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

Date	03 October 2022
Team ID	PNT2022TMID32615
Project Name	Exploratory Analysis of RainFall Data in India for Agriculture
Maximum Marks	4 Marks

Technical Architecture:

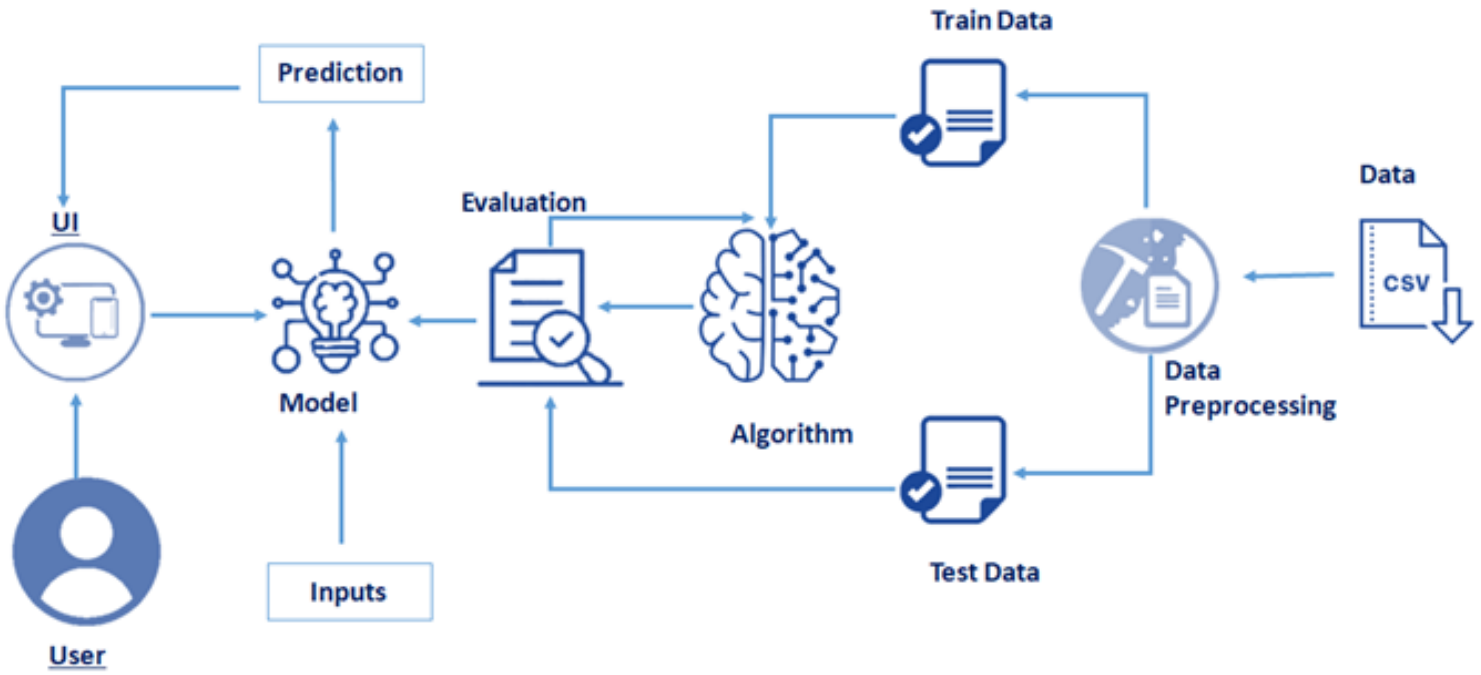

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Database	Where we can store different types of data as image , spreadsheet, text etc.	No SQL , SQL, CSV store
3.	Cloud	Database Service on Cloud	IBM DB2,IBM Watson studio etc.
4.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
5.	Application Logics	Logic for each and every process in the application	Python,JavaScript
6.	Machine Learning Algorithms	The model is developed to predict the rainfall using ML algorithms	Sklearn Algorithms, Regression ,Clustering and Classification.
7.	Libraries	The available data is formatted or converted into the format which will be suitable for the ML model	Numpy, Matplotlib, Pandas, Seaborn, Geopandas

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Backend Framework, Non-structured Database, CSS Framework styling	Python Flask / NodeJS, MongoDB, IBM DB2, CSS-3
2.	Security Implementations	Email Verification and authentication, Authentication and authorisation using JSON object by comparing the data exists in database	SSL Certs, Direct verification using Backend Framework
3.	Scalable Architecture	To ensure that enough resource is allocated on the hosting platform to keep up with demand	IBM Cloud Kubernetes Service
4.	Availability	The website will be made available by hosting it in cloud hosting platforms	Heroku cloud hosting (for testing) , IBM cloud hosting
5.	Performance	. Multiple prediction requests should be handled simultaneously without affecting the speed and accuracy of prediction	Load Balancers and Distributed servers