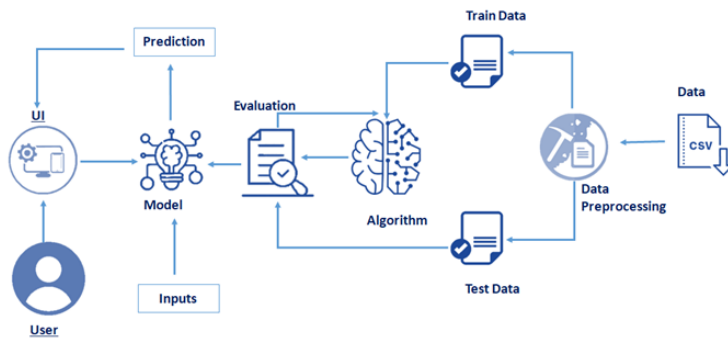


Project Design Phase-II Technology Stack (Architecture & Stack)

Date	15 October 2022
Team ID	PNT2022TMID10841
Project Name	Project – Machine learning on Rainfall Prediction.
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	With the help of web UI, user has better experience And can access the website user-friendly.	HTML, CSS, JavaScript, React JS.
2.	Application Logic-1	Customer can login with username and password.	Java / Python
3.	Application Logic-2	Farmer can give their feedback about weather conditions.	IBM Watson STT service
4.	Application Logic-3	Farmer can check whether there will be heavy rainfall tomorrow or not and can able to take Precautionary measures.	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	Aadhar API
9.	External API-2	-	-
10.	Machine Learning Model	To create model for analysis	1. Logistic Regression 2. Decision Tree Classifier 3. Random Forest Classifier 4.KNN 5.SVM 6.xgboost
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used REACT JS EXPRESS JS NODE JS	Technology of Opensource framework JAVASCRIPT and PYTHON

S. No	Characteristics	Description	Technology
		FLASK	
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services) This improves scalability, because application servers can be deployed on many machines. The database does not make longer connections with every client – it only requires connections from a smaller number of application servers	Presentation Layer – React JS (HTML, CSS , JS) Application Layer – Flask (Python) Data Layer – IBM DB2
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	-
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	-