

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

Date	03 October 2022
Team ID	PNT2022TMID21122
Project Name	Project -Estimate the crop yield using Data Analytics
Maximum Marks	4 Marks

Technical Architecture:

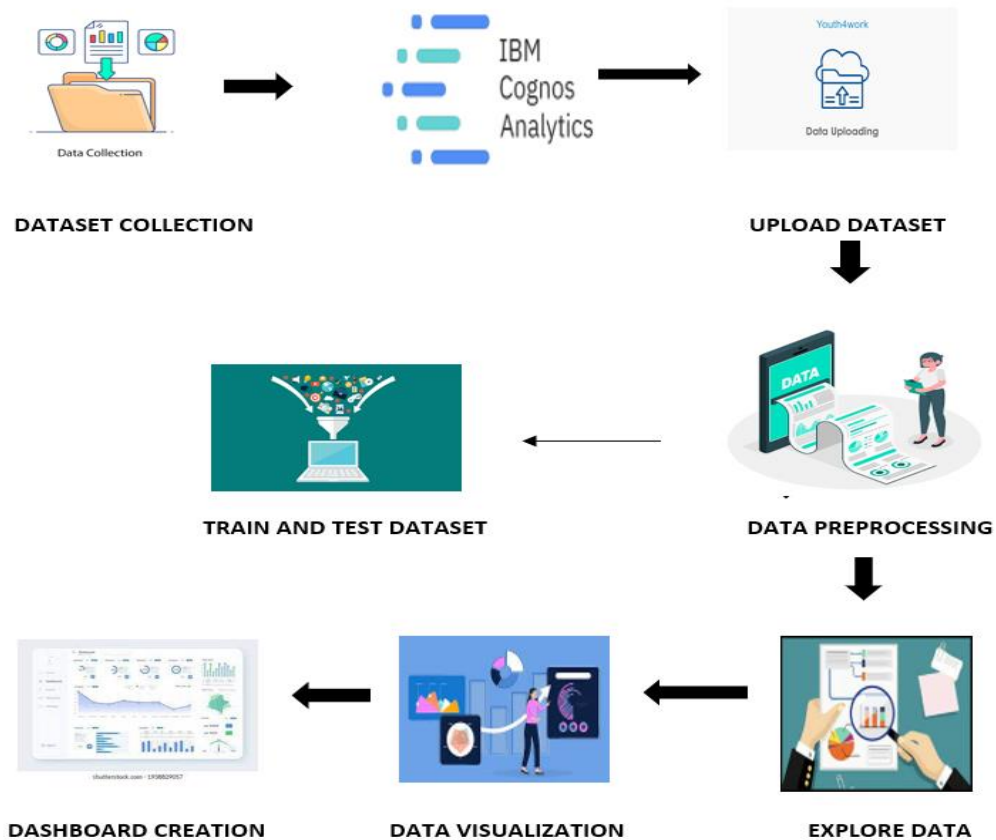


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application Web UI	HTML, CSS
2.	Weather data	Past Weather data about the surrounding to predict the yield.	IBM Watson service
3.	Crop yield data	Data about the amount of yield produced by crops on that particular area.	IBM Watson Assistant
4.	Cloud Database	Uploading of dataset and dataset storage	IBM DB2.
5.	File Storage	File storage requirements	Local Filesystem
6.	External API-1	To provide current and forecasted conditions, seasonal and sub-seasonal forecasts, lifestyle indices, severe weather and historical weather data for analysis.	IBM Weather API.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	No open-source frameworks used	Python
2.	Security Implementations	Data is stored in cloud with high security	SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Large datasets can also be uploaded for visualization and many users can use the model for visualization at same time.	IBM Cloud, IBM Cognos
4.	Availability	Soil recommendations, weather forecasts and contaminated zones recommendations are available in application.	IBM Watson Assistant
5.	Performance	Large requests can be handled at the same time.	Cognos analytics.