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

Date	13 October 2022
Team ID	PNT2022TMID13105
Project Name	Fertilizer Recommendation for Disease Prediction
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

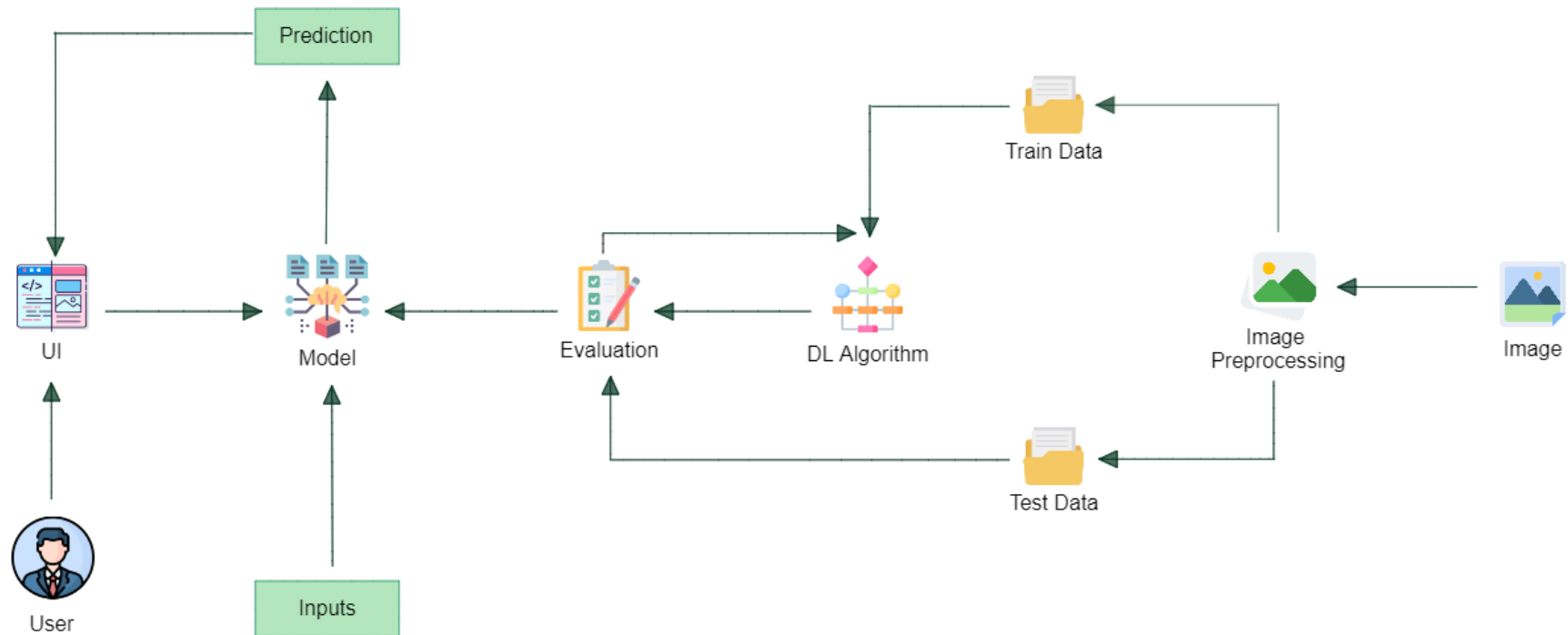**Title: Fertilizer Recommendation System for Disease Prediction**

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User interacts with the application using a website	Python Flask
2.	Image Preprocessing	Image of the diseased leaf is uploaded through the website and the image is pre-processed using machine learning algorithms.	Python
3.	Disease Prediction	Machine learning model to predict the diseases from the images of the leaves uploaded through the website	Python
4.	Fertilizer Recommendation	After predicting the disease suitable fertilizer for that particular disease is suggested.	Python
5.	Database	Images are stored in the database	Google drive
6.	Cloud Database	The above described model is deployed in the IBM cloud.	IBM DB2, IBM Cloudant etc.
7.	Machine Learning Model	Machine learning models are used for image pre-processing, disease prediction and fertilizer recommendation.	Image pre-processing model, Disease Prediction model.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Google Collaboratory, Jupyter Notebook, Google drive, Python Flask	Python, Data storage in Google drive
2.	Scalable Architecture	The scalability architecture used is 2-tier architecture. The client is the user and the server is the IBM cloud server where the model will be deployed.	Python Flask, IBM Cloud.
3.	Availability	The website will be deployed in the IBM cloud and will be available for all the users to use irrespective of the organisation or the institution they belong to.	IBM Cloud
4.	Performance	As the models and the web applications are deployed in the IBM cloud remote server the website can handle maximum number of requests and can be scaled at ease.	IBM Cloud