Project Design Phase
Proposed Solution Template

Date	20 July 2025
Team ID	LTVIP2025TMID41443
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)	In rural and semi-urban poultry farms, early detection of poultry diseases is a major challenge due to limited access to veterinary services, lack of disease awareness, and reliance on manual observation. This often leads to delayed diagnosis, rapid disease spread, high bird mortality, and financial losses for farmers
2.	Idea / Solution description	This project proposes an AI-powered mobile and web application designed to detect and classify common poultry diseases—such as Coccidiosis, Salmonella, and Newcastle Disease—using image-based diagnosis through transfer learning techniques. By simply uploading or capturing a photo of a chicken, farmers can receive an instant diagnosis along with treatment suggestions, enabling faster decision-making and better health outcomes for their flock.
3.	Novelty / Uniqueness	The uniqueness of this project lies in its combination of deep learning, transfer learning, and mobile accessibility to deliver a practical and scalable solution for poultry disease detection. Unlike traditional methods that require veterinary expertise or lab testing, this system enables real-time, image-based diagnosis directly from a farmer's smartphone—even in offline conditions
4.	Social Impact / Customer Satisfaction	This solution has the potential to make a significant social impact by improving poultry health management in rural and underserved areas. By providing an easy-to-use, AI-based diagnostic tool, it empowers farmers to detect diseases early, take timely action, and prevent the spread of infections across their flocks. This leads to a direct reduction in poultry mortality,

		economic losses, and dependency on expensive veterinary services.
5.	Business Model (Revenue Model)	The proposed solution adopts a hybrid business model that combines freemium access for small-scale users with subscription-based services for commercial poultry operators and institutions. At its core, the mobile application is offered free of cost to individual farmers, enabling them to access essential features such as image-based disease detection, basic treatment suggestions, and offline functionality
6.	Scalability of the Solution	The proposed AI-based poultry disease detection system is designed with high scalability, making it adaptable to a wide range of users, geographies, and livestock categories. Technically, the use of transfer learning enables the model to be retrained or fine-tuned easily with new data, allowing it to support additional poultry diseases or even extend to other livestock such as goats, cows, or sheep in the future.