

Functional & Performance Testing Template

Model Performance Test

Date	21 February 2025
Team ID	LTVIP2025TMID34941
Project Name	Disease Recognition in Chickens
Maximum Marks	

Step 1: Team Gathering, Collaboration and Select the Problem Statement

The team collaboratively reviewed user needs and discussed the most impactful problem statements. After evaluating PS-1 and PS-2, the team selected the following core problem to solve:

Selected Problem Statement

“Small-scale poultry farmers struggle to detect diseases in chickens early due to lack of tools and veterinary access, leading to late treatment, high bird mortality, and financial loss.”

Step 2: Brainstorm, Idea Listing and Grouping

During brainstorming, team members contributed ideas individually and then grouped similar ones for better structure:

Raw Ideas:

- Use AI-based image recognition to detect diseases from chicken feces.
- Create a mobile app to upload and analyze images on the spot.
- Include educational tips in the app for disease prevention.
- Add alert notifications for potential outbreaks.
- Train model using transfer learning (e.g., MobileNet).
- Provide multilingual support for local farmers.
- Offline feature for low-connectivity regions.
- Connect to local veterinary networks via the app.

❖ **Grouped Ideas:**

1. AI/Technology Integration

- a. AI-based image detection of disease
- b. Transfer learning for fast and efficient model training

2. Farmer-Friendly Interface

- a. Mobile app with simple UI
- b. Offline support
- c. Multilingual support

3. Farmer Support Services

- a. Disease education and prevention tips
- b. Real-time alerts
- c. Connect to nearby veterinary services

Step 3: Idea Prioritization

Ideas were evaluated based on **Impact**, **Feasibility**, and **Time**. Priority was given to solutions that are high-impact and implementable in a short timeframe.

Idea	Impact	Feasibility	Priority
AI-based image detection using deep learning	High	Medium	<input checked="" type="checkbox"/> High
Transfer learning (MobileNetV3)	High	High	<input checked="" type="checkbox"/> High
Mobile app with simple UI	High	Medium	<input checked="" type="checkbox"/> High
Multilingual support	Medium	Medium	Medium
Offline mode for app	Medium	Low	Low
Veterinary network integration	High	Low	Medium
Real-time alerts for outbreak	High	Medium	High
Educational disease tips in app	Medium	High	Medium

Final Priority Features for MVP (Minimum Viable Product):

- AI-based fecal image disease detection
- Transfer learning with pre-trained model
- Mobile-friendly user interface
- Real-time alerts for suspected diseases