Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID592899
Project Name	Project - 029
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)	The core problem revolves around the detection and identification of tea leaf diseases, which significantly impact annual tea production, affecting both the quality and quantity of the tea. Traditional manual identification is time-consuming and subjective, causing substantial economic loss to tea farmers due to misdiagnoses and delayed actions. The need is to develop an accurate and efficient automated system to recognize and classify tea leaf diseases promptly.
2.	Idea / Solution description	The project implements a computer vision-based model, leveraging VGG16 architecture, to analyze images of tea leaves.

		Users can upload tea leaf images through a web interface built on Flask, which are then processed by the pre-trained VGG16 model. This model accurately identifies various diseases affecting tea leaves, providing prompt diagnosis and classification.
3.	Novelty / Uniqueness	The project's uniqueness lies in its utilization of a pre-trained VGG16 model in a Flask-based web interface. By using transfer learning, it harnesses a state-of-the-art neural network architecture to identify tea leaf diseases, offering a novel solution that combines image recognition and disease classification.
4.	Social Impact / Customer Satisfaction	The solution aims to significantly impact tea production by allowing timely and accurate identification of diseases in tea leaves. Farmers, experts, and the tea industry, in general, will benefit from an automated, reliable, and cost-effective system, reducing economic losses, improving tea quality, and increasing income for tea farmers.
5.	Business Model (Revenue Model)	The project primarily focuses on solving an agricultural issue; however, its application can lead to potential commercialization. Revenue can be generated by providing the web-based service or integrated system to tea cultivation enterprises or farmers with tiered pricing

		models based on usage or services offered.
6.	Scalability of the Solution	The solution is scalable and adaptable, capable of integrating additional models or improved AI systems in the future. The Flask-based web interface, coupled with machine learning models, enables a flexible and scalable platform. The architecture supports easy additions of new features or expansion to tackle a broader range of plant diseases beyond tea leaves.