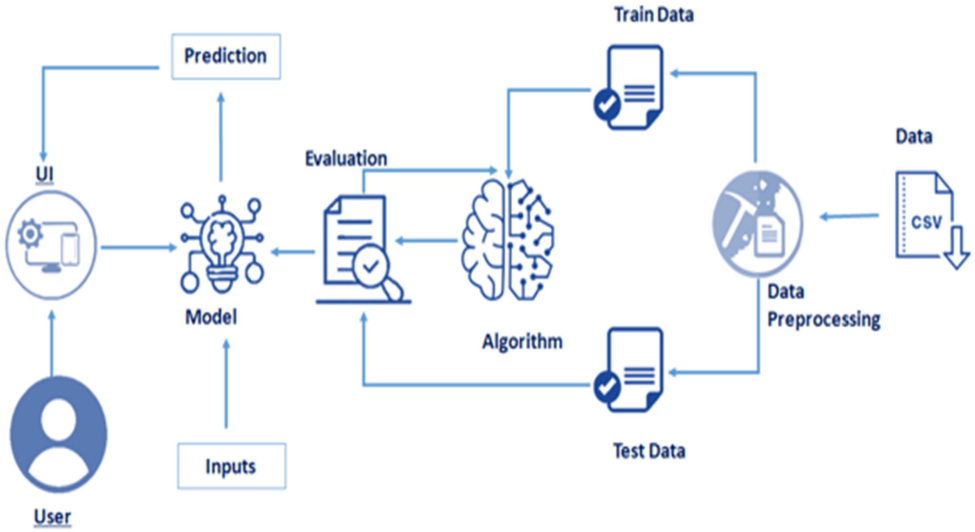
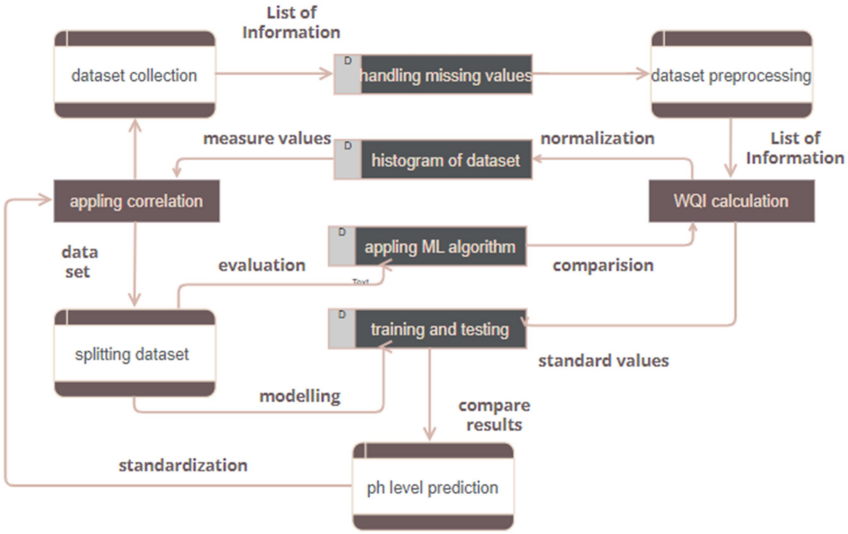
Project Design Phase-II
Data Flow Diagram & User Stories

Date	15 October 2022
Team ID	PNT2022TMID49864
Project Name	Project – Efficient water quality analysis and prediction using machine learning
Maximum Marks	4 Marks

Technical Architecture



Dataflow Diagram



Data Flow Definition

Water is considered as a vital resource that affects various aspects of human health and lives. The quality of water is a major concern for people living in urban areas. The quality of water serves as a powerful environmental determinant and a foundation for the prevention and control of waterborne diseases. However predicting the urban water quality is a challenging task since the water quality varies in urban spaces non-linearly and depends on multiple factors, such as meteorology, water usage patterns, and land uses. So, this project aims at building a Machine Learning (ML) model to Predict Water Quality by considering all water quality standard indicators.

User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Developer	Data Preparation	USN-1	Collecting water dataset and pre-processing it	Handle missing values, outliers, null values and so on	High	Sprint-1
	Model Building	USN-2	Create a ML model to predict water quality	Fitting data in perfect model	Medium	Sprint-1
	Model Evaluation	USN-3	Calculate the performance, error rate and complexity of ML model	Above 80% performance	Medium	Sprint-1
	Model Deployment	USN-5	Using flask and deploy model finally in IBM cloud using IBM storage and Watson Studio	Working in a proper manner	Medium	Sprint-2
Customer	Registration	USN-5	As a user, I can register for the application by entering my email, password, and confirming my password	I can access my account / dashboard	Medium	Sprint-3
	Confirmation	USN-6	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	Low	Sprint-3
	Login	USN-7	As a user, I can log into the application by entering email & password	I am accessing my account	Medium	Sprint-3
	Dashboard	USN-8	As a user, I can use the application by entering water data	I am accessing my dashboard	High	Sprint-4