**Project Design Phase-I**

**Solution Architecture**

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| Date | 19 September 2022 |
| Team ID | PNT2022TMID08185 |
| Project Name | Project - Exploratory analysis of Rainfall data in india for agriculture |
| Maximum Marks | 4 Marks |

**Solution Architecture:**

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

* To forecast monthly rainfall data with the help of time series analysis such as non linear model-Artificial Neural Network.
* The structure and characteristics of rainfall data analysis areDepth,Duration,Intensity and Rainfall frequency.
* The Annual rainfall data is analysed and the variation in distribution over the area is studied with the statistical parameters.
* For statistical analysis rainfall data from a single series should ideally posses the property of homogeneity.

Example-Solution architecture diagram

Figure 1: Architecture and data flow of Exploratory Analysis of rainfall data in india for agriculture

EXPLORATORY ANALYSIS OF RAINFALL DATA IN INDIA FOR AGRICULTURE

Forecast method used for rainfall data analysis

GAIN

A good balance of rain and proper irrigation can lead to faster growing plants,which can cut down on germination time and length between seeding and harvesting

TYPES OF PRECIPITATION

Snow

Sleet

Hails

Dew

Mist

Rainfall intensity calculated

RAINFALL CHARACTERISTICS

Depth

Duration

Intensity

Rainfall frequency

Rainfall data analysis are carried out to determine the rainfall event intensity for specific period

By calculating the product of rainfall intensity and the duration of each rainfall distribution can be derived

RAINFALL PREDICTION METHODS

1)Rain detector

2)Yahoo weather

3)Regression model

4)Linear model

RAINFALL DATA TYPE

Normal ratio

Quadrant ratio

Predicted output

Graph and Result