Project Design Phase-I
Proposed Solution

Date	19 September 2022
Team ID	PNT2022TMID51948
Project Name	Project – Fertilizer Recommendation system for disease prediction
Maximum Marks	2 Marks

S.No.	Parameter	Description
1.	**Problem Statement (Problem to be solved)**	When plants and crops are suffering from pests it affects the agricultural production of the country. Usually, farmers or specialists watch the plants with an eye out for disease detection and identification. Based on the disease fertilizers are used to cure. However, this approach is frequently slow to process, expensive, and inaccurate.
2.	**Idea / Solution description**	A Convolution Neural Network based method for leaf disease detection is proposed. The model is trained with images of various defective and non -defective leaves of fruits and vegetables. A defective leaf image is given as input to the model. The model then predicts the leaf disease and the best suitable fertilizer is recommended.
3.	**Novelty / Uniqueness**	The Convolution Neural Network works well with the images. The Image acquisition and Pre-processing are done before feeding the images into the model to remove unwanted information present in it. After training the model using the if-else model the fertilizer is recommended based on the disease predicted by the model.
4.	**Social Impact / Customer Satisfaction**	Customers will be able to detect the leaf disease earlier before the time of harvesting. The basic needs of the farmer and gardener is satisfied. No prior knowledge of the leaf disease and fertilizer is required as the model does everything. The website is user-friendly and it takes less time to predict and recommend the disease and fertilizer than doing manually.

5.	**Business Model (Revenue Model)**	Nowadays the rate of leaf disease is increasing. and also agricultural experts are in fewer numbers because youngsters today rarely opt for agriculture as their job. So there is a high demand for the website that we are going to build. Therefore the rate of subscription/users increases which yield benefits to the industry.
6.	**Scalability of the Solution**	A model built to predict the disease of leaf consumes data from a large dataset and delivers prediction instantly. It serves millions of users and fits well for big data.