Project Design Phase-I
Proposed Solution Template

Date	23 September 2022
Team ID	PNT2022TMID19464
Project Name	Project - Fertilizers Recommendation System For Disease Prediction
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	● The main cause of production loss in agriculture products is due to the different types of diseases that affect the plants growth. ● Most probably plant diseases are caused due to the abnormal physiological functionalities of plants. ● These problems are to be sorted out for high quality food products.
2.	Idea / Solution description	● Image processing helps in identification of the plants specification and disease detection that helps in classifying the plants based on disease. ● SVM K-Mean Clustering algorithm, Otsu's detection converting RGB to HIS later segmentation is done using boundary and spot detection algorithms. ● These are the ideas to detect the plant diseases. Reducing the level of the infestation involves cultural practices, such as sanitation, removing diseased plants or plant parts, rotating crops, eliminating weeds or other plants that may be alternate hosts for the disease, and discouraging or preventing insect vectors.
3.	Novelty / Uniqueness	● Monitor the big farms of crops, at a very early stage itself it detects the symptoms of diseases. Reduce the loss of time. Reduce the future plant losses. ● We used the CNN feature and a pre-trained model resulted in improved performance of prediction.
4.	Social Impact / Customer Satisfaction	● By identifying the diseases and recommending the fertilizer at the earlier stage helps in the improvement of production and the quality.

		● Which helps in human livelihood improvement and prevention of plant loss.
5.	Business Model (Revenue Model)	● Helps the farmers to make good production of food products and to reduce the production loss at an earlier stage. ● With the proposed system crop yield, crop efficiency, agricultural product output will be increased. ● A high gain can be seen in agricultural output and profit will be increased
6.	Scalability of the Solution	● To achieve Infectious plant diseases are caused by a pathogenic organism such as fungus, bacterium , mycoplasma, virus, viroid, nematode, or parasitic flowering plant. ● Usage of deep learning and image processing techniques for the recommendation reduces the time taken to detect the diseases rather than the traditional methods.