

Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	Date: 26 June 2025
Team ID	Team ID: LTVIP2025TMID44725
Project Name	Poultry Disease Detection Using Transfer Learning
Maximum Marks	4 Marks

Technical Architecture

The Deliverable shall include the architectural diagram and the information as per the following tables.

Example: Transfer Learning-based Poultry Disease Classification System

Reference: <https://www.ibm.com/cloud/architecture>

Table-1: Components & Technologies

S.No	Component	Description	Technology
1	User Interface	Interface for user to upload images and view predictions	HTML, CSS, Bootstrap
2	Application Logic-1	Image preprocessing and loading model	Python
3	Application Logic-2	Transfer learning-based classification	TensorFlow / Keras
4	Database	User inputs or session storage	SQLite / MySQL
5	Cloud Database	For storing poultry disease dataset (optional)	Firebase / Cloud SQL
6	File Storage	Stores uploaded images	Local File System / Google Cloud Storage
7	External API-1	Disease information retrieval (optional)	Google Knowledge Graph API
8	Machine Learning Model	Classifies poultry diseases using pretrained CNNs	VGG16 / ResNet50
9	Infrastructure	Application deployment	Localhost / Render / AWS EC2

Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Frameworks and libraries used for ML and web interface	TensorFlow, Flask
2	Security Implementations	Basic form validations and firewall support	HTTPS, SHA-256 hashing
3	Scalable Architecture	Separation of concerns, modular design	3-tier architecture
4	Availability	Deployed on reliable platforms	Render / AWS