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

Date	16 October 2022
Team ID	PNT2022TMID42715
Project Name	Project – Fertilizers Recommendation System 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: Fertilizers Recommendation System For Disease Prediction

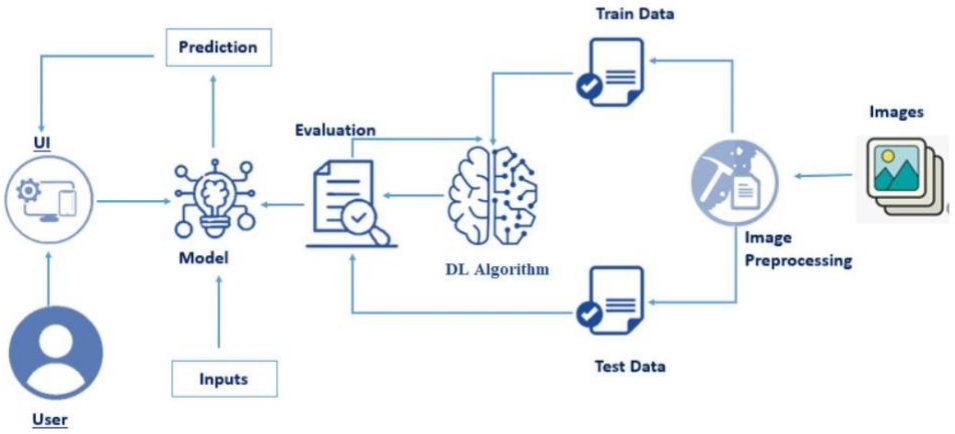

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User interacts with the application using website.	HTML, CSS, JavaScript
2.	Image pre-processing	Image of the diseased leaf is uploaded through the website and the image is pre-processed using machine learning algorithms.	Python
3.	Disease Prediction	Artificial intelligence (Machine learning) model is used to predict the diseases from the images of the leaves uploaded through the website.	Python
4.	Fertilizer Recommendation	Suitable fertilizer is recommended after identifying the disease.	Python
5.	Database	Training and testing data are stored	Kaggle
6.	Cloud Database	Database Service on Cloud	Local Storage.
7.	File Storage	Stores the trained and tested data	Other Storage Service or Local Filesystem
8.	Algorithm/Method	Convolutional Neural Networks (CNN) is used for predicting the diseases in plants/crops.	CNN
9.	Predictions	Fertilizer can be predicted for the identified disease	Python.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Google Collaboratory, Jupyter Notebook, Google drive, Python Flask	Python, HTML, CSS
2.	Security Implementations	User data is confidential and the user account is checked with the email ID provided at secure.	OWASP
3.	Scalable Architecture	2 – tier architecture will be used. The client and server	Python
4.	Availability	The software may be used by anyone, regardless of the farmer's location or other network features.	IBM Cloud
5.	Performance	The user has nothing to wait a long time from capturing and downloading until predicting and recommendationing.	Convolutional Neural Network