V.S.B. ENGINEERING COLLEGE, KARUR

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

IBM NALAIYA THIRAN

PROJECT DESIGN PAHSE-2

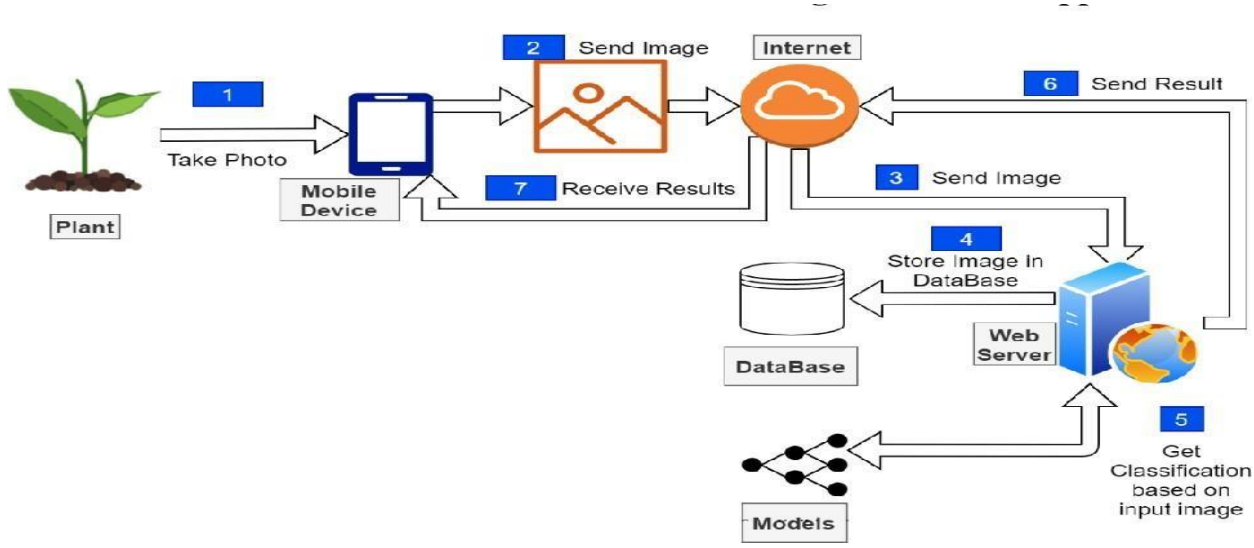
TECHNOLOGY STACK

(ARCHITECTURE&STACK)

Date	19 September 2022
Team ID	PNT2022TMID33383
Project Name	Fertilizers Recommendation System for Disease Prediction
Maximum Marks	4 Marks

Technical Architecture:

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



Fertilizers Recommendation System for Disease Prediction

Table- 1: Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	These techniques used by recommender systems.	Collaborative based filtering, content based technique and hybrid algorithm.
2.	Application Logic-1	It is used for developing the devices.	Python.
3.	Application Logic-2	It provides multiple services, including frequent crop remainders, weather reports.	Farmer app.
4.	Application Logic-3	It providing symptoms of identifying diseases at itsearliest.	Machine learning.
5.	Database	It analysing the national soil database.	SRDI web-based software.
6.	Cloud Database	Helps to farmers make better decisions aboutmanaging their crops.	Temperature and moisture sensors,satellite images, weather station.
7.	File Storage	It used for image recognition and tasks that involvethe processing of pixel data.	Convolutional neural networks model.
8.	External API-1	It enables programmatic access for integration, withmethods for managing products, product variants, images.	Open food network API.
9.	External API-2	It provides access to data from devices, user profiledata and more.	Auto grow REST API.
10.	Machine Learning Model	Focusing on each component it is important to minimize the overall losses in production.	Pre –harvesting machine learning.
11.	Infrastructure (Server / Cloud)	Hybrid clouds allow data and apps to move betweenthe two environments.	Hybrid cloud computing.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Leading to higher yields and improved quality of thefood and fibre that was grown.	Irrigation and air seeding technology.
2.	Security Implementations	It allows farmers to accurately navigate to specificlocation in the field, year after year, to collect soil samples or monitor crop conditions.	GPS technology.
3.	Scalable Architecture	By using these technologies, you can build a scalable web application.	Microservices, cloud storage and caching.
4.	Availability	Water-soluble fertilizer is often useful as a quick boost for vegetables, liquids mixed with water are applied as frequently as once a week.	Collaborative based filtering techniqueand hybrid algorithm.
5.	Performance	The proposed method uses SVM to classify treeleaves, Identify the disease and suggest the fertilizer.	Support vector machine.