

**V.S.B. ENGINEERING COLLEGE, KARUR**  
**Department of Computer Science and Engineering**  
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**Project Design Phase-I**  
**Proposed Solution**

Date	19 September 2022
Team ID	PNT2022TMID33287
Project Name	Fertilizers Recommendation System for Disease Prediction
Maximum Marks	2 Marks

**Proposed Solution :**

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Farmers' customary strategies for farming development are inadequate. It doesn't make proper use of every accessible asset. Farmers can't identify crop diseases because of an absence of information and old practices, which frequently bring about soil supplement weakening and depletion. Thus, crop failure happens. Developing just specific yields drain the dirt, what's more, assuming that the yields are hurt by diseases. Farmers are ignorant of how to recuperate such crops. Food needs can't be met until and except if productive assets the executives and use is carried out.
2.	Idea / Solution description	Now-a-days, farmers are struggling to identify the diseases on plants by using only the old practices and techniques. So, an AI based automated software is introduced to identify the types of disease by analyzing the symptoms that shown on the leaves of the plant. After the identification of the disease, a suitable fertilizer needs to be recommended for treating the plant diseases. Though fertilizers have some disadvantages, proper and limited usage of the fertilizers can cure the disease as well as give more production to the farmers. An AI-based technology helps to improve efficiency in all sectors and manages the challenges facing various industries including various sectors in the agricultural sector such as crop harvesting, irrigation, soil content sensitivity, crop monitoring, weed, harvest and establishment.

3.	Novelty / Uniqueness	Artificial intelligence and sensor technology play a vital role in the farming field. The field of agriculture is in a great threat this includes the diseases that attack the plant leaves. Our system finds the area of the leaf that has been affected and also the disease that attacked the leaves. A system that automatically detects leaf disease with the help of image processing is being developed. This system does few image pre-processing techniques like image acquisition, image segmentation, feature extraction and classification. Modern agricultural practices assure great development of cultivation. We have many smart agriculture developing models to monitor the temperature, humidity, moisture content and spots in leaves that do work automatically but there are few systems that detects problems and provides suggestions to the problem. One such automatic disease detection system is developed for the identification of the disease and recommend appropriate fertilizer.
4.	Social Impact / Customer Satisfaction	Conventional method of preparation can be characterized as a methodology of treatment by which little, ignorant, rental land farmers, and farmers' more youthful age utilize the high measure of fertilizers to acquire high harvest yield and cash, without the thought of hardships. The fact that excessive and unpredictable use makes plants dry and weak and bug sprays are genuinely unsafe to some climates across the world. But the fertilizers in the correct proportion is what is needed for healthy crops and human health which is suggested accurately by our automated software.
5.	Business Model (Revenue Model)	Fertilizers can aid in making profitable changes in farming by increasing crop yield. Farmers can reduce costs per unit of production and increase the margin of return over total cost by increasing rates of application of fertilizer on principal cash and feed crops. This not just offers significant advantages for farmer livelihoods and food security, yet additionally delivers ecological advantages by decreasing our requests for farmland.
6.	Scalability of the Solution	The fundamental rationale of these applications and accessible strategies of computerized reasoning to settle the issues of farmers in getting the expected yield. The different literature in artificial knowledge, which reflects different approaches to recognize the illnesses in crops. From this, it is presumed that counterfeit knowledge is an incredible instrument for a country's agronomics. Subsequently, future specialists ought to coordinate a legitimate dataset covering all fields of farming and upgrade the accessible advances to build the efficiency of essential areas.