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

Date	04 November 2022
Team ID	PNT2022TMID49032
Project Name	Project – EXPLORATORY ANALYSIS OF RAINFALL DATA IN INDIA FOR AGRICULTURE.
Maximum Marks	4 Marks

Technical Architecture:

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

Technology architecture associates application components from application architecture with technology components representing software and hardware components.
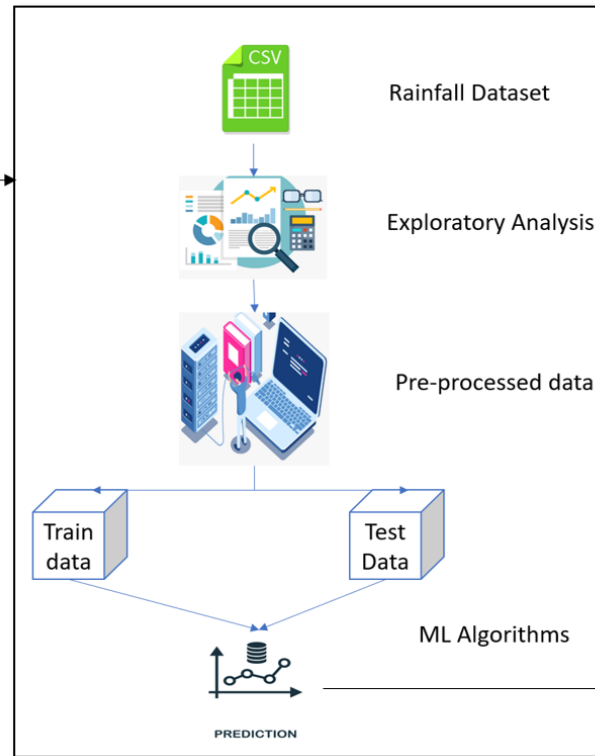
Its components are generally acquired in the marketplace and can be assembled and configured to constitute the enterprise's technological infrastructure.

USER

SYSTEM

ADMIN

Rainfall Data

Rainfall Dataset

Exploratory Analysis

Pre-processed data

Train data

Test Data

ML Algorithms

PREDICTION

Prediction and Forecasting

PREDICTION

Web UI

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.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Backend framework, CSS styling framework, relational database	PyJWT, Flask, IBM cloud DB
2.	Security Implementations	Request authentication using JWT tokens	HS-256, Encryptions , SSL certs
3.	Scalable Architecture	Support for multiple sample prediction using Excel file	Pandas , Numpy
4.	Availability	Availability is increased by distributed servers in cloud VPS	IBM cloud hosting
5.	Performance	The application is expected to handle multiple predictions per second	Load balancers , distributed servers