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

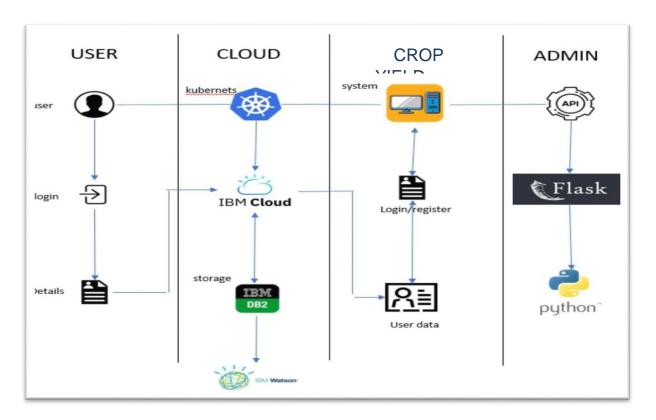| Date	03 October 2022
Team ID	PNT2022TMID08893
Project Name	Estimate the crop yield using data analytics
Maximum Marks	4 Marks

Technical Architecture:

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User access to the application through the web UI (user interface)	HTML, CSS
2.	Application Logic-1	Creating an application interface	Python
3.	Application Logic-2	Creating an ai assistant that gives crop yield data to the user	IBM Watson STT service
4.	Database	Data Type	MySQL
5.	File Storage	Files are stored in the local storage and stored in the cloud	IBM Block Storage or Other Storage Service or Local Filesystem
6.	External API-1	Use this REST API to manage crops. Get all types and varieties for cultivation. URL/admin/resources/crops.Method, GET	IBM Weather API, etc.
7.	Deep Learning Model	Creating an algorithm to calculate crop information provides by the yielder	Object Recognition Model, etc.
8.	Infrastructure (Server / Cloud)	IBM Cloud App Configuration is a centralized feature-management and configuration service on IBM Cloud	IBM Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	There are no open-source frameworks in this application.	Python
2.	Security Implementations	Blockchain technology is used for Security implementation its private framework protects all data.	Blockchain.
3.	Scalable Architecture	Users are provided with crop yield data online and giving awareness to people by giving ideas to increase the production and monitoring crops and harvesting before they are affected.	IBM Cloud
4.	Availability	Soil Recommendations, Test kits, Farmers suggestions, and Updated Contaminated zones are available in applications.	IBM Watson Assistant
5.	Performance	The geo-fencing algorithm is updated daily and shows the day-to-day updates of the contaminated zones.	Geofence