

Project Design Phase
Proposed Solution Template

Date	27-06-2025
Team ID	LTVIP2025TMID59407
Project Name	Enchanted Wings: Marvels of Butterfly Species
Maximum Marks	2 Marks

Proposed Solution Template:

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

S.No.	Parameter	Description
1.	Problem Statement	Manual identification of butterfly species is time-consuming, prone to human error, and requires expert knowledge. An automated solution is needed for fast and accurate classification.
2.	Idea / Solution Description	A butterfly image classification system using transfer learning (VGG16) deployed via a Flask-based web app. Users upload an image, and the model predicts the butterfly species in real time.
3.	Novelty / Uniqueness	The system integrates high-accuracy deep learning with an intuitive web interface, making advanced classification technology accessible to researchers, students, and the public.
4.	Social Impact / Customer Satisfaction	Helps biodiversity conservation efforts, supports ecological research, and promotes environmental education through citizen science initiatives.
5.	Business Model (Revenue Model)	Free for educational use. Premium features like bulk uploads, detailed analytics, and offline models could be offered via subscriptions or institutional licensing.
6.	Scalability of the Solution	Can scale by expanding the dataset (more species, regions), converting to mobile apps, integrating with IoT field devices, or offering APIs for researchers and developers.