Project Design Phase
Proposed Solution Template

Date	26 JUNE 2025
Team ID	LTVIP2025TMID44653
Project Name	Transfer Learning-Based Classification of Poultry Diseases for Enhanced Health Management
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 (Problem to be solved)	Poultry farmers face major losses due to late or incorrect identification of diseases in birds. Lack of veterinary access, manual diagnosis errors, and high mortality rates are critical challenges. Early and accurate detection of diseases is essential to prevent spread and economic loss.
2.	Idea / Solution description	We propose an AI-based image classification system using deep learning models (e.g., ResNet, EfficientNet) to detect poultry diseases from images of infected birds. Farmers or workers can upload photos via a mobile or web app, and the system will predict the likely disease with confidence scores and suggested actions.
3.	Novelty / Uniqueness	Uses image-based deep learning for early diagnosis without expert intervention Offline-capable model for remote farm locations Custom-trained on a poultry-specific dataset for higher accuracy Easy-to-use interface for non-technical users Reduces dependence on physical vet visits and manual observation
4.	Social Impact / Customer Satisfaction	Reduces poultry mortality rates and prevents spread of diseases. Saves time and money for small-scale and large-scale farmers.Empowers rural communities with smart farming toolsEnhances food safety and supply chain reliability.Provides confidence and peace of mind to poultry owners

5.	Business Model (Revenue Model)	Freemium model: basic predictions free, advanced analytics or consultation charged Subscription model for farms with large flocks Licensing to poultry corporations, hatcheries, or agri-tech firms Advertisement tie-ups with feed and veterinary product suppliers API services for integration into existing farm management systems
6.	Scalability of the Solution	Easily deployable on mobile apps, cloud, or embedded systems.Expandable to classify more diseases or other livestock (e.g., cattle, goats) Scalable to support multi-language and region-specific disease databases.Suitable for both small rural farms and industrial poultry operations