

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

Date	18 October 2022
Team ID	PNT2022TMID09651
Project Name	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 Table 1 and Table 2

Technology architecture associates application components from application architecture with technology components representing software and hardware components.

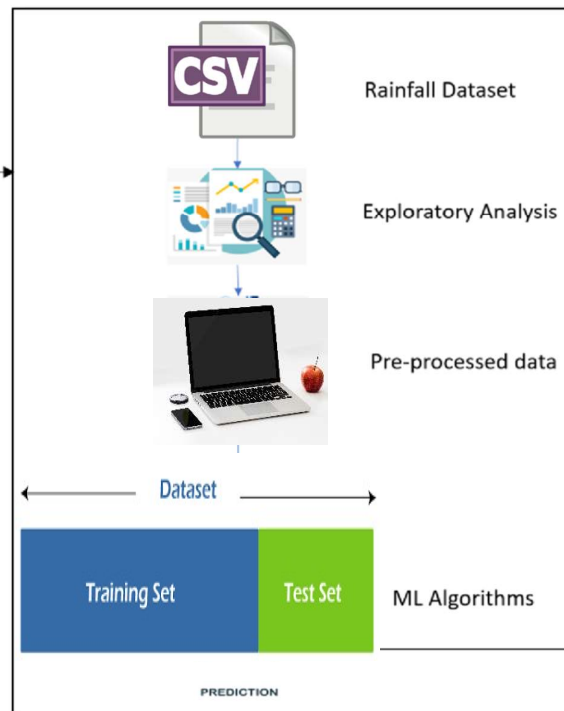
Its components are generally acquired in the marketplace and can be assembled and configured to constitute the enterprise's technological infrastructure.

USER

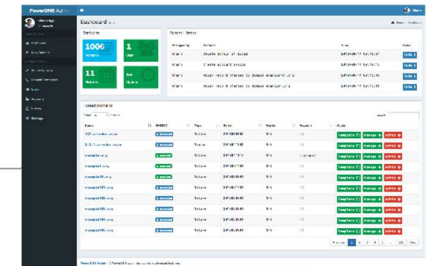


Rainfall Data

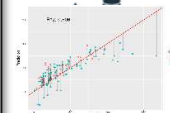
SYSTEM



ADMIN



Web UI



Prediction and
Forecasting

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, etc.	React JS
2.	Application Logic-1	Logic for a process in the application	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
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, Django, 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 , Seaborn , sklearn
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