Project Design Phase-I

Problem-Solution fit Template

Date	**01 October 2022**
Team ID	**PNT2022TMID33034**
Project Name	**Project - Fertilizers Recommendation System for Disease Prediction**

1.CUSTOMER SEGMENTS

Farmers are the customers who are going to use this application. Farmers can interact with the portal build. Interacts with the user interface to upload images of diseased leaf. Our model-built analyses the Disease and suggests the farmer with fertilizers are to be used.

6.CUSTOMER LIMITATIONS It

may lead to wrong prediction

Recommended fertilizer may not be available in the user's location

Fertilizer must be Expensive

They may not have any device to use this application

They may not know how to use this application

5.AVAILABLE SOLUTIONS

Non efficient image processing algorithms were used in earlier systems.This traditional approach gives lower accuracy and is time consuming. This drawback of the existing system propelled us towards the idea for developing a system that could ease this effort.

2.PROBLEM/PAINS

The existing system only identifies the disease but does not recommend the remedy to be taken for the disease.

It leads to wrong prediction.

Recommended fertilizer may not be available in the user's location

It may lead to wrong prediction.

9.PROBLEM ROOT/CAUSE

Infected seed, soil crop debris Infectious plant disease are caused by pathogenic organisms such as fungi, bacteria, viruses as well as insects

Through the movement of contaminated soil, machinery, animals and other plant material

7.BEHAVIOR

Tries to search best disease prediction and fertilizer recommendation apps

Learn about plant disease and best fertilizer for crops from others

After using our software they can able to identify the disease as well as about fertilizers

3.TRIGGERS TO ACT

We have combined the features of CNN and a pre-trained model resulted in an improved performance in the prediction. Data is fed to the CNN and, its output is sent as the input to our pre- trained model ResNet50. This increased our model's prediction accuracy to be above 85%.

4.EMOTIONS

Before: is it user friendly?, is there help option available?.

After: user friendly , easy to search ,anytime supporting/help options available

10.YOUR SOLUTION

In other projects it detects disease of only one color using basic CNN. In our project we identify the plant diseases using CNN with ResNET50 we have used. Then it recommends the fertilizer to be used. Comparing to other projects our project's accuracy is more because we are using CNN with ResNET50.

8.CHANNELS OF BEHAVIOR

Offline : From Friends and neighbours they will come to know about this

advertisement and social media impact them to use this application

Online: customer can either directly purchase the product from sote or via online