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

Date	15 October 2022
Team ID	PNT2022TMID33395
Project Name	Project - Fertilizers Recommendation System For Disease Prediction
Maximum Marks	4 Marks

Technical Architecture:

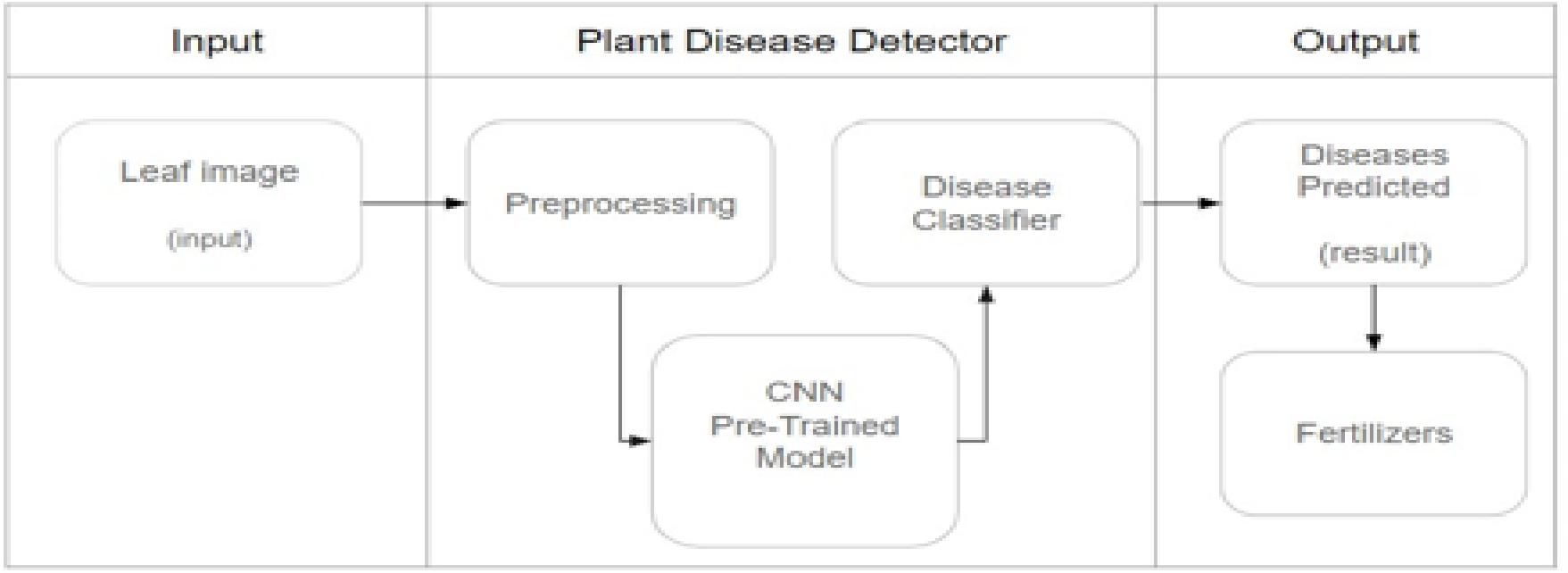

Fig. 1. System Architecture

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	It describes about the application interface that a farmer can use.	Image Processing, Hybird algorithm
2.	Application Logic-1	It involves processing of the image	Python
3.	Application Logic-2	It has various features like disease prediction, Disease identification, fertilizer recommendation and so on,…	Farming Applications.
4.	Application Logic-3	It has various options to identify symptoms and prediction at the earliest.	Machine Learning.
5.	Database	It includes analysing of various process like quality of the soil, type of the disease, recommending right fertilizer and others..	Web based Software
6.	Cloud Database	It helps farmer to make higher benefits by smart recommendations.	Weather stations, Satellite based images.
7.	File Storage	It involves image processing in pixels and handling image data.	CNN model
8.	External API-1	It involves using of data from third party applications that are required for processing the image.	IBM Weather API
9.	External API-2	It helps in providing the variant of fertilizers and various datasets regarding the diseases.	Data.World API
10.	Machine Learning Model	It helps in improving all aspects from end to end so as to produce high yield.	Pre-Harvesting machine learning
11.	Infrastructure (Server / Cloud)	Hybrid cloud is more useful so that to exchange the data between various service providers.	Hybird Cloud Computing

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Improving the yield production so as to minimize the losses and improve the profit.	Irrigation techniques
2.	Security Implementations	Application is more secure that only authorised uses can access the application.	Web application Firewall.
3.	Scalable Architecture	Application can handle more number of requests in a particular time.	Micro services and cache techniques.
4.	Availability	Application is once registered it is available until unless user deletes it.	Agile Methodologies
5.	Performance	The proposed system is evaluated ,tested and integrated to get a best performance.	Python