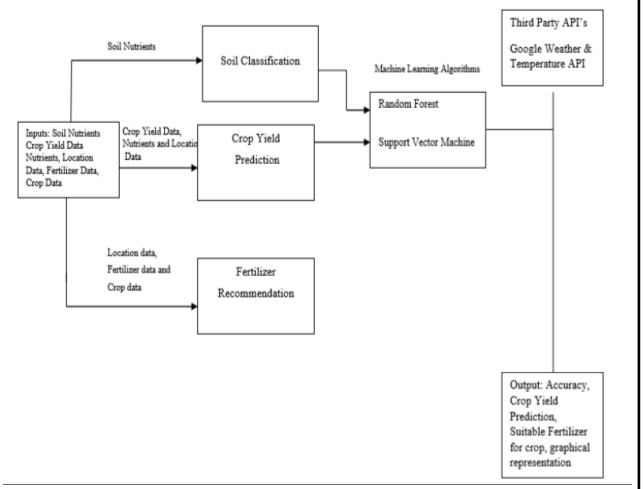
Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID21470
Project Name	Fertilizers Recommendation System For Disease Prediction
Maximum Marks	2 Marks

Proposed Solution Template:

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

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Agriculture is the most important sector in today's life. Most plants are affected by a wide variety of bacterial and fungal diseases. Diseases on plants placed a major constraint on the production and a major threat to food security. Hence, early and accurate identification of plant diseases is essential to ensure high quantity and best quality. In recent years, the number of diseases on plants and the degree of harm caused has increased due to the variation in pathogen varieties, changes in cultivation methods, and inadequate plant protection techniques. An automated system is introduced to identify different diseases on plants by checking the symptoms shown on the leaves of the plant. Deep learning techniques are used to identify the diseases and suggest the precautions that can be taken for those diseases.
2.	Idea / Solution description	A digital camera or similar devices are used to take images of different types, and then those are used to identify the affected area in leaves. Then different types of image-processing techniques are applied to them, the process those images, to get different and useful features needed for the purpose of analysing later-Plant leaf disease identification is especially needed to predict both the quality and quantity of the First segmentation step primarily based on a mild polygonal leaf model is first achieved and later used to guide the evolution of an energetic contour. Combining global shape descriptors given by the polygonal model with local curvature-based features, the leaves are then classified overleaf datasets. In this research work introduce a method designed to deal with the obstacles raised by such complex images, for simple and plant leaves. A first segmentation step based on graph-cut approach is first performed and later used to guide the evolution of leaf boundaries, and implement

		classification algorithm to classify the diseases and recommend the fertilizers to affected leaves
3.	Novelty / Uniqueness	We use Support Vector Machine (SVM). It is a binary classifier to analyse the data and recognize the pattern for classification. The main goal is to design a hyperplane that classifies all the training vectors in different classes. The objective of SVM is to identify a function Fx which obtain the hyper-plane. Hyperplane separates two classes of data sets. The linear classifier is defined as the optimal separating hyperplane. The data sets can be separated in two ways: linearly separated or nonlinearly separated.
4.	Social Impact / Customer Satisfaction	Promotes sound structures and healthy plants. Promotes sustainable bio-based pest management alternatives. Reduces environmental risk associated with pest management by encouraging the adoption of more ecologically benign control tactics. Reduces the potential for air and ground water contamination. People gets uninfected and clean food from the crops
5.	Business Model (Revenue Model)	
6.	Scalability of the Solution	This Solution is scalable as the algorithm we have can deal with any amount of data, without consuming ever growing amounts of resources like memory.