Project Initialization and Planning Phase

Date	1 July 2024
Team ID	SWTID1720176710
Project Name	Visual Diagnostics: Detecting Tomato Plant Diseases Through Leaf Image Analysis
Maximum Marks	3 Marks

Define Problem Statements (Customer Problem Statement Template):

Tomato farming is a critical agricultural activity that significantly contributes to the global food supply and economy. However, tomato crops are highly susceptible to various diseases that can severely impact yield and quality. Early detection and management of these diseases are essential to minimize economic losses and ensure sustainable farming practices.

Currently, many farmers rely on manual inspection and traditional farming knowledge to identify and manage diseases, which can be time-consuming, inaccurate, and often too late to prevent significant damage. There is a pressing need for a more efficient, accurate, and scalable solution to assist farmers in early disease detection and management.

This project aims to develop a deep learning model that can accurately detect tomato leaf diseases at an early stage using image recognition techniques. By leveraging advanced neural networks and large datasets of annotated images, the model will identify and classify common tomato leaf diseases. This will enable farmers to take timely and appropriate actions, ultimately improving crop yield, reducing economic losses, and promoting sustainable farming practices.
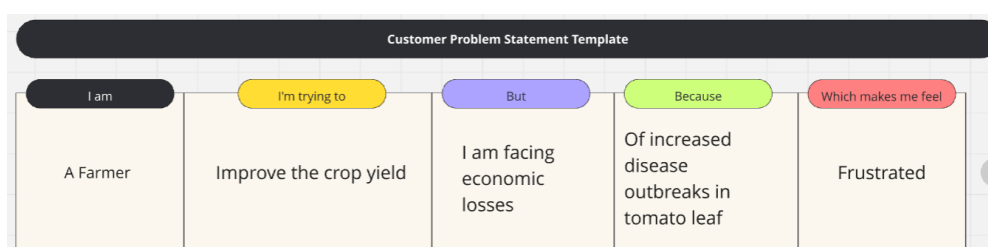
The specific objectives of the project are:
1. Data Collection and Preprocessing
2. Model Development
3. Model Evaluation and Optimization
4. Deployment and User Interface
5. Farmer Training and Support

By achieving these objectives, the project will empower tomato farmers with a powerful tool for early disease detection, leading to healthier crops, higher yields, and more sustainable agricultural practices.

Reference: https://miro.com/app/board/uXjVKwir0iM=/?share_link_id=650033183440

Example:

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	A Farmer	Improve the crop yield	I am facing economic losses	Of increased disease outbreaks in tomato leaf	Frustrated