Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	14 October 2022
Team ID	PNT2022TMID52605
Project Name	Fertilizers Recommendation System for Disease Prediction
Maximum Marks	4 Marks

Technical Architecture:

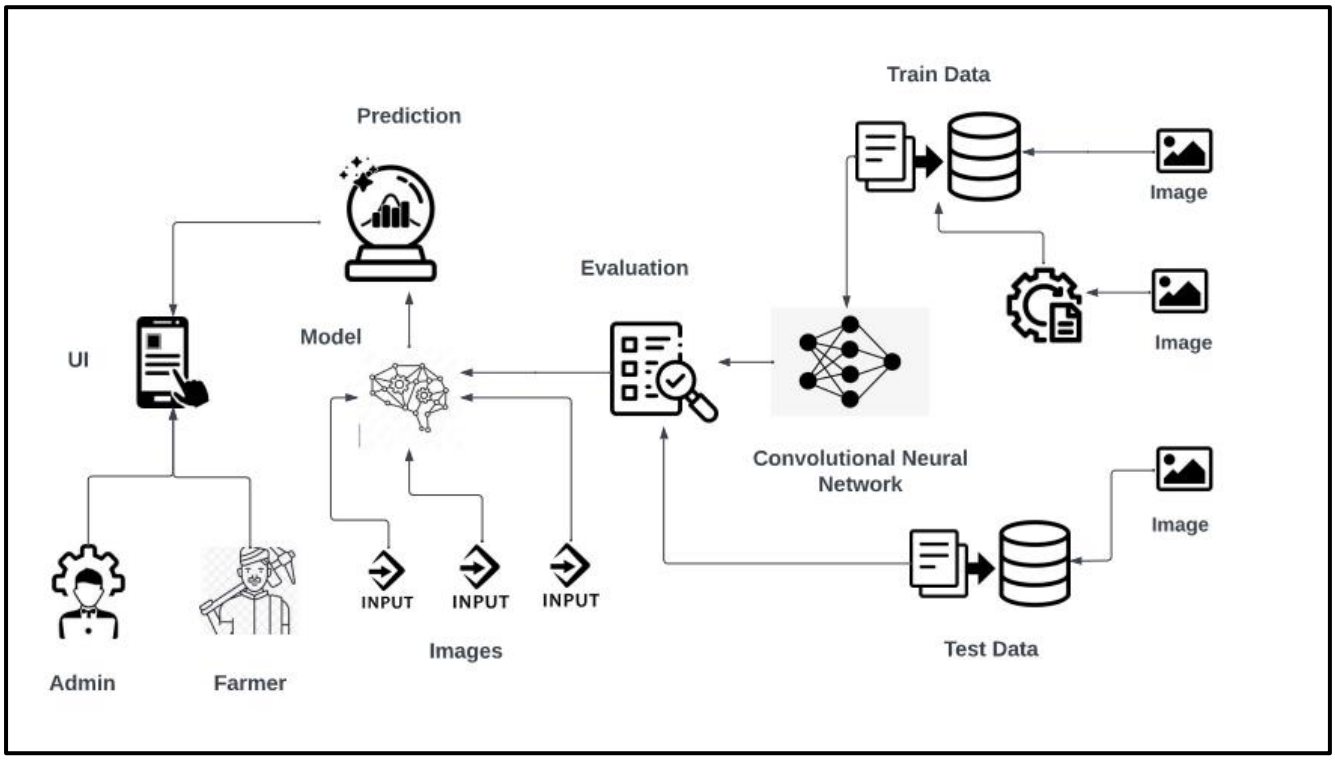

Table-1: Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	How user interacts with application. To depict the human-computer interaction and communication.	HTML, CSS, JSP
2.	Application Logic-1	Option to Upload image as input file.	Python
3.	Application Logic-2	To use the Model and Predicting the disease of the crop.	Python
4.	Application Logic-3	Based on the disease affected by the crop, Fertilizers are recommended.	Python
5.	Database	To store the image as CLOB/BLOB as structured data image.	SQL
6.	Cloud Database	Database that runs on a cloud computing platform and access to the database as service	IBM Cloud
7.	File Storage	Data are stored in hierarchical architecture	Local File System
8.	Machine Learning Model	Convolutional Neural Network provides high accuracy in image classification other than any other machine learning models.	CNN (Convolutional Neural Network)

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask micro web framework	This framework is written in Python. It is classified as micro framework because it doesn't require particular tools or libraries. It has no database abstraction layer, third-party libraries provide common function
2.	Security Implementations	Security is very much concerned regarding the data collected and customer details. The securities are mainly related to the cloud service, they have strict security across the network.	IBM Cloud App ID Services
3.	Availability	There is a high availability for user access anyone can make use of it.	-
4.	Performance	The app runs on a mobile device under various load and circumstances.	Python, Angular