Project Design Phase
Proposed Solution Template

Date	27 June 2025
Team ID	LTVIP2025TMID43995
Project Name	Transfer Learning-based Classification of Poultry Diseases for Enhanced Health Management
Maximum Marks	2 Marks

Proposed Solution Template:

S.no.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Rural and small-scale poultry farmers lack access to timely and accurate disease diagnosis tools, leading to high poultry mortality and income loss.
2.	Idea / Solution description	We propose a Flask-based AI web application that uses transfer learning (ResNet50 or EfficientNet) to classify poultry diseases (Salmonella, New Castle Disease, Coccidiosis, and Healthy) from images and symptoms. The app suggests treatments and works in regional languages with role-based access for farmers, vets, and students.
3.	Novelty / Uniqueness	• First-of-its-kind tool tailored for poultry diagnosis in rural India • Includes explainability (Grad-CAM) for trust • Designed for low-bandwidth, mobile-first environments.
4.	Social Impact / Customer Satisfaction	• Empowers farmers with accessible, affordable disease diagnosis • Reduces livestock mortality and economic loss • Builds self-reliance in rural communities • Educates veterinary students with modern diagnostic tools • Increases trust and satisfaction through local-language support
5.	Business Model (Revenue Model)	• Freemium model: free core features for farmers, premium features for commercial farms and vet schools • Subscription model for vet colleges and Agri-tech firms • Government/NGO partnerships for large-scale deployment • Optional Ad-supported mode in free tier
6.	Scalability of the Solution	• Easily deployable across India and similar Agri-based countries • Extendable to other animals • Can integrate additional diseases and regional datasets • Open API for integration with Agri apps, vet hospitals