INTRODUCTION

The Poultry Disease Classifier is a deep learning based web application built using MobileNetV2 and Streamlit. It enables real-time detection of poultry diseases ? including Newcastle Disease, Coccidiosis, Salmonella, and Healthy ? from uploaded images, assisting farmers and veterinary professionals in early and accurate disease identification.

Technologies Used: Python, TensorFlow, Keras, Streamlit, PIL
Applications: Poultry farms, Veterinary diagnostics, Agricultural technology, Rural veterinary camps

Purpose

To develop an AI-based classifier that empowers poultry farmers and veterinarians with an easy-to-use, image-driven tool for rapid detection of common poultry diseases.

IDEATION PHASE

Problem: Manual disease identification in poultry is prone to human error and delays treatment.
Solution: A non-invasive, AI-powered system to detect diseases from images.
Key Ideas:
- Use Transfer Learning
- Web-based UI via Streamlit
- Confidence score output

REQUIREMENT ANALYSIS

Customer Journey:
1. Upload poultry image
2. System predicts disease
3. Result is displayed

? Functional: Upload, Predict, Display, Navigate
? Non-functional: Accuracy ? 90%, <3s inference time
? Technical: MobileNetV2, Streamlit, PIL, NumPy
? Users: Farmers, Vets, Agri-officers

PROJECT DESIGN

Problem-Solution Fit: Enables fast, low-cost diagnosis of common poultry diseases.

Summary Table:
- Problem: Manual & delayed diagnosis
- Idea: AI model for image detection
- Unique: Confidence + web interface
- Impact: Early detection
- Business: Deployable tool

PROJECT PLAN & TIMELINE

Week 1: Dataset organization
Week 2: Model training
Week 3: Streamlit frontend
Week 4: Integration & Testing
Week 5: UI enhancements
Week 6: Final Report & Demo

FUNCTIONAL & PERFORMANCE TESTING

Accuracy: ~92%
Inference Time: <2s
Image Support: jpg, png
Deployment: Streamlit app

RESULTS

Output:
- Image uploader UI
- Uploaded preview
- Prediction label with confidence
- Tabs: Home, Contact Us, About
Example: Predicted Disease: Coccidiosis (96.2%)

ADVANTAGES & LIMITATIONS

Advantages:
- Fast and easy
- Accurate (92%)
- No external dependencies

Limitations:
- Only supports 4 diseases
- Needs clear images
- No live database

CONCLUSION

An accessible, AI-powered poultry disease prediction tool that supports rapid decision making and improves rural veterinary diagnosis capability.

FUTURE SCOPE

- Support for more diseases

- Mobile app version
- EHR integration
- SMS alerts
- Multilingual UI

APPENDIX

1. Dataset: Folder structure: data/train/[class folders]
2. Model: MobileNetV2
3. GitHub: (add URL)
4. Tools: Python, TensorFlow, Streamlit
5. Deployment: Localhost / Streamlit Cloud