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

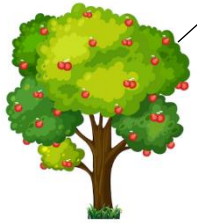
Date	16 October 2022
Team ID	PNT2022TMID33289
Project Name	Fertilizer Recommendation for Disease prediction
Maximum Marks	4 Marks

Technical Architecture:

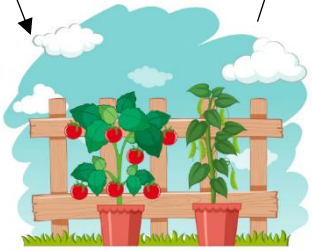
Crop Field

Potato

Citrus



Apple



Tomato

Image Acquisition

Leaf Images Dataset

Image Pre-Processing

Image Segmentation

Feature extraction

Classification

Healthy

Diseased

Diagnosis

Table-1 :

Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	This Application interacts with the user for better understanding between them and AI helps to make the process simple by making the process easier	HTML CSS JavaScript
2.	Application Logic-1	Application logic bridges the gap between business logic and the user interface. It takes the back-end business logic input and turns it into the front-end output	Artificial Intelligence – Image Processing
3.	Application Logic-2	Application logic bridges the gap between business logic and the user interface. It takes the back-end business logic input and turns it into the front-end output	IBM Watson STT service

4.	Application Logic-3	Application logic bridges the gap between business logic and the user interface. It takes the back-end business logic input and turns it into the front-end output	IBM Watson Assistant
5.	File Storage	File storage requirements which the user uploads the images for rectifying the disease and the data stored on a storage database.	Local File System
6.	External API-1	Third-party developers who need to access data or services that belong to a software, or who want to build apps that integrate with the business's platform, can do so using external APIs	fertilizers.io
7.	External API-2	Third-party developers who need to access data or services that belong to a software, or who want to build apps that integrate with the business's platform, can do so using external APIs	fertilizersapi.org
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud	Local Storage

		Local Server Configuration: A server configuration defines a specific database as the repository for its data. To prevent corruption, that database can be associated with only one server configuration. **Cloud Server Configuration:** Cloud configuration is the process of setting hardware and software details for elements of a cloud environment to ensure that they can interoperate and communicate.	Cloud Foundry

Table-2:

Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Products include permission to use the source code, design documents, or content of the product. The open-source model is a decentralized software development model that encourages open collaboration.	Angular JS React
2.	Security Implementations	Help reduce risks in an organization. In other words, the primary goal of implementing security controls is to prevent or reduce the impact of a security incident.	e.g., Ensure Host and Network Security Identify PII Obligations

S. No	Characteristics	Description	Technology
3.	Scalable Architecture	Property of a system to handle a growing amount of work by adding resources to the system scalability of architecture (3 – tier, Micro-services)	Technology used – Microservice Architecture for Image Processing
4.	Availability	1: The quality or state of being available trying to improve the availability of affordable housing. 2: An available person or thing.	Technology used – Python
5.	Performance	Performance to be as how well or badly you do something or how well or badly. something works	CPU Usage, Memory Usage, Latency and Up-Time