

Project Design Phase-II

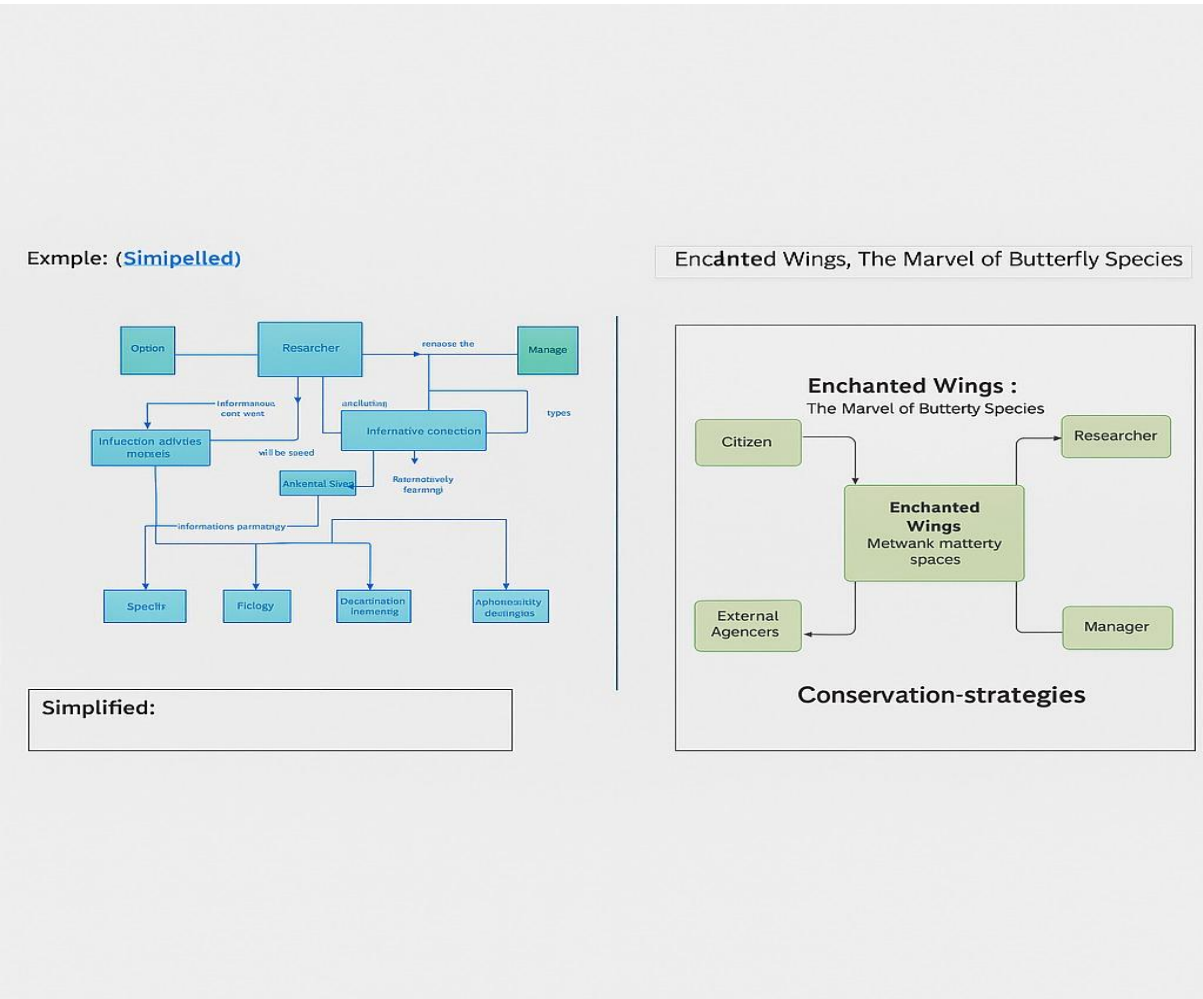
Data Flow Diagram & User Stories

Date	31 January 2025
Team ID	LTVIP2025TMID34696
Project Name	Enchanted Wings: Marvels Of Butterfly Species
Maximum Marks	4 Marks

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

Example: [Simplified](#)



User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Data Engineer	Data Integration	USN-1	As a developer, I want to collect and integrate butterfly images and labels from CSV and folders	All raw data is organized and image paths are mapped to labels	High	Sprint-1
Data Engineer	Data Preprocessing	USN-2	As a developer, I want to clean, resize, and prepare the dataset for model input	Dataset is resized, augmented, and split into train/test sets	High	Sprint-1
ML Engineer	Model Building	USN-3	As a developer, I want to train a transfer learning model (e.g., VGG16) to classify butterfly species	Model trains without overfitting and achieves >80% accuracy	High	Sprint-2
ML Engineer	Model Evaluation	USN-4	As a developer, I want to evaluate the model performance on unseen test data	Evaluation metrics (accuracy, confusion matrix) are documented	Medium	Sprint-2
DevOps Engineer	Model Deployment	USN-5	As a developer, I want to deploy the trained model using Flask for	Model deployed and accessible via a prediction API or webpage	High	Sprint-3

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			prediction via web interface			
Admin	Dashboard Monitoring	USN-6	As an admin, I want to view model performance metrics and upload new images through a secure dashboard	Dashboard shows prediction logs and upload interface	Medium	Sprint-4
Researcher	Biodiversity Analysis	USN-7	As a researcher, I want to analyze species prediction reports to understand butterfly population trends	Reports generated with time stamps and location metadata	Medium	Sprint-4
Nature Enthusiast	Species Identification	USN-8	As a user, I want to upload a butterfly image and get the predicted species	Species name and confidence score are shown after upload	High	Sprint-3
Third-party App Dev	API Integration	USN-9	As a developer, I want access to the classification API for use in external	API provides response within 2s and returns top-3 predictions	High	Sprint-4

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
			conservation apps			