Project Design Phase
Proposed Solution

Date	27 June 2025
Team ID	LTVIP2025TMID45573
Project Name	Enchanted wings:Marvels of Butterfly species
Maximum Marks	2 Marks

Proposed Solution :

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

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	There is a lack of user-friendly, accessible tools for laypersons and students to identify butterfly species. Existing resources are complex, heavily reliant on scientific terminology, and not visually intuitive. This makes learning about butterfly biodiversity difficult for non-experts.
2.	Idea / Solution description	"Enchanted Wings" is an AI-powered web application that allows users to identify butterfly species by uploading an image. The app leverages a VGG16 model trained on butterfly images and provides immediate identification along with relevant information. It also includes a species database, simple UI, and features like user authentication and offline access.
3.	Novelty / Uniqueness	The solution uniquely combines deep learning (transfer learning with VGG16) and a clean, interactive interface to make species identification simple and educational. Unlike existing platforms, it supports real-time predictions, intuitive design, and is tailored for educational use.
4.	Social Impact / Customer Satisfaction	The platform promotes biodiversity awareness and conservation through technology. It benefits students, researchers, nature enthusiasts, and educators by making butterfly identification accessible and engaging. It fosters environmental curiosity and education in both urban and rural settings.
5.	Business Model (Revenue Model)	The solution can be monetized via freemium access: free core features with optional premium content such as AR-based experiences, advanced image tools, or expert interaction. Educational institutions could license it for use in biology curriculum or environmental clubs.

6.	Scalability of the Solution	The solution can be scaled by adding support for moths and other insects, introducing multilingual capabilities, implementing offline functionality, and expanding the database. It also has potential for mobile deployment, AR enhancements, and community-based crowd-sourced data sharing.