PROJECT DESIGN PHASE-II
Technology Stack (Architecture & Stack)

Date	17 October 2022
TeamId	PNT2022TMID30075
Project Name	Exploratory Analysis of Rainfall Data in India for Agriculture
Maximum marks	4 Marks

Components & Technologies:

S.No	Component	Description	Technology
1.	Mobile	Downloads and Install the Andriod Application, Logs in.	HTML, CSS, Flask, Python.
2.	Registration	Enters the Phone Number and Get an OTP Message to Login.	Python, Flask.
3.	Rainfall Prediction	Enters the Month And The Year.	Python, Flask.
4.	Database	Rainfall Data Set Downloaded From the WEB	MySQL.
5.	Cloud Database	Database Service on Cloud Base.	IBM DB2, IBM Cloud etc.
6.	Data Pre-processing	Data is Processed and Missing values are Omitted, so the Data canbe Used to Training the Model	Pandas, NumPy Module in Python.
7.	Machine Learning Model	Random Forest Algorithm is used with Decision Trees to Improve the Accuracy of Prediction	Sklearn, Seaborn.
8.	Result	This Application Shows the Predicted Rainfall Data With the Crop's Suggestions	Python, Flask.
9.	Crops	This Shows the List of Crops and itsDetails About it	HTML, CSS, Flask.

Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Python, Flask.	Python.
2.	Security Implementations	The Personal Details of the Farmer are Secured and Protected.	Encryption Methods.
3.	Scalable Architecture	It can Grow and Adapt with Ease. It is Designed for Scalability and Flexibility that Offers Help to Farmers.	Python, Flask.
4.	Availability	The Infrastructure of the System Provides Recoverability and Protection From System Failure.	Flask.
5.	Performance	The Application is Developed in Such a Way to Predict Rainfall for Multi User at a Same Time.	Flask, Python.

Technical architecture: